PSE&G Energy Technology Demonstration Grant Program

Final Report

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Table of Contents

Figures and Tables

Figures:

Tables:

I. Executive Overview

The Center for Energy, Economics, and Environmental Policy (CEEEP) at the Edward J. Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey was contracted by Public Service Electric and Gas (PSE&G), New Jersey's largest electricity and natural gas utility to manage an energy efficiency technology demonstration grant program. The objective of the grant program is to accelerate the development of energy efficiency products and services. The Technology Demonstration program is a sub-program of the Energy Efficiency Economic Stimulus (EEE) Program approved by the New Jersey Board of Public Utilities (NJBPU) in July 2009 and seeks to expedite the commercialization of innovative, demand-side energy efficiency technologies that are being developed in PSE&G's service territory. Grants of $1 million or less would be awarded to successful applicants to assist them in delivering efficiency benefits to PSE&G's customers. The total pool of grant funding was approximately $8 million.

CEEEP implemented a multi-phase grant application process that minimized the initial applicant effort and encouraged broad participation among private and public sector entities. The process utilized out-of-state subject matter experts (SMEs) to review and evaluate the grant applications. Out-of-state reviewers were used to minimize both potential conflicts of interest and the disclosure of proprietary information. An evaluation framework was developed for use by the SMEs to guide their technical review of the grant proposals and to ensure consistency in evaluation and ranking. The SME candidates were primarily selected through searches of recent scientific literature and supplemented with internet searches and referrals by SME candidates.

An initial grant applicant pool of 115 was reduced to 24 finalists. More than 125 SMEs were contacted of whom 46 participated in the review and evaluation of 22 full application proposals (one finalist voluntarily withdrew and two nearly identical projects from the same applicant were reduced by one). A PSE&G team of technical and business experts reviewed the final evaluations and notified the grant awardees in November 2010.

The project was successful in identifying eligible energy efficient technologies for commercialization. Qualified grant applicants with viable technologies in need of funding were found, objective and useful technical reviews of the applications were completed, and funding has been granted based on these reviews. The significant market response to the program and the positive feedback from the SMEs also demonstrated that this project methodology can be replicated for similar technology funding projects. The details of the project methodology in this report can serve as a guideline for future projects.

II. Introduction

PSE&G is one of the largest combined electric and gas companies in the United States and is also New Jersey's oldest and largest publicly owned utility. The Public Service Corporation was formed in 1903 by amalgamating more than 400 gas, electric and transportation companies in New Jersey. PSE&G currently serves nearly three quarters of New Jersey's population in a service area consisting of a 2,600-square-mile diagonal corridor across the state from Bergen to

Gloucester Counties. PSE&G is the largest provider of gas and electric service, servicing 1.7 million gas customers and 2.1 million electric customers in more than 300 urban, suburban and rural communities, including New Jersey's six largest cities. While new business ventures will play a vital role in the long-term growth and strength of the company, PSE&G remains primarily a regulated gas and electric delivery company.[1]

The Center for Energy, Economic, and Environmental Policy (CEEEP) is a policy research group located at the Edward J. Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey. CEEEP was established at the Bloustein School in 2003 and conducts applied research to evaluate and help develop energy policy at the state, regional, national, and international levels. The Center explores the interrelation of energy, economic and environmental policy issues. CEEEP works to strengthen energy, economic and environmental public policy in close cooperation with faculty, students, and other centers within the Bloustein School. In addition, CEEEP collaborates with policy experts and stakeholders in the private, public, and non-profit sectors throughout our region and across the country. The Center is working towards the goal of establishing Rutgers University and New Jersey as national centers of excellence for applied research regarding energy policy.[2]

In January 2009, PSE&G petitioned the NJBPU to obtain funding for the EEE Program. This petition described the specific energy efficiency programs that PSE&G proposed to undertake to promote the New Jersey Economic Assistance and Recovery Plan. The EEE Program was intended to stimulate the economy by lowering consumers' energy bills, stimulate job creation, address climate change, and to assist the State in achieving its energy reduction goals. The Energy Technology Demonstration Grant Program was one of eight sub-programs that comprised the $166 million EEE Program incentives. The energy technology demonstration sub-program specifically sought to expedite the commercialization of innovative, energy efficient products and services that would directly benefit PSE&G's New Jersey customers.[3] The EEE Program would be funded through a Regional Greenhouse Gas Initiative (RGGI) surcharge on PSE&G customers electric and gas utility bills. The NJBPU approved the full $190 million EEE Program by Board order on July 16 2009.[4] The Energy Technology Demonstration Grant program was funded for $12 million and approximately $8 million of the funding was allocated towards a competitive solicitation process.

PSE&G contracted with CEEEP to manage the grant application and review process for the competitive solilcitation. CEEEP was charged with leading the effort to develop the appropriate documents, create a tailored technical evaluation framework, recruit and support the requisite expert reviewers, and to report the results of the evaluation to PSE&G. PSE&G then made the grant award decisions based on the technical evaluations, the business and financial viability of the applicants and the project's energy efficiency potential. As its first step, CEEEP created a project team that included the following members.

- Frank Felder, CEEEP Director and principal project investigator

[1] From www.pseg.com, October 1, 2010

[2] From http://policy.rutgers.edu/ceeep ; as of October 1, 2010. CEEEP inherited the management of the grant program from another Bloustein group – the New Jersey Sustainable State Institute (NJSSI) – following the departure of the NJSSI Director who was the original grant program project manager.

[3] Petition document located at http://www.state.nj.us/bpu/pdf/announcements/psegee.pdf , as of October 1, 2010.

[4] From http://www.state.nj.us/bpu/newsroom/news/pdf/20090701.pdf , as of October 1 2010.

- Maurie Cohen, NJIT, technical advisor
- William (Bill) Coons, Techwood Consulting, business analyst
- Henry (Skip) Jonas, Skylands Business Services, project coordinator
- Ashwat Rishi, CEEEP intern

Two members of the PSE&G Renewables and Energy Solutions department were the liaisons to the project team: Elaine Bryant, Manager – Market Strategy and Planning; and Walt Sparrow-Hood, Program Manager. Both of the PSE&G members are based at the PSE&G headquarters in Newark New Jersey.

III. Motivation

In October 2008, a $500 million energy efficiency program was proposed by the State of New Jersey in conjunction with the state's electric and gas utilities. PSE&G subsequently proposed a suite of energy efficiency programs in response to the New Jersey Economic Assistance and Recovery Plan. The Energy Technology Demonstration Grant Program was one of eight programs that PSE&G proposed under the PSE&G Economic Energy Efficiency Stimulus Program to the New Jersey Board of Public Utilities. These programs were all approved and address various sectors of New Jersey's energy environment.

- The Residential Whole House Efficiency Sub-Program
- The Residential Multi-Family Housing Sub-Program
- The Small Business Direct Install Sub-Program
- The Municipal/Local/State Government Direct Install Sub-Program
- The Hospital Efficiency Sub-Program
- The Data Center Efficiency Sub-Program
- The Building Commissioning/O&M Sub-Program
- The Technology Demonstration Grant Program Sub-Program

The goal of the programs is to bring energy-efficiency benefits to New Jerseyans, especially to PSE&G's residential, commercial, and industrial customers. More specifically, the energy technology demonstration grant program provides funding to organizations to help them cross what is referred to as the pre-commercialization "valley of death". The "valley of death" is the product life-cycle stage where many companies have expended their initial start-up capital and are not yet generating revenue through product or service sales. This stage presents a significant product funding challenge, especially for new technology companies that do not have ready access to debt or equity funding sources. Figure 1[5] illustrates the "valley of death" in the context of the product lifecycle.

[5] http://www.energy.ca.gov/research/buildings/demonstrations.html; as of November 1, 2010

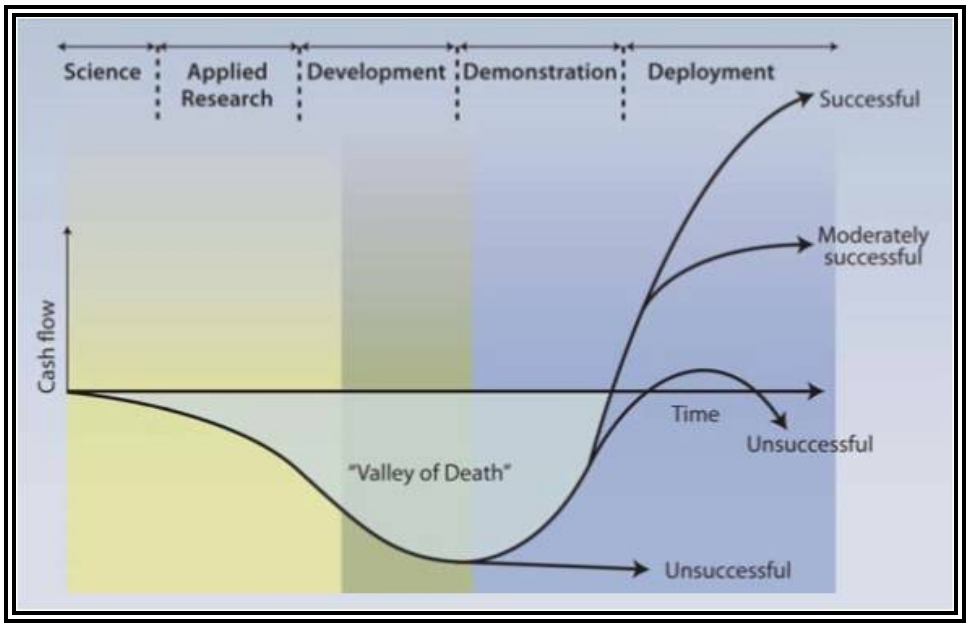

Figure 1: "Valley of Death" Funding Challenge

With negative cash flow during the "valley of death" stages, low-cost funding sources such as low-rate or interest-free loans or grant programs can significantly increase the probability of successful commercialization and the continued existence of the firm.

Funding for new technology-based products and services can come from a number of sources. The PSE&G Technology Demonstration grant program provides a very attractive source of funding due to the limited financial liability to the recipient. The grant program requires no repayment and no equity is transferred. The grant recipient is only required to abide by the terms of the program's Grant Agreement and meet certain milestones towards commercialization. In most cases, these requirements match the timeline and deliverables that the recipient would have set for their own success. For these reasons, the PSE&G Energy Technology Demonstration Grant Program is expected to play a significant role in ensuring the successful development and deployment of energy efficient products and services to the New Jersey market.

IV. Methodology

A. Organization and Overview

The project team originally consisted of the directors from two policy centers at the Edward J. Bloustein School of Planning and Public Policy, a technical advisor from the New Jersey Institute of Technology (NJIT), two representatives from PSE&G, a business analyst/consultant, and a project coordinator. An intern position was added later in the project. All positions for this project were part-time. PSE&G initially contracted with the New Jersey Sustainable State Institute (NJSSI) and the director of the NJSSI was the lead investigator. The director from the other Bloustein policy center, the Center for Energy, Economic, and Environmental Policy (CEEEP), provided energy sector expertise and project guidance. Following an organizational

change at NJSSI, the contract was transferred to the CEEEP and the CEEEP director became the lead investigator.

B. Process Design

The initial discussions on the design of the application process were driven by a number of factors. These included the following.

- A large number of applications were anticipated.
- Energy technology experts in NJ might be involved with an applicant or competing with potential applicants.
- The Rutgers project team would not review and evaluate the applications.
- Proprietary information in the applications must be protected.
- Confidentiality must be maintained during the review process.
- The application and review process must be completed within 6-9 months.

Due to the high level of public and private interest in energy technologies and a robust technology sector in New Jersey, a large number of applicants were expected. The relatively small project team was concerned that an overwhelming number of applications could unduly prolong the process. A two-part application process emerged as the most efficient way to manage this anticipated large pool of applicants: a short Letter of Intent (LOI) and a more comprehensive full application. The project team would use the LOI to ensure that the applicant was indeed eligible to apply for a grant without a large commitment of time and resources by the applicant. If the applicant's LOI satisfied the eligibility guidelines, then the applicant was invited to submit a more comprehensive application. Both the project team and the applicant would benefit from this two-part process.

New Jersey's size and economy drove the selection of expert reviewers. Since New Jersey is a geographically small state and has an active technology community, the team was concerned that local energy experts could have existing knowledge of or potential biases towards some of the applicants. This knowledge could compromise the objectivity and fairness of the evaluation process. The project team wanted to protect the applicant's proprietary information, minimize any potential reviewer bias (positive or negative), and to ensure confidentiality during the application review process. As a consequence, out-of-state subject matter experts (SMEs) would be used to review and evaluate the applications rather than the in-state experts. Three SMEs would also further minimize any personal, technical, or commercial biases.

With three SMEs needed for each application, the use of the LOI mechanism to winnow the applicant field made the identification and recruitment of the SMEs a much more manageable effort. Although the project team anticipated that some of the SMEs would be able to review more than one application, a worst-case SME recruitment effort might require 60 individual SMEs for 20 applications. An early conversation with colleagues at the American Association for the Advancement of Science (AAAS) suggested that such a recruitment effort might require calls to multiple experts in order to recruit a single reviewer. Although the LOI mechanism did indeed reduce the effort of the recruitment process, securing the right SMEs for the application review required more work than anticipated.

The project team reviewed a number of grant application templates and developed the LOI and full application forms based on these templates and PSE&G business requirements. The LOI form requested basic organizational information in addition to technical, financial, and managerial data to allow the project team to determine eligibility in almost all cases. In a few cases, the applicant was contacted for clarification when additional data was required to make a determination. If an LOI was eligible, the applicant was invited to provide a comprehensive application. Since the goal of the grant program was to expedite the commercialization of the proposed technology, the applicant needed to provide sufficient details for an SME to evaluate the technical feasibility of the proposal, the soundness of the budget, the reasonableness of the schedule, and the likelihood of a commercialization success. The quality of the provided information could also be used by the SMEs to determine the potential and inform the ranking of an application.

For the review and evaluation phase, the project team provided the SMEs with guidelines to ensure that the SMEs would approach the application review from a common perspective. The project team settled on a two-part evaluation framework that provided a quantitative technical ranking and a free-form narrative to complement the technical ranking. The common technical ranking allowed all of the applications to be compared on the same scale as a group and the qualitative narrative allowed the SMEs to provide a more nuanced and critical evaluation of the application. The applications could be ranked from highest to lowest based on their technical scores and then re-positioned as necessary based on the critical narratives from the SMEs.

Figure 2 illustrates the major tasks and flows in the project.

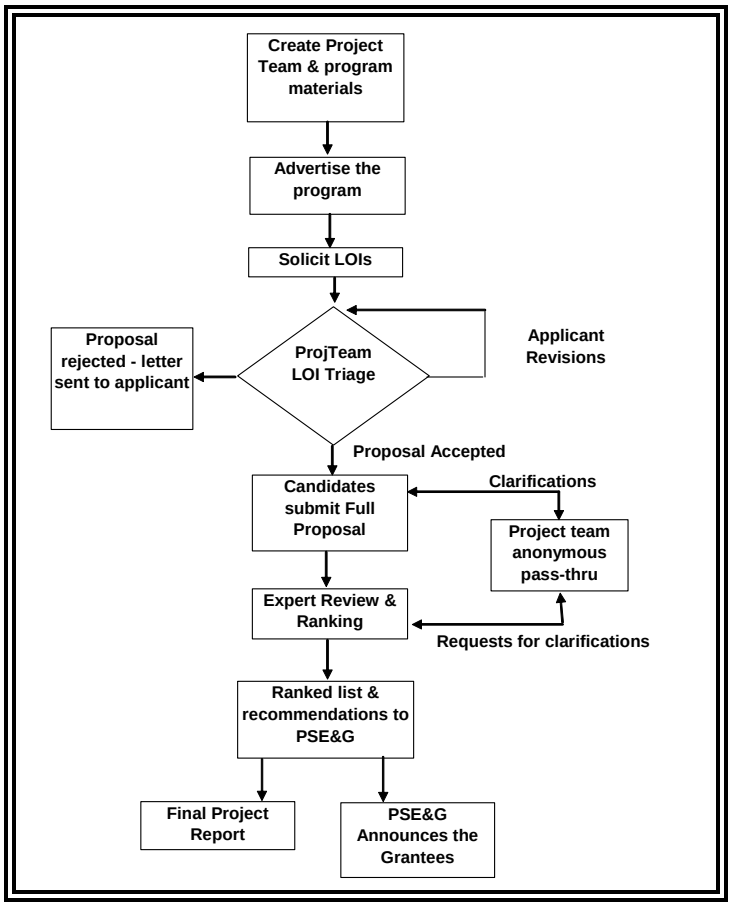

Figure 2: Project Process Flowchart

C. Program Announcement

The participation of the broad New Jersey energy technology community was critical to the success of the program: achieving a broad distribution of the program announcement was a key goal. As the major electric and gas utility in New Jersey, PSE&G has significant corporate communication resources that allow it to reach the major local media markets and the specialized news outlets for the energy sector. The project team also utilized the media reach of the Rutgers University Media Relations department. Although there was some overlap with PSE&G's media outlets, the key sector for the Rutgers outreach was the academic and non-profit communities in New Jersey, both of which were anticipated to be potential grant applicant groups. The project team developed a program announcement that was released through these two outlets. A copy of the PSE&G press release is provided in Attachment 1.

Since the project team intended to use electronic communications as much as possible, a project web site was essential. The program announcement directed potential applicants to the program's web pages that were hosted on a Rutgers University server. The program's web pages were located in the *'Projects'* section of the CEEEP web site. All of the project documentation that was relevant to the applicants was available on the web site and could be downloaded as needed by an applicant. This documentation included the LOI and the full application forms, a 'frequently asked questions' (FAQ) document, a program description, and a list of the key dates.

Copies of selected screen images and the on-line documents are included as Attachments 2 and 3. A brief discussion of the project's electronic communication mechanisms may also be found in Attachment 2.

D. Letter of Intent (LOI) and Determination of Eligibility

The LOI was designed for two principal purposes: the simplicity of the form required a small to nominal effort on the part of the applicant, thereby presenting a low 'barrier to entry' for prospective applicants, and it served as a simple mechanism for the project team to determine the eligibility of the proposal. To ensure that the program was accessible to as wide an audience as possible, the information required for the LOI was designed to be basic and ostensibly "at hand" for any applicant with a viable project.

The LOI form had three sections: the project name and the eligible technologies used; a project abstract; and a funding request. The requested information included the following: the technology used in the product or service, the innovative aspects of the technology, the projected impacts on energy efficiency in New Jersey, and a high-level budget view for the requested funding. A copy of the LOI is included as Attachment 3.

Applicants had two months after the program announcement to submit their LOI electronically and as a certified hard-copy document. As fewer applications than anticipated had been received, the team extended the deadline by a week. Figure 3 shows the weekly numbers of received LOIs. Note that almost all of the LOIs arrived in the last two weeks and a few LOIs were submitted after the deadline. The one week extension allowed a larger and more robust set of grant applicants to participate.

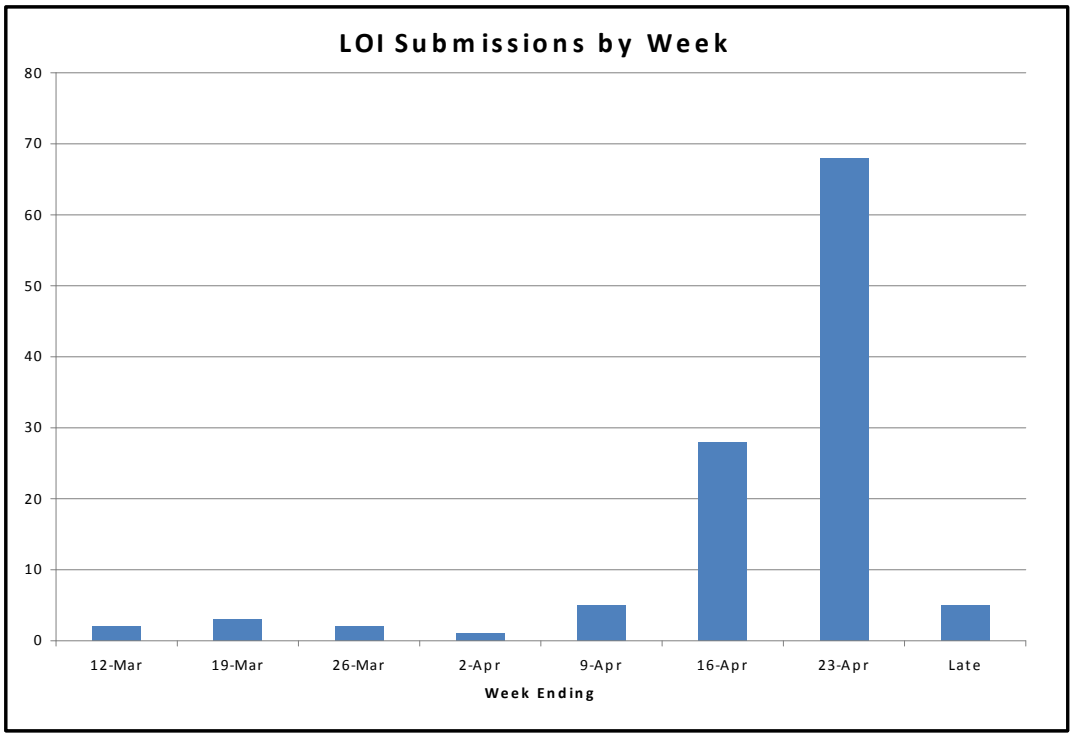

Figure 3: Distribution of Received LOIs During the Initial Application Phase

By the final deadline, the project team received 115 LOIs with 103 LOIs received during the last two weeks. A few 'prospective applicant' inquiries were made after the deadline but the project team decided not to allow any additional LOIs. Each member of the project team reviewed all of the LOIs and then met as a group to discuss eligibility. In most cases, the eligibility determination was relatively straight-forward. For some LOIs, a clarification was requested from the applicant to assist in the eligibility determination.

One consequence of receiving the majority of the LOIs just before the deadline was that the project team could not significantly begin the SME recruitment process until a majority of the LOIs underwent the eligibility reviews. The eligibility reviews were time-consuming and resulted in a more sequential rather than parallel processes of evaluating eligibility and recruiting SMEs.

From the initial pool of 115 LOIs, 24 applicants were determined to be eligible under the grant program guidelines and were invited to submit a full application. Those applicants whose proposals did not meet the eligibility guidelines were notified of their status via email.

E. Full Application

Following their notification by the project team of their eligibility, the applicants were given approximately six weeks to complete a more detailed grant application. Applicants had to provide specific details about their proposal in the following areas.

- Project Background: including status, competition, other or previous grant funding, and innovations.
- Implementation Approach, Schedule, and Milestones: technology details, project milestones, and obstacles to commercialization.
- Collaboration with other organizations: nature of collaboration, assignment of intellectual property rights, and qualifications of sub-contractors, if relevant.
- Company details: information about the senior management team, the project team, and the Board (if relevant).
- Project team: identification and profiles of key management and staff.
- Budget: project expenditures, allocation of grant funds, other funding sources, and line-item details.
- Energy, sustainability, and socio-economic benefits: anticipated quality-of-life impacts of the product or service.

The full application did not have any space restrictions so the applicant could provide as much detail as they wanted. Applicants had to provide all of the information requested on the full application and were informed that failure to do so would adversely impact their evaluations. Some applicants included patent applications and letters of support from third parties. As with the LOIs, the applicants were instructed to submit both a signed hard-copy original as well as an electronic version. The sizes of the electronically-submitted applications ranged from 9 pages to 62 pages.

Similar to the LOIs, almost all of the full applications were submitted in the last three days before the deadline. These 'last-minute' submissions had less impact on the project schedule than

the ‘last-minute’ LOIs: the identification and recruitment of the SMEs had begun once the eligibility reviews had been completed.

Of the 24 eligible applicants that were invited to participate, one applicant dropped out during the final application period due to time constraints. Another eligible organization had submitted two LOIs proposing two separate demonstrations of the same technology. As a consequence, the project team decided that only one of the applications would be reviewed by the SMEs. Therefore, the total pool of eligible applications for review was 22.

After all of the applications were received, the business analyst member of the project team began a basic due diligence process on the applicants. The project team wanted to ensure as best as possible that the applicants were legitimate businesses or non-profit entities in New Jersey. The Program required that all applicants have an office in New Jersey and that the main location for the technology demonstration would be in the PSE&G service area. The due diligence process also attempted to identify any legal or financial issues that would preclude the awarding of a grant to an applicant. Some of the applicants did not meet one or both of the geographic area requirements but asserted that they would open an office in New Jersey, ensure that the demonstration facility was in the PSE&G service area, or both. PSE&G will perform additional due diligence after the selection of grant awardees.

In parallel with the due diligence process, the project team continued the identification and recruitment of the SMEs.

F. Recruitment of Reviewers – the Subject Matter Experts (SMEs)

As noted above, the project team decided to use three experts to review each application. With 22 applications to review, this meant that a maximum of 66 SMEs were needed. This was a large recruiting task but the project team hoped that some of the SMEs would be able to review multiple grant applications.

To start the process of identifying technical subject matter experts, the proposals were divided into a number of different technology buckets. Two approaches were used to technically categorize the grant applications. The first approach was to identify the disciplines that were relevant to the application: for example, mechanical, chemical, or electrical engineering. Each of these proposals was further divided into concentrations within their respective engineering disciplines. For example, mechanical engineering could be further categorized into thermodynamics or fluid mechanics. Similarly, civil engineering sub-categories could be structural analysis, environmental engineering, etc. The second approach was to systematically scan each application to derive a list of technical keywords to be used as search keys to identify potential SMEs for the application.

After the engineering discipline list had been constructed, faculty members from the Rutgers University School of Engineering were contacted for their recommendations of potential SMEs. The division of proposals into different engineering disciplines and sub-categories helped to identify the faculty member most likely to be involved with research that was most applicable to the proposed project. This approach was moderately successful but did not yield the large list of names that were required.

Better results were achieved through targeted online searches utilizing the keyword lists that had been generated for each proposal. The keywords were used in searches of the 'Web of Science' database that was available through the Rutgers University library system. This database allows customized searches of published technical literature in specific fields. The project team restricted the literature searches to the last three years to ensure that the presumed expertise of the authors was current. The search results were effectively random and authors were selected from the successful results based on their geographic location (i.e., not in New Jersey but in the United States) and their status (i.e., a working academic rather than a graduate student or doctoral candidate). If these criteria were met, the author's name and contact information were entered into a master list of potential SMEs. Any other relevant information that might be relevant to the review was also recorded.

Some of the searches were less successful due to the specialized nature of the grant applicant's technology. The goal of the identification phase was to have at least four or five SME candidates for each application to allow for inevitable rejections. For some of the grant applications, many of the potential SME candidates in the search results were not located in the United States and therefore did not meet the geographic requirement. Although at least 4 potential SMEs were initially identified for each application, the project team performed many additional searches during the course of the SME recruitment period. These additional searches were required due to many more candidates declining to participate than anticipated. Candidates declined to participate mainly due to lack of time or lack of expertise in the proposed technology. The identification and recruitment of the SMEs was much more difficult and time consuming than anticipated. Additionally, only three SMEs were able to review and evaluate more than one grant application.

As the project team encountered the above-mentioned difficulties in recruiting SMEs, the project team enlisted a single industry expert who could review all of the proposals. The evaluations from this industry-focused reviewer would complement and balance the evaluations from the academic reviewers. Additionally, having a common reviewer between all proposals would provide a comparative baseline against which the evaluations and merits of each proposal could be assessed.

The recruitment activity was conducted primarily through email. Contact with potential experts was initiated by a recruitment package that provided basic information about the program, how they had been selected, and the responsibilities and benefits of participation. A brief abstract of the grant proposal was included to allow them to confirm that they were appropriate for consideration. Additionally, the package included a brief description of the online collaborative tool that was to be used to support the evaluation. The candidate SMEs were also told that they would receive $350 as an honorarium per review. A brief description of the evaluation framework and a copy of the requisite non-disclosure agreement (NDA) were included in the package. The candidates were also asked to complete their evaluation within three weeks of receiving the grant review package. The NDA is included as Attachment 4.

Candidates declined to participate in the program for a number of reasons. These included, but were not limited to: the candidate had more pressing obligations, they did not think that they were a good fit given the abstract, they were going to be on vacation, or could not participate due

to contractual reasons. If they declined and could not be persuaded to reconsider, they would be asked to provide the names of any colleagues who might be potential candidates. This helped to grow the candidate pool and provided a personal reference that was used in the subsequent recruitment email.

G. Evaluation of the Grant Proposals

The project team knew that a common decision framework was needed to evaluate all of the grant applications to ensure the consistency of the reviews by providing evaluation guidelines, format, and structure for the SMEs. The intent was to have a comprehensive technical evaluation but one that was not so detailed as to be exhaustive or potentially constraining. The qualitative part of the framework would allow the SME to provide a more nuanced review and to raise issues that were not adequately covered by the quantitative component of the framework.

The team knew the level of detail that applicants were being asked to provide so the technical ranking factors were designed accordingly. The key questions that the technical evaluation was intended to answer are as follows: Is the proposed technology viable and innovative? Is the product or service likely to perform as claimed? And does the proposed product or service depend on other technologies? The project team also needed to know if the proposed product or service could be readily commercialized within 18 to 24 months. Project ranking factors were designed to help answer this commercialization question.

The team implemented the quantitative component of the evaluation framework with five categories, each of which contributed a percentage to the overall technical ranking score. These categories and their percentage contributions are as follows: Technical Elements (50%), Timescale (10%), Marketability (10%), Budget (10%), Personnel (10%), and Sustainability Impact (10%). The Technical Elements category consists of the five following sub-categories: technical novelty, scientific foundation, reliance on the development of technical or social innovation in adjacent or supporting realms, the innovative capacity, and the proposal's likelihood to perform. A 10-point grading scale was used for each of the sub-categories to provide sufficient granularity for the SME's evaluation. This scale was also used for the remaining major categories yielding a maximum total technical score of 100. This is an intuitive maximum score and provides easy cross-comparison. Following is an example of the technical ranking form.

Please use this form to rank the energy grant proposal

	Organization	
		Please enter values from 1 to 10 in the yellow highlighted cells.
Technical Criteria:		
Technical Novelty	6	1 = not novel, 10 = highly novel
Scientific Foundation	7	1 = engineering/science are inconsistent, 10 = engineering/science are highly
Reliance on Development of Adjacent or Supporting Innovations	3	1 = heavily reliant, 10 = not at all reliant
Innovative Capacity	8	1 = incremental innovation, 10 = transformational innovation
Likelihood to Perform as Envisioned	8	1 = unlikely to perform as proposed, 10 = highly likely to perform as proposed
Technical Score	32	
Project Criteria:		
Timescale	7	1 = unrealistic, 10 = highly realistic
Marketibility	7	1 = no market potential, 10 = high market potential
Budget	5	1 = budget is unrealistic, 10 = budget is highly realistic
Personnel	5	1 = personnel lacks relevant skills, knowledge, and experience, 10 = personnel clearly has relevant skills, knowledge, and experience
Sustainability Impact	8	1 = weakly sustainable, 10 = strongly sustainable
Project Score	32	
Total Score	**64**	

Figure 4: Example of a Completed Technical Evaluation Form

The qualitative component of the framework was ultimately a very simple design. The project team decided that the SMEs should be able to provide their own, free-form, narrative feedback as a complement to the fixed format and structure of the quantitative component. The qualitative form was basically a blank sheet on which the SMEs were instructed as follows.

> *In addition to the numerical ranking of the proposal, we also request that you provide a brief narrative response where you may comment on any and all aspects of the grant proposal. You may do so in a free-form manner or use any or all of the six criteria [i.e., technical categories] of the evaluation to frame your comments. We also welcome any feedback on the Program, the grant application form, and the evaluation framework. Please use the following space for your narrative.*

This narrative format also provided a mechanism to assess the SME's general enthusiasm about the proposal and a subjective comparison of their grading scale.

The completed technical evaluations were aggregated for all of the grant applications. The final numerical technical score for each proposal was based on the averaged scores from the three SME reviewers. The spread between the scores from the SMEs provides a measure of the consistency of the SME scores. The spread is the difference between the maximum and minimum of the three scores. This spread can be used as an indicator of confidence in the SME rankings: a small spread indicates that the SMEs were in agreement and consistent in their rankings which might suggest a high confidence level in the final score; whereas a wide spread is an indication of disagreement amongst the SMEs and suggests low confidence.

H. Post-evaluation survey of Subject Matter Experts

An exit survey was designed with the assistance of the Center for Survey Research at Rutgers University. This survey allowed the SMEs to provide their feedback on two important aspects of

the project: recruitment and evaluation. The goal of the survey was to get opinions from the SMEs that will improve future technology-funding programs. Two surveys were developed: a longer, more comprehensive survey for the SMEs who accepted the invitation and completed an evaluation of a grant application; and a separate two question survey was emailed to those candidate SMEs who had declined to participate in an attempt to identify the reason why they had declined.

38 of the 48 SME reviewers completed the full survey and 33 of the 74 non-reviewers completed the smaller survey. The results of these surveys are in Attachments 5 and 6.

V. Results and Observations

As noted above, the initial program announcement did not yield an immediate flurry of LOIs. The project team did field a reasonable number of inquiries (email and phone) in the weeks after the program was announced, but the majority of the submitted LOIs arrived just before the deadline. The media reach of the announcement was significant: more than 150 print (newspaper, magazine) and broadcast (TV, cable, radio, and web) outlets received the initial announcement via the PSE&G press release distribution. A similar press release through the Rutgers University media relations group was delivered to more than 60 outlets, some of which duplicated the PSE&G release. Additionally, PSE&G announced the program through its Major Accounts group. The project team also distributed the press release to selected entrepreneurial organizations, colleges, and universities in New Jersey to ensure that these groups were aware of the program.

115 LOIs were received by the deadline and 24 met the eligibility requirements of the program. The majority of the ineligible LOIs were rejected due to the nature of the proposed technology: in most of these cases, the technology was supply-side or generation-related rather than focusing on the demand-side. Other proposals were ineligible as they utilized products or services that were already commercially available. The project team originally expected 50 to 75 LOIs with 12 to 15 being invited to submit a full application. The larger number of LOI submissions resulted in a greater number of eligible proposals but the percentage of eligible LOIs was about the same. The larger number of proposals made for a more robust competition but increased the project workload.

The LOI process generally worked well. Although some applicants did not completely read the program description, misunderstood the program guidelines, or chose to ignore the requirements, most applicants followed directions and correctly completed the form. The quality of the LOI responses varied from barely adequate to extremely comprehensive. The decision to limit the size of some LOI sections (i.e., a maximum number of words) kept the overall size of the LOI forms at a manageable level while still allowing enough detail for the review team to make eligibility decisions.

The invited eligible applicants had a shorter time to complete the full application. The project team assumed that these organizations would be able to marshall the required staff resources in this relatively short period of time and complete the application using information that was most

likely readily available or easy to create. In all but one case, this assumption was correct. One applicant withdrew their application citing too few resources and too little time. Although there was a good mix of proposals, a plurality of them focused on the Green Building and Design category. Figure 5 shows the distribution of the LOIs and the full applications across the technology domains.

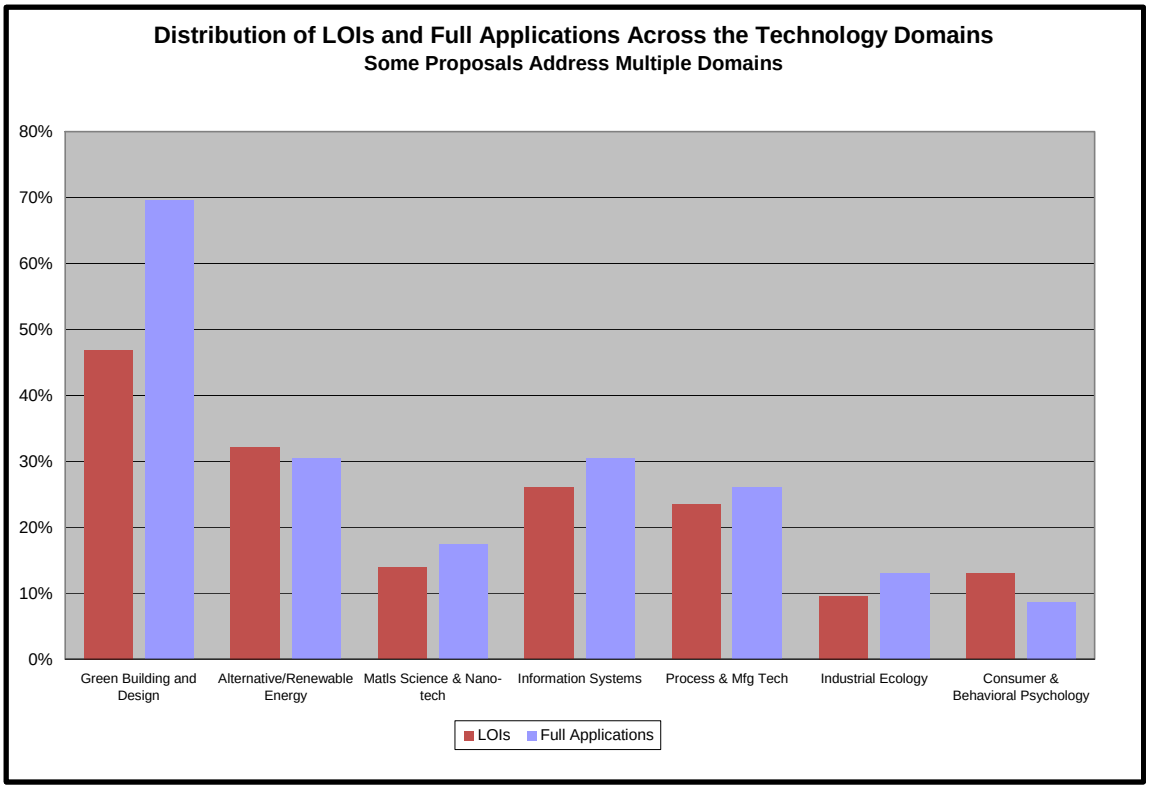

Figure 5: Distribution of Initial (LOI) and Final Applications Across the Project's Major Energy Technology Domains

The quality of the full applications was generally very good. The issue was less one of quality than quantity: some applicants included more information than was necessary or submitted additional documents with their application. For the 22 applications that were reviewed by the 47 SMEs, only one SME asked for clarification on a proposal. Following is a chart with the sizes (in pages) of the submitted applications. The number of pages is for the application itself and does not include any other submitted files. Note: Due to the sensitive nature of some applicant-specific information, the names of grant applicant organizations are identified only by a single-letter code throughout the report.

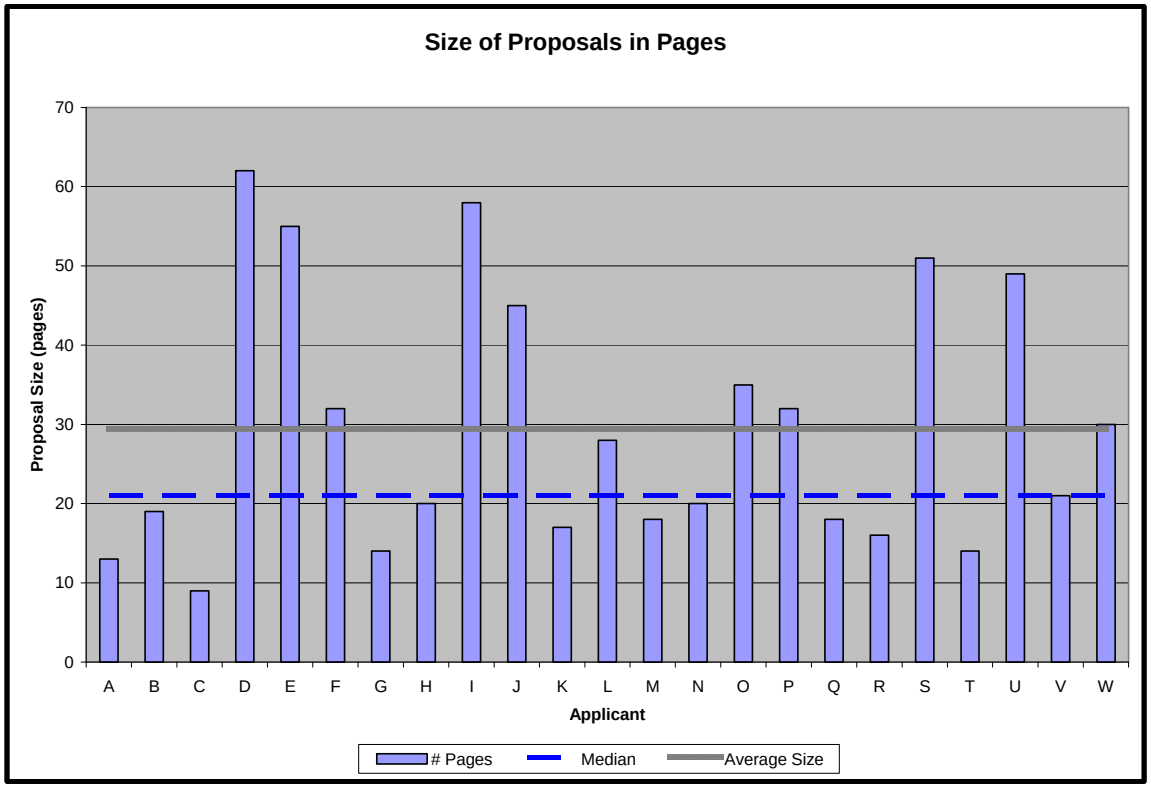

Figure 6: Illustration of the Sizes of Submitted Grant Proposal by Applicant

As noted, the most difficult aspect of the project was the identification and recruitment of the SMEs. The best approach was the Web of Science, an online literature search tool. This tool allowed the team to identify almost all of the needed SMEs. In a few cases, the applicant's proposed technology niche was sufficiently narrow that a more intensive search had to be mounted in order to locate suitable experts. These searches were extended to telephone discussions with potential experts, colleagues of SMEs, and Google.

The project team expected that three to five potential SMEs were needed in order to successfully recruit one reviewer. Approximately 150 candidates were identified on the master list of potential SMEs. The calendar time to recruit the needed number of SMEs was approximately 2.5 times longer than the team had anticipated. This was primarily due to the imposed constraint to not have more than three SMEs per proposal: only two recruitment invitation packages at most could be extended at any time. After one SME accepted, only a single invitation package could then be sent to a prospective SME.

Additional delays occurred when the prospective SME did not respond or could not be reached by telephone. Most of the proposals required four or more recruitment attempts in order to secure the two required SME reviewers so this aspect of the recruitment process was better than anticipated. In some cases, the terms of the NDA adversely impacted the recruitment process. As can be seen from Figure 7, the complete recruitment process took 11 weeks rather than the anticipated 3 weeks.

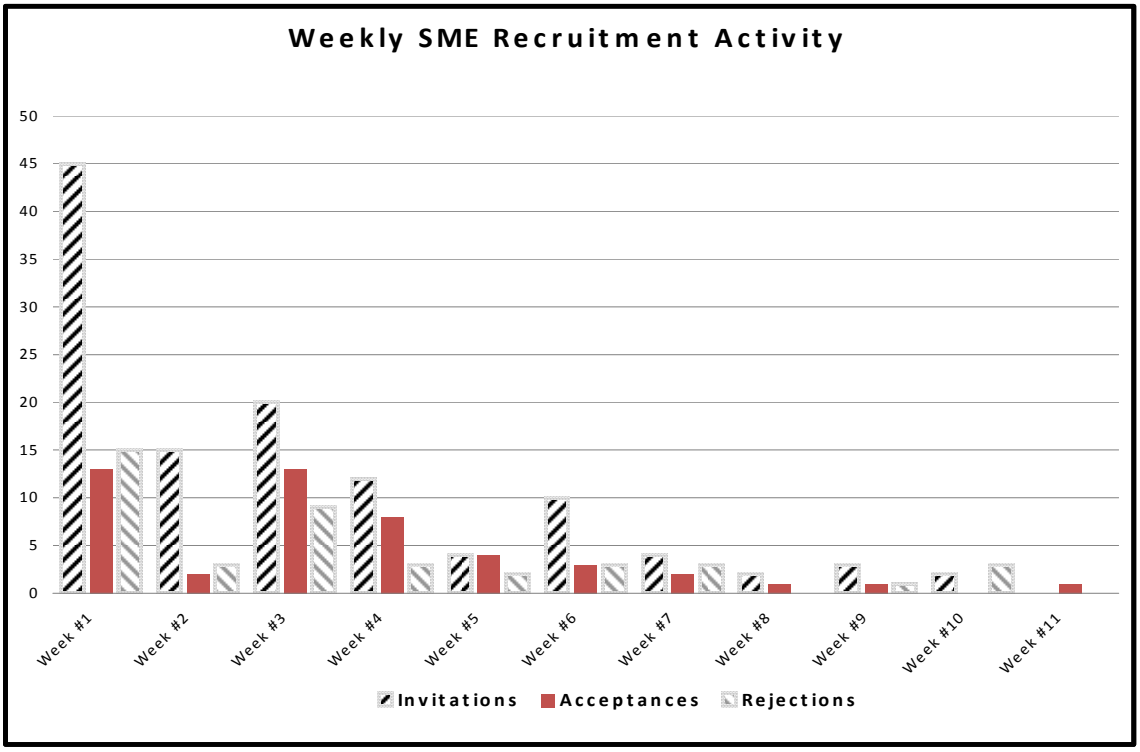

Figure 7: Weekly Recruitment Activity: Invitations Made by Project Team, Acceptances and Rejections Received from SMEs

Although many candidate SMEs responded within a day or two to the recruitment offer, others took much longer. These delays rippled through the process and contributed to the lengthy recruitment and review period. Follow-up phone calls did not significantly improve the process: voice mail was more frequent than reaching the candidate. Figure 8 illustrates the difficulties of the recruitment phase.

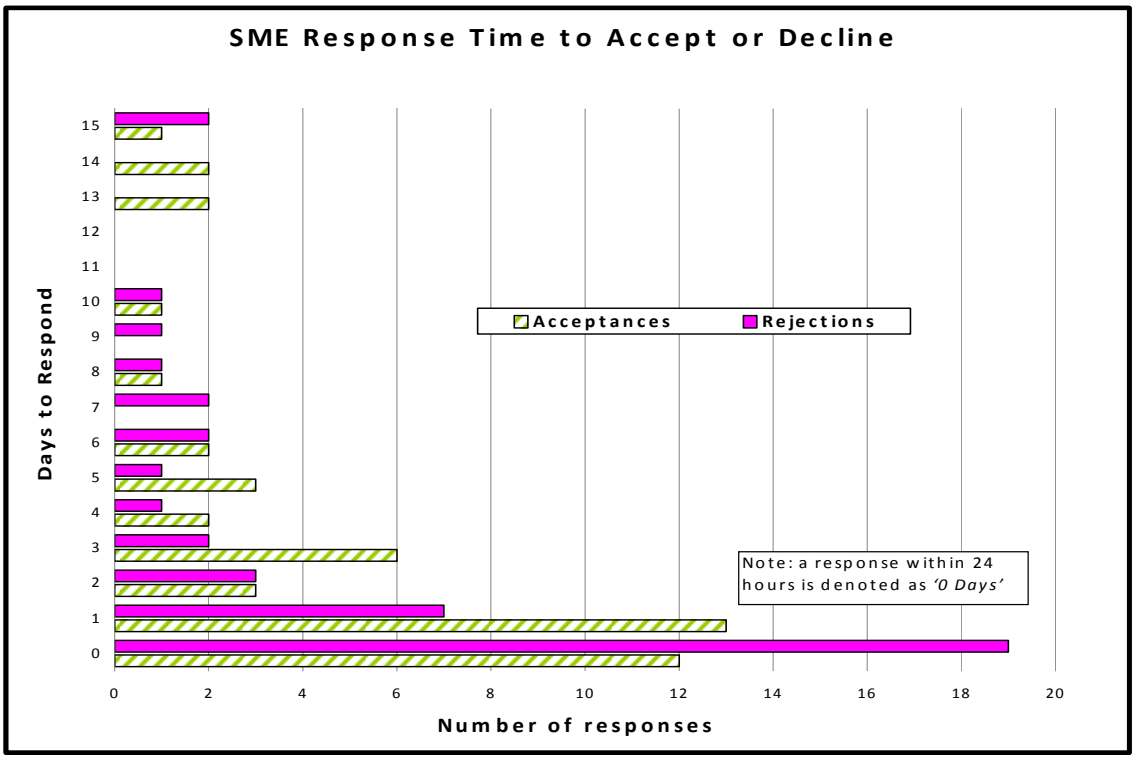

Figure 8: Distribution of the SMEs' Acceptance or Rejection Response Time

A better-than-expected result occurred in the number of candidates that had to be contacted to recruit the two SMEs per proposal. AAAS colleagues had noted that 3 to 5 recruitment attempts were to be expected to recruit one reviewer. Although a few proposals proved problematic, the team made an approximate 5.5 recruitment attempts on average to secure the two SMEs. The time to recruit was longer than expected but the acceptance rate was better than anticipated. See Figure 9.

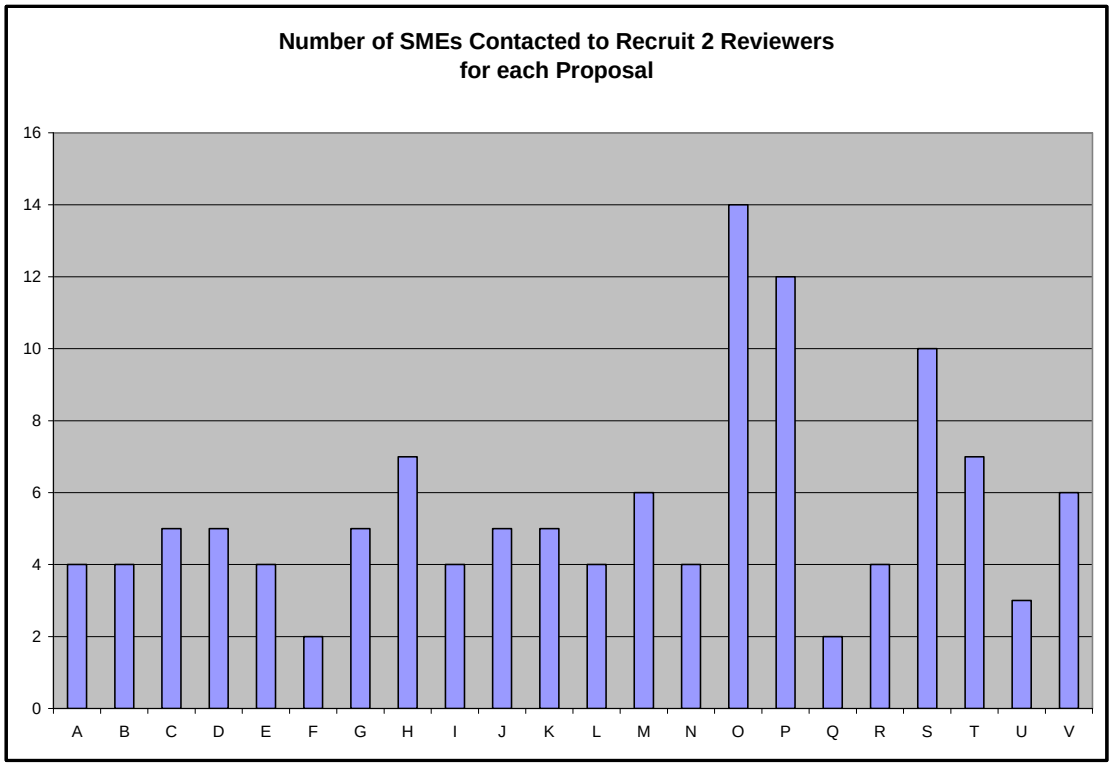

Figure 9: Number of Recruitment Attempts per Grant Proposal To Get Two Acceptances

As the SMEs completed and returned their evaluations, the project team tabulated all of the technical scoring data from the forms for delivery to PSE&G. The SMEs were asked to complete the evaluation in three weeks or less. As can be seen from Figure 10, the time to complete a review varied widely amongst the SMEs. In one case, the SME returned the evaluation in less than 24 hours. In the worst case, the SME took almost two months to complete their review.

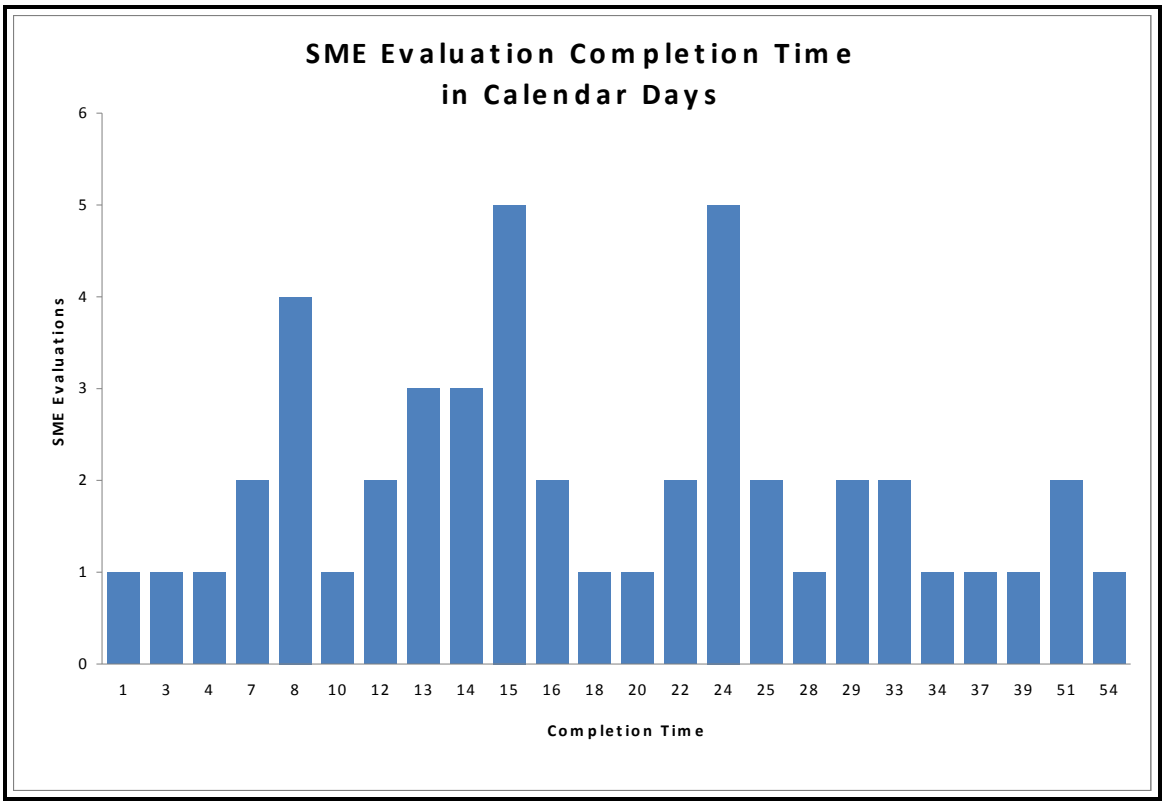

Figure 10: Distribution of Technical Evaluation Completion Times for All SMEs

The most important results for the project are the technical evaluations of the applicant proposals. The technical evaluation data was aggregated, sorted, and analyzed to provide the following rankings of the applicant proposals: Average technical score, Maximum technical score, Consistency of reviewers (the difference between the highest and lowest technical score), and the Amount Requested. Following are the tables for these rankings.

For the ranking by the average technical score, the differences between the adjacent ranked proposals are not as large as might be expected.

Table 1: Ranking of Applicants by Average Technical Score (3 SME Reviews) With Grant Applicant's Requested Amount

Applicant Ranking by Average Technical Score			
Applicant	**Avg. Technical Score**	**Amount Requested ($1,000s)**	**Cumulative Amount ($1,000s)**
N	79.00	$325	$325
D	76.67	$335	$660
P	75.75	$523	$1,183
M	74.33	$220	$1,403
G	72.67	$98	$1,501
R	72.33	$200	$1,701
F	72.00	$140	$1,841

B	71.50	$238	$2,079
E	71.33	$1,000	$3,079
K	71.00	$1,293	$4,372
J	70.33	$710	$5,082
L	70.33	$964	$6,046
S	69.33	$350	$6,396
V	67.00	$1,000	$7,396
U	66.33	$650	$8,046
A	65.83	$800	$8,846
Q	63.67	$500	$9,346
O	63.00	$290	$9,636
C	60.33	$400	$10,036
I	51.67	$218	$10,254
H	49.00	$837	$11,091
T	39.00	$500	$11,591

The ranking by maximum technical score shows a similar pattern to the average technical score ranking: the difference between the high and low is not as much as anticipated. If the highest and lowest rankings are ignored, only a 20 point difference spans the set.

Table 2: Ranking of Applicants by the Maximum Technical Score (1 SME) With Grant Applicant's Requested Amount

Applicant Ranking by Maximum Technical Score			
Applicant	**Max Tech Score**	**Amount Requested ($1,000s)**	**Cumulative Amount ($1,000s)**
E	89	$1,000	$1,000
P	87	$523	$1,523
D	86	$335	$1,858
B	84	$238	$2,096
N	84	$325	$2,421
A	84	$800	$3,221
M	81	$220	$3,441
Q	80	$500	$3,941
R	79	$200	$4,141
F	78	$140	$4,281
O	78	$290	$4,571
H	77	$837	$5,408
J	77	$710	$6,118
K	77	$1,293	$7,411
G	76	$98	$7,509
L	76	$964	$8,473
V	76	$1,000	$9,473
S	75	$350	$9,823
U	75	$650	$10,473
C	68	$400	$10,873
I	67	$218	$11,091
T	41	$500	$11,591

Interestingly, the most consistently ranked proposal (T) also had the lowest average technical score: the SMEs agreed that the proposal had technical issues. However, the applicant with the second lowest average technical score (H) had the biggest differences amongst the SMEs. The three proposals with the highest average technical scores (N, D, P) had sizeable differences amongst their SMEs. A difference of 15 points or less might have been expected for the top-ranked proposals rather than the 14, 19, and 22 points respectively.

Table 3: Ranking of Applicants by the Difference between the Highest and Lowest Technical Scores (3 SMEs) With Technical Rank Based on Average Technical Score

Applicant Ranking by Consistency of Reviewers					
Applicant	**Highest Score**	**Lowest Score**	**Difference**	**Tech Rank**	**Avg Tech Score**
T	41	37	4	22	39.00
G	76	68	8	5	72.67
K	77	66	11	10	71.00
F	78	66	12	7	72.00
N	84	70	14	1	79.00
L	76	61	15	11	70.33
M	81	66	15	4	74.33
S	75	58	17	13	69.33
V	76	58	18	14	67.00
J	77	59	18	12	70.33
C	68	49	19	19	60.33
Q	79	60	19	17	63.67
P	87	68	19	3	75.75
B	84	62	22	8	71.50
D	86	64	22	2	76.67
U	75	50	25	15	66.33
R	80	51	29	6	72.33
O	78	48	30	18	63.00
A	84	50	34	16	65.83
E	89	55	34	9	71.33
I	67	27	40	20	51.67
H	77	34	43	21	49.00

This ‘requested amount’ ranking uncovered another interesting result: 7 of the 9 lowest requested amounts were made by the applicants with the highest average technical scores. If the average technical score is a good indicator for commercial success, then this result could suggest that that these organizations are not seeking large amounts of capital to cross the “valley of death”. As technically well-ranked, they seem to be able to do more with less. Or they may have received significant start-up capital based on the strength of their technology and now need less to achieve commercial viability.

Table 4: Ranking of Applicant Based on Requested Amount – Lowest to Highest – With Technical Rank Based on Average Technical Score

Applicant Ranking by Requested Amount				
Applicant	**Avg Tech Score**	**Tech Rank**	**Amount Requested ($1,000s)**	**Cumulative Amount ($1,000s)**
G	72.67	5	$98	$98
F	72.00	7	$140	$238
R	72.33	6	$200	$438
I	51.67	20	$218	$656
M	74.33	4	$220	$876
B	71.50	8	$238	$1,114
O	63.00	18	$290	$1,404
N	79.00	1	$325	$1,729
D	76.67	2	$335	$2,064
S	69.33	13	$350	$2,414
C	60.33	19	$400	$2,814
Q	63.67	17	$500	$3,314
T	39.00	22	$500	$3,814
P	75.75	3	$523	$4,337
U	66.33	15	$650	$4,987
J	70.33	11	$710	$5,697
A	65.83	16	$800	$6,497
H	49.00	21	$837	$7,334
L	70.33	12	$964	$8,298
E	71.33	9	$1,000	$9,298
V	67.00	14	$1,000	$10,298
K	71.00	10	$1,293	$11,591

All of the technical evaluation data and the SME review narratives were delivered to PSE&G in early September 2010. PSE&G contacted all grant applicants and announced the grant awardees in mid-November 2010.

VI. Analysis of the Program Methodology.

From the perspective of the project team, the multi-phase approach to the grant application process was effective and reasonable. The desired audience was reached and the majority of applicants were able to complete the LOI without significant interaction with the project team. A key factor in the LOI phase was limiting the size of the main technology description section of the LOI: this encouraged the applicants to be both precise and concise. No LOIs were rejected due to too much information. The level of detail in the LOIs was sufficient in almost all cases for the project team to make the eligibility decisions for the 'full application' phase of the program. This effectively diminished the need for follow-up by the project team despite the larger-than-expected number of LOIs. The less-intimidating size of the LOI form may have contributed to the larger number of LOIs that were received. This lower 'barrier-to-entry' may also have contributed to a larger number of ineligible LOIs as the effort to apply to the program was relatively low. However, a larger pool of LOIs from which to select the smaller set of finalists made for a more robust grant program.

Coupled with the easy-to-complete LOI was the media reach of PSE&G and Rutgers University. The broad reach across diverse media outlets in the New Jersey area for the program announcement definitely contributed to the size of the applicant pool and interest in the grant program. The project team fielded many inquiries about a supply-side grant program from technology organizations that did not meet the demand-side requirement. On the basis of the number of LOIs and program inquiries received, the announcement of the program can be considered a success.

The common technical evaluation framework also contributed to the success of the program. With a common approach towards the technical evaluations, the SMEs were more likely to focus on the same key aspects of a proposal. Even with the framework, some proposals had a wide range of scores from the SMEs. The consistency of the technical reviews for a proposal is an important indicator in the grant award process. The wide range of SME scores suggests that additional work may be needed to refine the framework.

The results from the full survey indicate that the SMEs had a generally favorable view of the review and evaluation process. Survey results also indicate that most SMEs thought the technical evaluation framework provided adequate guidance and direction for the task, and that the narrative was a necessary and helpful addition.

As mentioned previously, the SME recruitment phase took much longer than anticipated. This recruitment difficulty was likely due to a number of factors. These factors include the esoteric technical niche of the grant application, the less-than-targeted identification of some of the candidate SMEs, and the SME delays in accepting or declining the invitation. The non-reviewer candidate SMEs who responded to the post-evaluation survey indicated that 'lack of time' was

the main reason why they declined the invitation, adding that a different time of the year would be no more suitable for their participation. Based on this experience, more time should be allocated to the SME recruitment phase.

Recordkeeping also proved useful in documenting the process. The diligent management of the SME recruitment process supplied useful data for analysis. A contact log was maintained for all activities associated with the recruitment of the SMEs. These activities included the mailing of invitations, acceptances, and rejections. Email and phone logs were also maintained to track the recruitment effort. These records provided response-time data that helped to explain the lengthened recruitment and evaluation phases. The average SME recruitment acceptance response time was ~4.3 calendar days with a median time of ~2 days. The average time for an SME to decline the invitation was ~3.6 days with a median rejection time of ~2 days. The average time for an SME to review and evaluate a grant application was ~20 days with a median time of ~16 days

The post-evaluation surveys proved to be a valuable feedback tool. The results from the full survey indicate that the SMEs had a generally favorable view of the review and evaluation process. Most thought that the technical evaluation framework provided adequate guidance and direction for the task. More than 50% of the respondents spent more than four hours on the review and evaluation; 8% spent two hours or less. The honorarium was the third motivating factor after the grant application subject matter and the SME's availability. The team was concerned that the compensation was not going to be sufficient so this result showed the concern unfounded. Lack of time was cited as the main reason that the candidate SMEs declined the invitation. A post-evaluation survey should be included in similar grant review programs.

VII. Conclusions.

> *"While it is clear that there are multiple paths to firm innovation and a range of institutions and environments that support innovative activity, whether the choice of an innovation strategy appears to be more constrained by the search for profitable technological opportunities than by the search for funding remains unclear in the existing literature despite multiple decades of research related to the topic.*[6]

For this project, the answer would seem to be rather clear: the search for funding was the more constraining factor in 2010. More than 100 grant applicants who thought that their technology was innovative sought funding through the program. Program success could be argued on these numbers alone. Even after the eligibility review, 22 applicants remained. The demand for technology funding in the "valley of death" lifecycle stage seems to be strong in New Jersey. The demand for funding is greater than the supply so projects such as this one are useful in matching limited funds with the most promising technologies. This program provided funding to about 15% of the original applicants, thereby suggesting that additional program offerings should be considered if such funding were available.

[6] Eesley, p.39.

From the initial application pool, the top three technology domains were green building and design, alternative and renewable energy technologies, and information systems. These domains are not surprising given New Jersey's characteristics: the most densely populated state has significant numbers of residential, commercial, and industrial buildings; the state developed and supported a successful clean energy program; and an advanced software infrastructure and community has grown since the birth of the industry. Although this program focused on the demand side energy technologies, the supply side - as represented by the alternative and renewable energy technologies – is also searching for funding.

Future funding programs can be targeted to address the needs of both supply- and demand-side technology firms as they attempt to cross the "valley of death". These funding programs could be further focused at the various product lifecycle stages that make up this difficult period of technology commercialization. These lifecycle stages are illustrated in the following figure[7] along with the sources of funding that are usually used. Note that public funding is conspicuously absent from the common funding sources.

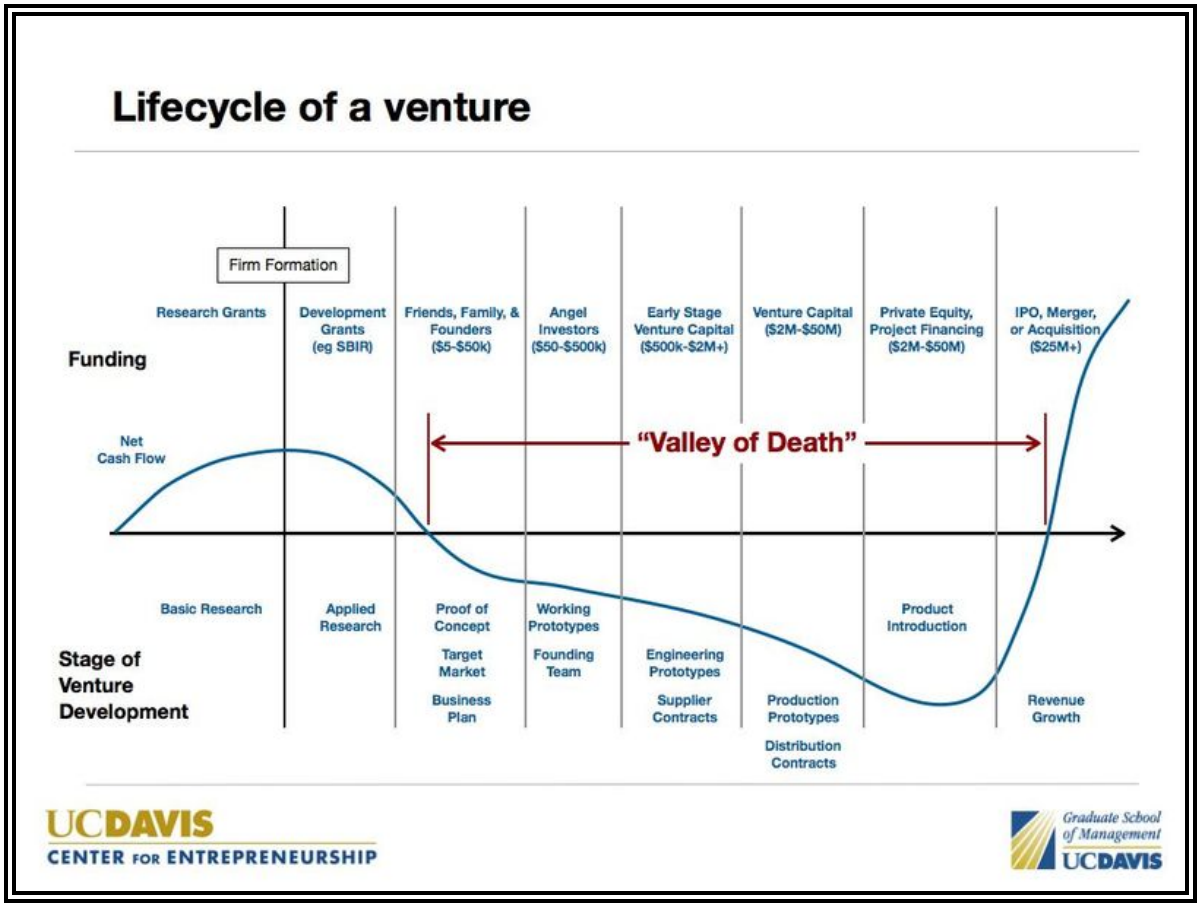

Figure 11: Product Lifecycle Stages and Attendant Common Funding Sources

The grant application and evaluation process itself was successful. The two-phase application process was time-efficient: the simple LOI form was easy to complete and provided enough

[7] Hargadon

information for the eligibility determination; and the full application form provided enough information for the SMEs to fairly evaluate the proposal. Three SMEs were sufficient for the team to ensure that any differences would be averaged across the reviews. For a future project, a fourth SME could be used when the technical review differences are greater than a certain amount.

The evaluation process might also benefit with the addition of a venture capitalist as a reviewer: a VC-SME. This person could provide valuable business and managerial insight to aid in grant award selection, especially if a program were targeted at conceptual level or early stage technology firms. A variation of the VC-SME idea would be a 'business review panel' that would be staffed with technology sector executives, venture capitalists, and financiers. The grant finalists would present their business (or product) plan to the panel for review to add a business dimension to the technical evaluation. This business review could increase the probability of success for a funding program.

Indeed, a venture capitalist, an experienced entrepreneur, an investment banker, or all three could be incorporated into a publicly-sourced technology funding program to complement the SMEs and to expand the funding options. Private capital could be used to supplement the public grant funding that was used in this program. The attractiveness of the grant awards could be coupled with debt or equity programs from the private sector. With the proximity to New York and native high net worth investors, New Jersey residents could benefit along with investors and the business community as additional promising technologies could be funded at a lower risk to rate payers. Increasing the number of funded proposals could increase the probability of faster and broader success.

The real success of the program will be the expedited commercialization of the funded technologies and the associated energy efficiency benefits (reduced costs) to New Jersey rate payers from future market application of those technologies. This program has identified a number of organizations whose products and services will hopefully soon deliver significant future energy savings from relatively modest grant awards. The next step will be the careful monitoring and measurement of these organizations as they move towards commercialization. Both business and technical metrics need to be defined and tracked. The data gleaned from this oversight can be used to improve the technology grant award process: Were the products and services available to the market within 24 months? Have the rate payers seen increased energy efficiency and cost savings? Was the grant funding sufficient to meet the program's goals?

If so, this process used in this demonstration grant program will be a good model for future programs. If not, future programs can build on its successful features and refine the others. New Jersey seems to have many technological opportunities but the search for funding remains.

VIII. References.

[1] Brown, Marilyn A.; 1990; The Cost of Commercializing Energy Inventions; *Research Policy,* **19,** 147-155; Elsevier Science Publishers B.V. (North-Holland).

[2] Eesley, Charles E.; 2010; Institutions and Innovation: A literature Review of the Impact of Public R&D and Financial Institutions on Firm Innovation; available at Social Science Research Network: http://ssrn.com/abstract=1713451

[3] Hargadon, Andrew; 2010; University of California – Davis, Graduate School of Management – Center for Entrepreneurship; http://andrewhargadon.typepad.com/my_weblog/2010/04/into-the-valley-of-death.html; URL valid as of November 1 2010

IX. Acknowledgments.

The success of this project has been the result of contributions from many people in many organizations. The CEEEP project team gratefully acknowledges the contributions and assistance of the following people and organizations.

- Mr. Walt Sparrow-Hood and Ms. Elaine Bryant; PSE&G
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- Mr. Randall Solomon; the New Jersey Sustainable State Institute
- Mr. Steve Manas; Rutgers University Media Relations
- Mr. William Marosy, Ms. Keri Alvia, and Ms. Fran Loeser; Edward J. Bloustein School of Planning and Public Policy Business Office
- Ms. Tamara Swedberg; Edward J. Bloustein School of Planning and Public Policy, Technical Support
- Dr. Marc Weiner and Mr. Orin Puniello; the Center for Survey Research at the Edward J. Bloustein School of Planning and Public Policy
- Dr. Maurie Cohen; New Jersey Institute of Technology
- Mr. William Coons; Techwood Consulting

Final Report Attachments

Attachmentt#

Attachment 1

PSE&G Press Release for the Program Announcement

Media Relations

Public Service Electric and Gas Company
80 Park Plaza, T-4
Newark, NJ 07102-4194

FOR IMMEDIATE RELEASE February 25, 2009
Contacts: PSE&G Jenn Kramer 973-430-6027
NJSSI Randy Solomon 732-932-5475, x695

PSE&G Soliciting Proposals for Energy Efficiency Technology Demonstration Projects

$8 million available to test new energy saving technologies

(February 25, 2010 – Newark, NJ) The search to find the state's most innovative energy efficiency technologies has begun. PSE&G is soliciting proposals for emerging energy-saving technologies that have the potential to come to market quickly. Nearly $8 million is available in this solicitation for grants that could pay the total cost of establishing a demonstration project. New Jersey's leading energy technology organizations, including universities and small businesses, are encouraged to submit proposals.

PSE&G is partnering with the New Jersey Sustainable State Institute (NJSSI) on this new Technology Demonstration program, which is part of a $190 million initiative that was approved last summer by the NJ Board of Public Utilities to support the state's economic development goals and bring energy efficiency to utility customers.

Academic experts and a panel at the NJSSI will judge applications based on their technical merits and ability to promote sustainability in New Jersey. Energy savings, replicability and potential for expansion will also be considered. The goal is to have full-scale versions of the product or technology commercially available within the next two years.

"Our goal is to move innovative technologies from the lab to the real world," said Al Matos, PSE&G's vice president of renewables and energy solutions. "We want to get these ground-breaking technologies to market more quickly – where they can make a real difference."

Eligibility Guidelines and Application Process

The Technology Demonstration Program is open to any organization based in PSE&G's electric and/or gas service area. Energy-saving concepts and technologies in the following areas are eligible for consideration:

- Green Building and Design
- Materials Science and Nano-technology
- Information Systems
- Process and Manufacturing Technology
- Industrial Ecology
- Consumer and Behavioral Psychology

If a proposed product or technology does not fall into one of these categories but would satisfy the goal of the program, applicants should address the eligibility issue in their initial application/letter of intent.

Eligibility guidelines and grant application packages can be found at www.njssi.org . Questions regarding the grant application may be sent to energy_grants@njssi.org or directed to the Technology Demonstration Program office at 732-932-5475 – ext. 868**.**

The New Jersey Sustainable State Institute's (NJSSI) mission is to provide decision makers and all New Jersey citizens with a clear picture of where we are, where we are headed, and what we need to achieve to be sustainable. NJSSI works with government, public interest groups, business leaders, scientists, and citizens from all walks of life, to build understanding and capacity to address the critical social, economic, and environmental factors that we must sustain to ensure a quality-of-life. NJSSI is part of the Edward J. Bloustein School of Planning and Public Policy at Rutgers University.

Public Service Electric and Gas Company (PSE&G) is New Jersey's oldest and largest regulated gas and electric delivery utility, serving nearly three-quarters of the state's population. PSE&G is the winner of the ReliabilityOne Award for superior electric system reliability. PSE&G is a subsidiary of Public Service Enterprise Group Incorporated (PSEG) (NYSE:PEG), a diversified energy company (www.pseg.com).

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Attachment 1- *continued*

List of media outlets for the NewsWire Service

New Jersey media outlets reached via the NewsWire service. The Energy Technology Demonstration Grant program announcement was sent out via the NewsWire service.

Magazines:

Coaster Magazine - Asbury Park
Children & Science- Blairstown
In the Basement - Burlington
Dance magazine - Clifton
The Food Institute - Elmwood
Medical Travel Today - Elmwood Park
Woman's World - Englewood Cliffs
Electronic Media - Fairfield
New Jersey Business Magazine - Fairfield
Palisade Magazine - Hoboken
BioPharm International - Iselin
Ascend Media - Jamesburg
Oil Price Information Service - Lakewood
New Jersey Lifestyle - Lambertville
New Jersey Medicine - Lawrenceville
Aviation Intl - Midland Park
ITEM magazine - Millburn
Chief Executive - Magazine Montvale
Medical Decision - Point Montvale
US Industry Today - Morristown
New Jersey Monthly - Morristown
New Jersey TechNews - Mount Laurel
New Jersey Lawyer Magazine - New Brunswick
The Real Deal - Newark
Seaports Publications - Newark
New Jersey Law Journal - Newark
NJ Webguide Magazine - Nutley
Best's Review Magazine - Oldwick
A M Best - Oldwick
Corporate Public Affairs - Parsippany
Faulkner Information - Pennsauken
Fleet Executive - Princeton
Inside Central New - Jersey Princeton
CareerJournal.com - Princeton
Reporte Hispano - Princeton
Happi Magazine - Ramsey
Consumer Goods - Randolph
The Robb Report - Ridgewood
Bioscience Technology - Rockaway
Creative Homeowner - Saddle River

MedCall.com - Spring Lake
Journal of Psychosocial & Mental Health Nursing - Thorofare
Slack - Thorofare
Business Facilities - Tinton Falls
Pharmaceutical Technology - Trenton
Dream of Italy - Trenton
The Ivy League - Trenton
Greeting Etc. - Trenton
Interior Design - Trenton
New Jersey Gold Coast Magazine - Trenton
Step Up magazine - Trenton

News Service:

German Press Agency - Closter
PC Financial Network - Jersey City
Associated Press-Dow Jones/DJ Newswires - Jersey City
Dow Jones Capital Markets Report - Jersey City
Associated Press - Mount Laurel Bureau - Mount Laurel
Shark Information/ADP - Mount Laurel
Dow Jones Newswires - New York
Associated Press/Newark Bureau - Newark
Associated Press /Pleasantville Bureau - Pleasantville
Dow Jones Money Report - Preston
Dow Jones/Wall Street Journal - Princeton
Dow Jones Business News - Princeton
Dow Jones Asset Management - Shrewsbury
Feature Photo Service - Somerset
Gannett News Service/Trenton Bureau - Trenton
Associated Press/Trenton Bureau - Trenton

Newspaper:

Millville News - Bridgeton
Courier-News - Bridgewater
Courier-Post - Cherry Hill
Home News Tribune - East Brunswick
Greater Media Newspapers - East Brunswick
Prime Times in NJ - Fairlawn
Press Enterprise - Flemington
The Wall Street Journal Report/CNBC Syndication - Fort Lee
The Record - Hackensack
The Gazette Newspapers – Hasbrouck Heights
McGraw Hill - Hightstown
The Jersey Journal - Jersey City
The Wall Street Journal Report - Jersey City
El Nuevo Hudson - Jersey City
Leader Free Press- Lyndhurst
News Record of Maplewood - Maplewood
Bergen County Newspapers - Midland Park
Asbury Park Press - Neptune
Business News New Jersey/NJBiz - New Brunswick
The Daily Targum - New Brunswick

Italian Tribune News Newark
The Star-Ledger - Newark
New York Times/Newark Bureau - Newark
New Jersey Herald Newton
The Daily Record - Nutley
Zero Hora Newspaper - Nutley
Atlantic City Press - Pleasantville
The Wall Street Journal Classroom Edition - Princeton
The Princeton Packet - Princeton
Rahway News Record - Rahway
Perth Amboy Gazette - Rahway
The Wall Street Journal - Somerset
Manitoba Society of Senior Journal - Somerset
The Wall Street Journal/The Wall Street Journal Online - South Brunswick
PharmaVOICE - Titusville
Ocean County Observer - Toms River
New York Times - Trenton Bureau - Trenton
The Daily Journal - Trenton
Engel Publishing Partners - Trenton
The Times - Trenton
The Trentonian - Trenton
Herald News - West Paterson
Wildwood Leader - Wildwood
Burlington County Times - Willingboro
Gloucester County Times - Woodbury

Radio:

WDHA-FM - Cedar Knolls
WJRZ-AM - Manahawkin
WJLK-AM - Ocean
WMBJ - West Caldwell
Wall Street Journal Radio Network - Woodbury

TV:

NBC-40 - Atlantic City
12 News New Jersey - Edison
CNBC - Englewood Cliffs
WNJU Telemundo - Fort Lee
WMGM-TV - Linwood
MSNBC - New Brunswick
I-TV Studio - New Brunswick
WWOR-TV - Secaucus
Ebru TV - Somerset
WXTV Univision 41 - Teaneck
NJN-New Jersey Public Television - Trenton
Inside Media Networks - Union
CN8 - Union Bureau - Union
Dandana TV (International TV for Arab/Arab/American Consumer Union)

Web:

TechnicallyPhilly.com - Carney's Point

Nerve.com - Clifton
Global Green News Service - Hamilton
Simply Thrifty/b5 Media - Hillsborough
PharmaWire - Hoboken
RealtyTimes.com - Howell
Connors Group - Jersey City
TheFinalSprint.com - Jersey City
RunwayNews.com - Jersey City
Thebudgetfashionista.com - Jersey City
MDadvice.com - Long Branch
Resolution 365 - Manasquan
NewJerseyNewsroom.com - Middletown
AirportJournal.com - Mt. Freedom
Teleplexus - Princeton
Startupjournal.com - Princeton
WSJ.com - Princeton
Manufacutring.net - Springfield
Spa-Addicts.com - Springfield
Internet Voices radio - Springfield
Opalesque - Springfield
901am - Springfield
TotalPlayStation.com - Springfield
Univision Online - Springfield

Attachment 2

Electronic Communications

The project team created a project email ID that was used for all communication with the grant applicants and the subject matter experts (SMEs). This email ID was created on Google Mail (www.gmail.com) to allow easy access to the email system (i.e., no intervening organizational firewalls or challenge-response systems). The gmail service also has efficient search and storage facilities. A single project email ID ensured that all contacts with the applicants and the reviewers could be tracked and monitored. The single email ID also provided a measure of separation and privacy for the members of the project team: the project team members did not have to divulge their professional or personal email IDs.

The project team also created a project 'voice message box' on the Bloustein School voice mail system. This project message line was not connected to a physical phone so as to insulate the project team from real-time voice communications. The applicants could leave messages for the project team and a team member could respond at the appropriate time. This decision allowed the team to manage voice communications with the applicants in a consistent and measured manner. Although applicants did use the message line, the team often responded to the messages via email in order to provide an 'audit trail' of contacts.

Email proved to be the primary communications channel between the project team and the applicants. For communication with the SMEs, the project team was less concerned about divulging professional email IDs and telephone numbers. No problems were encountered in any communication with the SMEs: email was used almost exclusively with just a few instances of fax and voice communications.

The project team recorded all of the contacts with both the SME candidates and the successfully recruited SMEs. The date of every email, fax, and phone call was recorded along with a brief note if required. These records provided process data that helped to manage the recruitment effort. To keep the recruitment process manageable and orderly, the project team would have only three invitations outstanding at any given time for each application. This policy minimized the probability of engaging more than the three required SMEs per proposal.

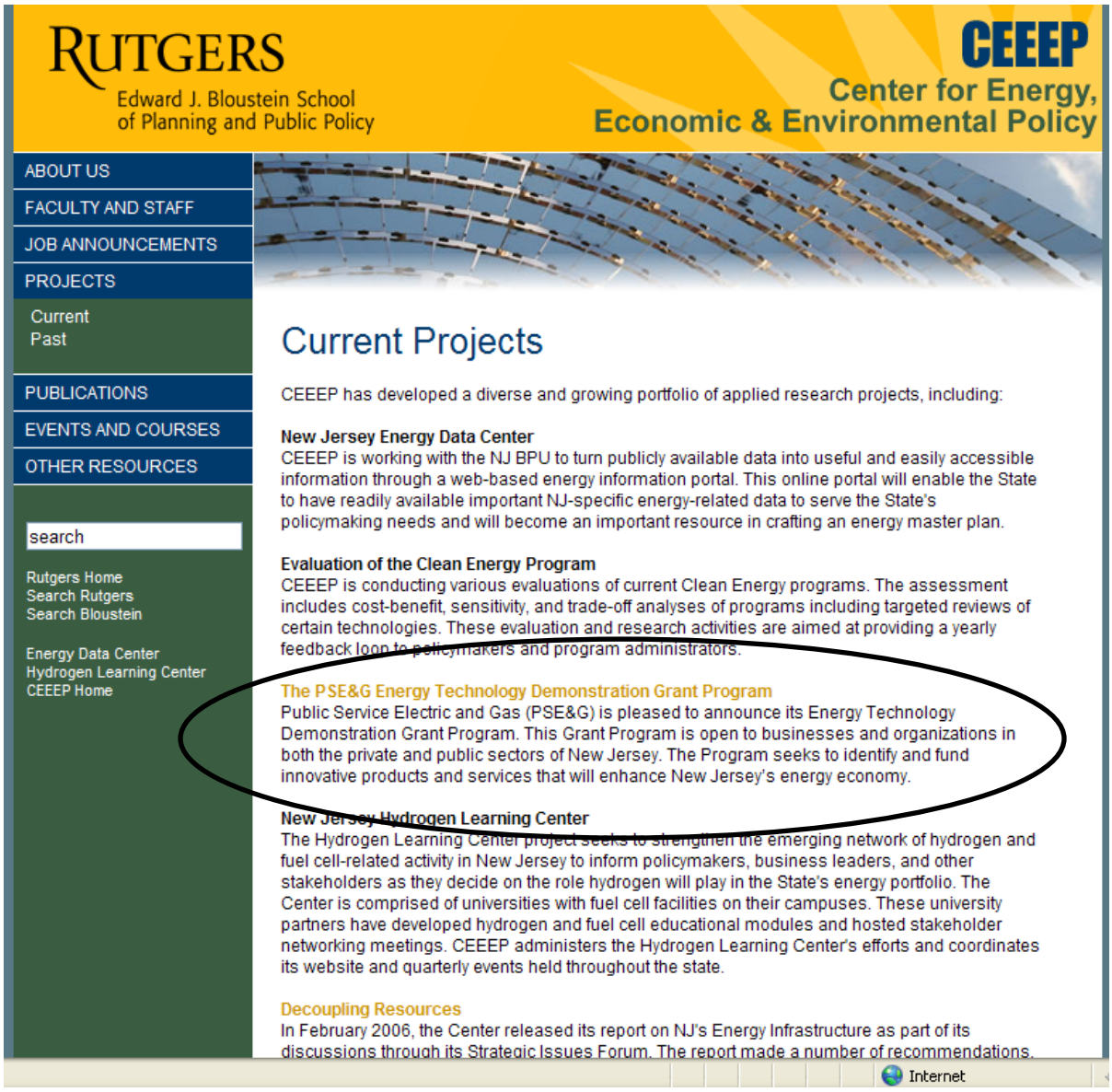
For the candidates who agreed to participate, the next step was to create an access account for the online collaboration tool, Sakai. The Sakai system is a secure, on-line collaboration tool that contained all of the files needed by the SME. These documents included the evaluation forms, the grant application files, and the contract documents that were required by Rutgers University to process the SME's honorarium. Each SME had to sign and return the NDA prior to receiving access to the grant application files. This NDA provided protection for any proprietary and/or confidential information that was contained in the grant application. Once the Sakai system account was created for the SME with all of the relevant documents, the reviewers received an email that contained instructions for using Sakai, a brief description of each of the contractual forms they were required to complete, and a

reminder that without receiving a signed NDA, they would not be granted access to any of the grant proposal documents.

Attachment 2 - *continued*

CEEEP 'Projects' Web Page

The CEEEP 'Projects' web page with the Energy Technology Demonstration Grant Program description and link to the Program web page:

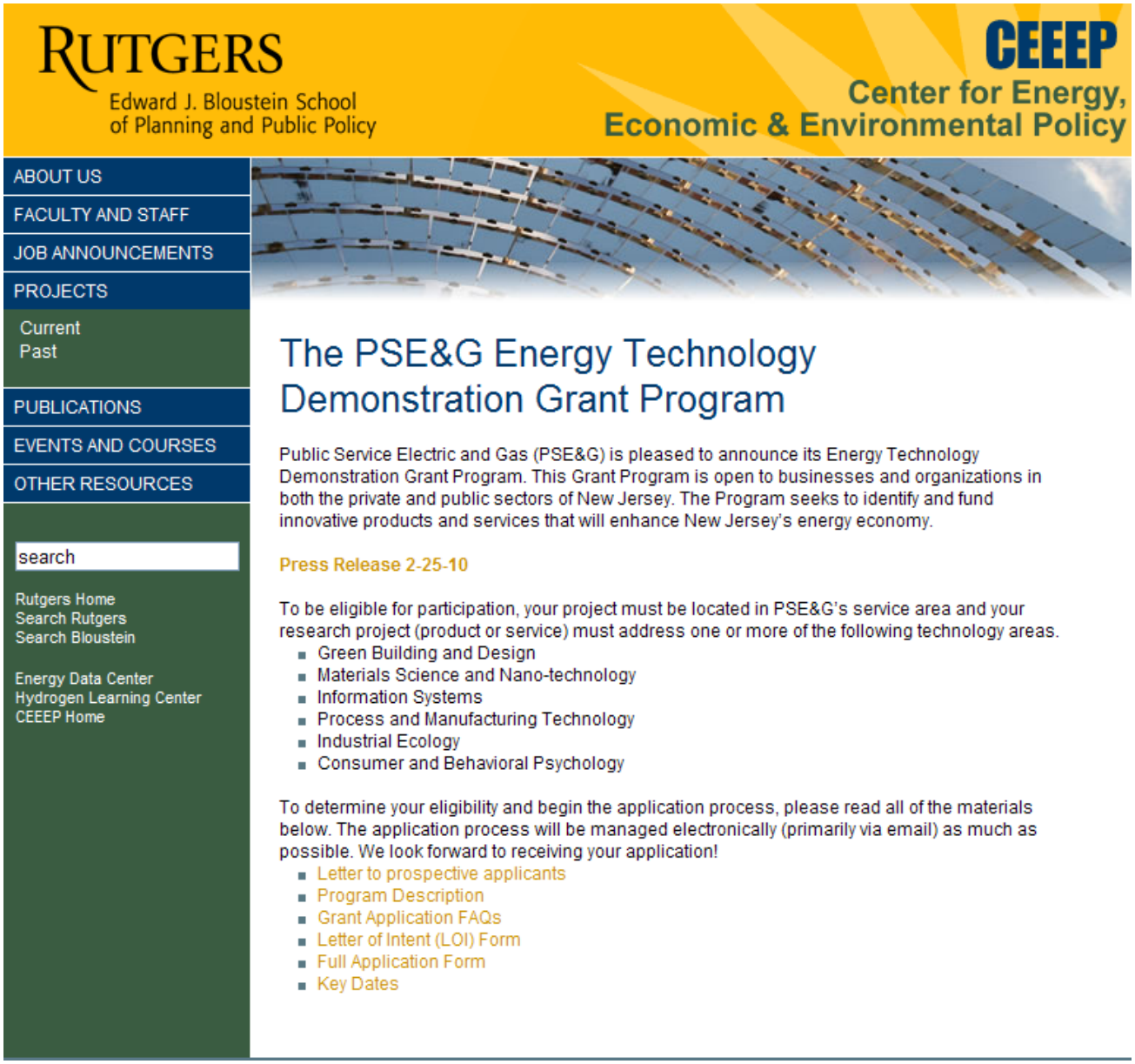


The URL for this page as of October 1, 2010 is: http://policy.rutgers.edu/ceeep/projects
Clicking on the circled title above takes you to the Program Web page (following).

Attachment 2 – *continued*

The Energy Grant Program Web Page on the CEEEP Site

The grant program's main web page:



The URL for this page as of October 1, 2010 is: http://policy.rutgers.edu/ceeep/projects/energygrant.php

Attachment 3

Following are the documents that were accessible from the grant program Web page.

Letter to the Prospective Applicants

This document provided basic information to the prospective applicant.

PSE&G

New Jersey Sustainable State Institute

Dear Prospective Applicant:

Thank you for your interest in the PSE&G Ene

Energy – its generation and usage – has becom
economies. Energy also plays a significant role in every society and culture as well as in our local and global environments. Increasing energy demands impose broad impacts that challenge our abilities to meet those demands.

To meet these challenges, PSE&G has established the Energy Technology Grant program that seeks to facilitate and accelerate the commercialization of new products and services that will improve the efficiency of energy generation and consumption. Specifically, this program focuses on products and services that are currently under development within the PSE&G service areas of New Jersey. These new products will help to revolutionize the energy economy in the Garden State – this program will help New Jersey reap these benefits sooner.

Grants will be made across a broad range of technologies. These include green building, materials science, information systems, and consumer behavior and psychology. Grant proposals will be evaluated and ranked by subject matter experts in the specific technology domains. The ranked proposals will also be reviewed by a panel of New Jersey stakeholders for their impact on energy sustainability. Each expertly-ranked proposal will also be reviewed for its economic, social, and environmental impact on New Jersey. The final grant selections will be made by the PSE&G program managers based on the recommendations from the technical and sustainability reviews.

Grant amounts will range from $50,000 to $1M.

The New Jersey Sustainable State Institute (NJSSI, www.njssi.org) will manage the grant application process and the expert and sustainability evaluation phases for PSE&G. NJSSI is a leading sustainability policy research group at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University.

The application package for the Energy Technology Grants program may be found at www.njssi.org . The package includes a detailed program description and instructions, eligibility guidelines, a 'Letter of Intent' template, a Full Application template, a program timeline, and a set of 'frequently asked questions' (FAQs).

Please review these materials to determine your eligibility. If you still have questions, please contact us at 732-932-5475 x868.

We look forward to reviewing your proposal.

Best regards,

Randall Solomon
Executive Director, New Jersey Sustainable State Institute

RUTGERS
Edward J. Bloustein School
of Planning and Public Policy

Attachment 3 – continued

Program Description

This document was on the CEEEP grant program web page and provided detailed information to the prospective applicant.

PSE&G

New Jersey Sustainable State Institute

PSE&G Energy Tech Pro

Overview

As part of the New Jersey Board of Public Utilities (NJBPU) approved **Energy Efficiency Economic Stimulus Initiative**, Public Service Electric and Gas Company (PSE&G) is introducing the **Energy Technology Demonstration Program** (the "Program").

Under this Program, PSE&G is soliciting proposals from energy technology organizations to facilitate and accelerate the commercialization of next-generation energy products and services. These proposals will be evaluated for their technical merit, their sustainability impacts, and their ability to quickly revolutionize New Jersey's energy economy. These products and services will help to improve energy efficiency, bring new technologies to market, allow consumers to make more informed energy choices, and increase the productivity of commercial and industrial processes.

The initial applications – the *Letters of Intent* - are due no later than April 23, 2010.

The Program will be comprised of a number of technology and site-specific demonstration projects designed to measure the potential for energy savings for various technologies. The Program will be geared toward testing and proving new technologies for next generation energy efficiency programs. The Program may also provide funding for market research to understand consumer behavior and receptivity toward adopting new approaches to energy efficiency.

The Program is open to all New Jersey organizations. However the project or facility must be located in PSE&G electric and/or gas service territory. If it is a market research project, the sponsoring organization must be located within New Jersey. The applicant's location must be the daily work location and not an administrative office or "office of convenience", which include but are not limited to an 'office of incorporation', a post office mail box, an office of legal or financial counsel, or a temporarily shared office solely for the purpose of applying to this Program.

All business and organizational applicants must be registered in the State of New Jersey and licensed appropriately. Improperly registered and/or licensed applicants will not be accepted.

The level of the grant incentive is up to 100% of the project cost with no repayment requirements associated with this Program. The Program is subject to fund availability and may be cancelled at any time prior to grant awards. All applicants must show how they propose an original innovative solution to a significant energy efficiency issue, along with an energy savings estimate. Retrofit strategies must show measurable energy savings and overall energy usage and/or demand reduction. Construction projects must demonstrate innovative energy-efficient technology, using systems and equipment beyond traditional methods where energy savings are measurable. Research and development projects must result in the demonstration of a marketable energy usage savings or demand reduction product or process.

The New Jersey Sustainable State Institute (NJSSI) will manage the grant application and proposal review process for PSE&G. The grant application procedure is described below. NJSSI will provide recommendation to PSE&G who will conduct a final review of the selections and announce the grantees and their projects in November 2010.

Eligibility Guidelines

The Program will provide grant funding for demonstration and proof of concept projects for innovative technologies that will enhance and improve the efficiency and sustainability of New Jersey energy generation and consumption. The goal of the Program is to facilitate and accelerate the commercialization of products and services that will benefit the New Jersey energy sector within the next two years. New or refined energy-related processes and energy-related "best management practices" (BMPs) are also eligible under this Program. New Jersey based companies and organizations that will be funded under the program must have a product, service, or process that is based on a qualifying technology, that could be commercially available within two years, and that addresses a New Jersey market need. All organizations and businesses are encouraged to apply if they meet these eligibility requirements.

The technologies that are eligible under the Program include the following areas. If an applicant's product or service technology is not listed they may submit an LOI and it may be accepted at our discretion. If an applicant feels that an unlisted technology would satisfy the goal of the Program, the applicant should address the eligibility issues directly in their Letters of Intent, or contact the NJSSI Program office at 932-732-5475 x868

1. Green Building and Design
    a. Residential, commercial, and industrial building techniques and products
    b. Residential, commercial, and industrial building design
    c. Residential, commercial, and industrial building retro-fitting and re-modeling

2. Alternative/Renewable Energy Generation (Note: the technologies listed below will only be considered if they are part of and contribute to an energy efficiency project, e.g. a net zero energy facility.)
    a. Solar: photo-voltaic, concentrated heating, hot-water generation
    b. Wind,, mini- and micro-turbines
    c. Geothermal: open and closed systems
    d. Fuel cells: hydrogen, other

3. Materials Science and Nano-technology
    a. Next-generation semi-conductors
    b. Next-generation batteries
    c. Carbon fiber and nano-tubes
    d. Structural and building materials

4. Information Systems
    a. Intelligent, purpose-built energy-related devices (e.g., energy monitoring and/or control for residential, commercial, industrial sectors)
    b. Application software to monitor and/or control energy usage or generation
    c. Technologies that support demand management by providing feedback on energy use information to individuals and organizations, linking behavior to energy use (energy dashboards, kiosks, etc.)
    d. Technology that improves energy performance of information devices and services (e.g., data centers)

5. Process And Manufacturing Technology
    a. Efficient material transport and usage
    b. Super-efficient pumps, motors, and generators

6. Industrial Ecology
    a. Material and energy flow
    b. Ecological design
    c. Impacts and consequences of technological change
    d. Waste stream reduction and/or re-use
    e. Product life cycle accounting (LCA)
    f. Product-oriented environmental policy

7. Consumer and Behavioral Psychology
    a. Facilitation of "best behavior" for energy conservation and "smart" use
    b. Public messaging for rapid adoption of energy-efficient devices and processes

In addition to the above guidelines, the following Program Rules will govern the process.

- Completion and submission of an application does not obligate PSE&G to allocate grant funds.
- PSE&G may require a project feasibility study prior to releasing funds for the full grant amount. PSE&G will fund the feasibility study and at its completion will determine whether to proceed with funding the complete project.
- Grant recipients will be required to enter into a **Program Grant Agreement** (the "Agreement") with PSE&G to establish that the project meets the program requirements. A copy of this agreement is available on request.
- Applicant's project must be initiated within 60 days of the effective date of the Agreement.
- PSE&G may require that Grant funding be disbursed in progress payments as certain milestones are achieved.
- For good cause and upon proper notification, PSE&G may approve the extension of project deadlines.
- Copyrightable material and all patent and intellectual rights for inventions conceived or first actually reduced to practice in the course of the grant project will be the property of

the recipient. Recipient will agree to allow PSE&G certain limited use rights for the purpose of program reporting, publicity, case studies, or similar educational and informational purposes.

- Grant participants will be required to cooperate with PSE&G in publicity activities regarding awarding of the grant.
- This program is funded through a filing approved by the NJBPU. All programs and availability of grants are subject to continued NJBPU approval.
- Participants must fulfill all program guidelines, guidelines specific to this program, and general PSE&G guidelines, to be eligible for grant monies.
- A pre and post-inspection of the facility / project may be required for program participation. PSE&G reserves the right to inspect the project at interim phases as well.
- Participants are responsible for following program guidelines, and must submit an affidavit asserting that the project conforms with and satisfies all relevant federal, state, county, city government and/or homeowner's association requirements in reference to laws, codes, ordinances, local conditions, restrictions, rules and regulations prior to initiating the project with Program grant funds.
- In the event it is determined through inspection that the participant is not in compliance with the requirements of the program as set forth in the guidelines, PSE&G may recover the total amount of the grant paid for non-compliance.
- Grant recipients will be required to submit an interim and final project report in accordance with the template supplied at the time of notice of award.

The following types of research and activities are not eligible for funding: planning and policy studies, electric distribution or transmission research normally funded by the electric utility, gas research normally funded by the gas utility, research that does not propose a clear solution to an existing energy problem, project with no focus on proving feasibility of a specific solution, software development with no research or validation component.

Grant Application Procedure

Grant application packages may be found at the following web sites.

www.njssi.org *www.pseg.com*

The grant application package consists of the following materials.

- A letter to prospective applicants
- A Program description (this document)
- Frequently Asked Questions (FAQs)
- Templates for the *Letter of Intent* and the *Full Proposal* application (in Microsoft Word format)

Please read all of the material before submitting an application. The application procedure has two parts: the submission of a Letter of Intent (LOI) and the submission of a full proposal. The LOI will be used to assess and ensure the eligibility and basic merit of each project in terms of the technology area, the business type and location, and the applicability of the product or service under this Program. The LOI will contain information about the organization, its business, and its products and services. No proprietary or confidential information should be included in the LOI. All material in the LOI will be considered to be in the public domain. However, this information will be reviewed only by the Program project team and will not be widely distributed. All project team members will have signed blanket non-disclosure agreements that restrict the dissemination

of information about Program applicants and their proposals. However, no special efforts will be made to maintain the confidentiality of an applicant's LOI or to protect the information in the LOI beyond normal business practices for public domain content.

Once accepted, the applicant will be invited to submit a full proposal that will be evaluated for its technical merit and for the potential impact on energy efficiency in New Jersey. This full proposal may require the applicant to include information that the applicant deems proprietary and/or confidential. In this case, the applicant must identify the privileged information so that appropriate measures may be taken to ensure that access to the proprietary and/or confidential information is restricted to project team members and expert reviewers who are also covered by non-disclosure agreements. A copy of the non-disclosure agreement that will cover project team members and the expert reviewers is available on request.

PSE&G and its agents who work on this Program, including the expert reviewers, and applicants will be required to sign an ethical practices and conflict-of-interest agreement. This agreement is also available on request.

LOIs will be accepted until April 23 2010. If the LOI is accepted, the applicant must submit a full proposal by June 4 2010. The LOI form and the full application are Microsoft Word template documents. Applicants must adhere to the instructions and format of these documents.

Selection Process

The full proposals will be evaluated by subject matter experts in the specific technology domain of the product or service. These subject matter experts are academics from outside New Jersey. Any requests from the reviewers for clarification will be made through the Program project team. This evaluation will be made on technical merit and will be ranked according to the following parameters.

- Technical innovation (i.e., "Does this product/service break new ground?")
- Implementation potential (i.e., "Will this product/service work as described?")
- Current status of the product or service and likelihood of rapid commercialization (i.e., "What stage is the product/service at now?"; Conceptual, under development, available for laboratory test, in a field trial, etc.)
- Impact on the energy sector in NJ and globally, and impact on sustainable development
- Scalability (i.e., "Can it be implemented widely on a cost effective basis?")
- Transferability (i.e., "Can the innovation be effectively deployed in more than one market or application?"

After all proposals have been technically evaluated and the review period ends, all of the proposals will be evaluated again and ranked on the basis of their socioeconomic and sustainability impacts. This sustainability ranking will include the environmental, economic, and social impacts of the product or service on the quality of life of all New Jerseyans. This review will be performed by a stakeholder panel of prominent public officials, industry and business leaders, academics, and non-profit organizations. The ranked list of proposals recommended for funding will be submitted to PSE&G for final review. The grant awards will be announced in October 2010.

The list of proposals recommended for funding will be submitted to PSE&G for final review. The grant awards will be announced in late in 2010.

Summary comments will be provided to all applicants after grant awards are announced and presented.

Program Timeline

Following are the key dates for the Program.

- April 23: Deadline for Letters of Intent
- June 4: Deadline for full proposals
- October: Grant recipients will be announced

Application Instructions

As noted above, the Program and relevant documentation can be found at *www.njssi.org* or at *www.pseg.com*. The procedure to apply for a grant is as follows.

1. Please read the entire 'PSE&G Energy Technology Grant Program Description' (this document) and determine the eligibility of your product or service. If your product or service technology does not fit into any of the program's eligible technology categories but you believe that it should be considered, please send a brief description of your product or service to *energy_grants@njssi.org*. Your request will be considered and you will be contacted within five business days with a determination or for additional information. All determinations are final.

2. The grant application process begins with the filing of a Letter of Intent (LOI). After determining the eligibility of your product or service, please complete the LOI template (in Microsoft Word format) in the application package. Submission instructions also appear on the LOI form. The LOI will be used to perform an initial screening for completeness and eligibility. Please be as specific as possible and ensure that all sections are complete. Email the LOI to *energy_grants@njssi.org*, preferably in PDF format and send a signed copy via regular mail. You will receive a confirmation of receipt within two business days. *Please call the NJSSI Program office at 732-932-5475 x868 if you do not receive a confirmation.*

3. You will be contacted during the LOI Acceptance Period if additional information is needed. If your LOI is accepted, you will be contacted and invited to submit a full proposal. A Full Proposal template (in Microsoft Word format) may be found at the web sites. The full proposal filing is a more in-depth description of your organization, your financials, and your product or service. You will be contacted via email or by phone if additional information is required.

4. All full proposals will be evaluated and ranked by experts with specific knowledge in the technology area that is relevant to your product or service. Any questions or requests for clarification from the experts will be through the Program project team.

5. After all proposals have been evaluated and ranked, they will be reviewed and ranked for their potential improvement to the sustainability of the New Jersey energy economy. A panel of prominent stakeholders from the public and private sectors of New Jersey

will perform this second ranking. During this phase, the highest rankings will be assigned to those proposals that have the greatest potential to improve the environmental, economic, and social well-being of New Jerseyans.

6. Upon completion of the sustainability rankings, all proposals will be sent to the PSE&G Program team for final review. PSE&G will make the final selection and funding determinations and will contact all applicants with their determination. All decisions are final.

7. PSE&G and NJSSI will announce the grantees at a major public event in the latter part of 2010.

Questions?

If you still have questions, please send an email to *energy_grants@njssi.org* or call the NJSSI Program office at 732-932-5475 x868.

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Edward J. Bloustein School
of Planning and Public Policy

Attachment 3 – continued

Frequently Asked Questions (FAQ)

This document was on the CEEEP grant program web page. This list provided answers to basic questions about the program and the application procedure.

PSE&G Energy Technology Grant Program

Frequently Asked Questions (FAQ)

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1. What are the eligible Program technologies?

The Program is focused on specific technologies that will improve the energy efficiency of PSE&G customers' services and operations. The goal of the Program is to provide funding that will expedite the commercialization of products and services that will significantly improve or enhance or can be incorporated into next generation energy efficiency programs that can be offered to New Jersey's energy users. These improvements will benefit PSE&G, its customers, and the residents of New Jersey. The eligible technologies are as follows.

- Green Building and Design
- Alternative/Renewable Energy Generation (some qualifications apply)
- Materials Science and Nano-technology
- Information Systems
- Process and Manufacturing Technology
- Industrial Ecology
- Consumer and Behavioral Psychology

FAQ Top

2. **Why is my technology not on the list?**
The Program's eligible technologies list is quite broad. Some technologies that are not on the list may not be directly applicable to developing or proving next generation energy efficient technologies which are the focus of this Program. That said, if you believe that you have a product or service that could be incorporated into current energy efficiency programs or could potentially benefit next generation energy efficiency design, please contact the Program manager - the NJ Sustainable State Institute – at 732.932.5475 x868 or send an email with details to energy_grants@njssi.org .

FAQ Top

3. **How do I apply for a grant?**
Applying for a grant is a two-step process. You must first submit a *Letter of Intent* (LOI) form that provides some basic information and allows us to ensure your eligibility. You will be notified via email that we received your LOI. If you are found to be eligible, we will contact you and invite you to submit a more detailed *Full Application* form. Both the LOI and Full Application forms have deadlines that will be strictly followed. Information about the Program including the LOI and application forms may be found at the NJSSI Web site www.njssi.org .

FAQ Top

4. **How much funding is available?**
Approximately $8M will be awarded under the PSE&G Energy Technology Demonstration Grant Program. Each applicant will specify the amount of funding that is being requested for their project when they submit their Letter of Intent. A maximum grant amount of $1M is anticipated but PSE&G reserves the right to award more than this amount at their discretion. PSE&G expects most grant awards to be more than $100,000.

FAQ Top

5. **What is a letter of intent (LOI)?**
A Letter of Intent is a Program form that you use to indicate your intention to apply to the PSE&G Energy Technology Demonstration Grant Program. This form provides us with basic information about your company or organization, your project, and how much funding that you are seeking from the Program. This information allows us to ensure that you are indeed eligible to apply and that we have an appropriate set of subject matter experts who will review your full application. You must certify that all of the information that you supply is correct and true but the LOI does not obligate you to submit a full application. *You must submit your LOI by 5pm ET on April 23 2010.* LOIs received after this date and time will not be considered.

FAQ Top

6. **Is this a 'rolling submission' program?**
Yes. We encourage you to submit your LOI as soon as possible so we may review your invitation and contact you with regards to next steps. If you are eligible, we will invite you to submit a Full Application. Full Applications should not be submitted unless you have received an invitation. *When invited, you must submit your Full Application by 5pm ET on June 4 2010.* Full Applications received after this date and time will not be considered.

FAQ Top

7. **When will I know if my grant application was successful?**
After you submit your full application, it will be reviewed and evaluated by a number of academic subject matter experts (SMEs) for technical merit, feasibility, and impact. All

applications will also be reviewed and evaluated by a stakeholder panel for their potential sustainability impact. The applications will be ranked in both sets of reviews and these recommendations will be delivered to PSE&G for their review and final decision. All applicants will be contacted by PSE&G and told of their status prior to the formal announcement of the awardees in Fall 2010.

FAQ_Top

8. What are the Program Deadlines?

The key dates for the Program are as follows.

- April 23: All Letters of Intent must be received by NJSSI
- May 7: End of notification period for successful applicants
- June 4: All Full Applications must be received by NJSSI
- October: PSE&G announces grant awards

FAQ_Top

9. Will I receive any feedback on my application?

You may receive a summary of the evaluations that are received from the technical review process. You may also receive summary comments from the sustainability panel review. Neither NJSSI nor PSE&G are obligated to provide feedback as part of this Program.

FAQ_Top

10. Who are the subject matter expert (SME) reviewers?

The subject matter experts (SME) will be prominent academics and industry experts with in-depth knowledge of the specific technology on which your product or service is based. These experts are recruited from major colleges and universities outside of NJ to minimize any conflict of interest or ethical concerns. All of the SME reviewers will sign a non-disclosure agreement to protect any proprietary or confidential information that you may supply in your application.

FAQ_Top

11. Who will participate in the sustainability stakeholder review panel?

Leaders from diverse groups throughout New Jersey will be members of the sustainability stakeholder review panel. These groups include governmental leaders, public agency heads, corporate and industry executives, leaders of non-profit and non-governmental organizations, and New Jersey researchers and academics. This panel will evaluate each application for its impact on sustainability in New Jersey. The NJ Sustainable State Institute will recruit members of the panel. Members of the panel are not compensated for their contributions to this Program.

FAQ_Top

12. What is sustainability?

Sustainability is the multi-disciplinary approach to decision-making that ensures that the needs and quality of life of the current generation are not met at an untenable cost to future generations. Economic, environmental, and social factors are considered in all decisions to assess the real costs and impacts of government policies, business strategies, and individual choices.

FAQ_Top

13. How will my proprietary and confidential information be protected?

In order to make a comprehensive and fair assessment of all Program applications, PSE&G understands that certain applicant information may be proprietary or confidential. Each project team member and expert reviewer has signed or will sign a non-disclosure and ethical practices agreement to protect any sensitive information. Applicants must explicitly identify and denote any proprietary or confidential information on the full application so that the project team members and expert reviewers are aware. A copy of the non-disclosure agreement is available on request.

FAQ_Top

Attachment 3 – continued

Letter of Intent form (LOI)

This document was on the CEEEP grant program web page. Each prospective applicant submitted an LOI as the first step of the full grant application procedure. The LOI was used to determine if an applicant was eligible to submit a full application.

PSE&G

New Jersey Sustainable State Institute

Energy Technology Demonstration Grant Program
Initial Application – Letter of Intent

Please provide the following information as part of your Letter of Intent to apply for the **PSEG Energy Technology Demonstration Grant Program**.
Failure to provide all of the requested information may result in processing delays and/or rejection of your application.

Please enter all data using 10-point Arial font and do not exceed word limits when specified.
When completed, please convert to PDF format and email to *energy_grants@njssi.org* .
Please mail a signed, printed copy of the application to:
NJ Sustainable State Institute
Suite 200 – Frank Felder
33 Livingstone Avenue
New Brunswick, NJ 08901
If you do not receive a receipt confirmation email within 2 business days, please call 732.932.5475 x868

Applicant Information

a. Company or Organization Name:
b. Year of Incorporation or Commencement of Operations:
c. NJ State Tax ID (12-digits):
d. Corporate Address (street, city, state, ZIP):
e. Project Location Address (if different than Corp. Addr.):
f. Corporate PSEG Account number (electricity and/or gas):
g. Web Site URL:
h. Primary Contact (name, title, mailing address, office phone, cell phone, fax#, email ID):
i. Secondary Contact (optional):

Certification Statement

I certify that all of the information that I have provided in this Letter of Intent is true and correct to the best of my knowledge. I understand that the NJ Sustainable State Institute (NJSSI) and PSE&G will retain this application and all associated documents whether or not this application is considered for the Program. I understand that NJSSI and PSE&G may confirm any and all of the information that I have provided and may obtain a business and/or credit report concerning the company and/or its principals. I understand that if selected for a grant award, I will execute a PSEG *Energy Technology Demonstration Grant Agreement*.

Signature of Applicant	Typed Applicant Name	Date

Applicant Title

Project Information

1. **Project Name/Title**
   - i. Name by which the project will be known
   - ii. The eligible technology(ies) that are used by your product/service

2. **Project Abstract** (750 words maximum)
   - i. Describe your product/service
   - ii. Describe the underlying technology and any advancement of technological or scientific knowledge
   - iii. Describe its commercialization potential
   - iv. Describe how it fits within the program eligibility guidelines
   - v. Describe how it impacts energy efficiency and/or energy sustainability in NJ
   - vi. Describe the proposed scope of work

3. **Funding Request**
   - i. What is the total grant amount being requested
   - ii. High-level summary of how funds will be spent (major line items/categories, either amounts or percentages; not a detailed budget; e.g., research, proto-typing, field trials, manufacturing, etc.)
   - iii. Describe how you will meet the requirement that all work performed under this grant take place in NJ

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Attachment 3 – continued

Full Application form

This document was on the CEEEP grant program web page. All LOI applicants who were determined to be eligible were required to complete this full application as the next step in the grant application process.

PSE&G

New Jersey Sustainable State Institute

Energy Technology Demonstration Grant Program
Full Application

Please provide the following information as part of your Full Application to apply for the **PSEG Energy Technology Demonstration Grant Program**.
Failure to provide all of the requested information may result in processing delays and/or rejection of your application.

Please enter all data using 10-point Arial font and do not exceed word limits when specified. When completed, please convert to PDF format (if possible) and email to *ceeep.energygrants@gmail.com*
Please also mail a signed, printed copy of the application and any non-electronic supporting materials to:
NJ Sustainable State Institute
Suite 200 – Frank Felder
33 Livingston Avenue
New Brunswick, NJ 08901
If you do not receive a receipt confirmation email within 2 business days of your electronic (email) application submission, please call 732.932.5475 x868.
Note: you must submit both an electronic copy *and* an original, signed hard-copy of your application by 5pm ET on June 4 2010. Hard-copy submissions must be post-marked or date- and time-stamped by the deadline. Failure to do so will jeopardize the consideration of your application.

Applicant Information

j. Company or Organization Name:
k. Project Name/Title (from Letter of Intent):
l. Corporate/organization Address (street, city, state, ZIP):
m. Project Location Address (if different than Corp. Addr.):
n. Web Site URL:
o. Primary Contact (name, title, mailing address, office phone, cell phone, fax#, email ID):
p. Secondary Contact (optional):

Certification Statement

I certify that all of the information that I have provided in this grant application is true and correct to the best of my knowledge. I understand that the Center for Energy, Economics, and Environmental Policy (CEEEP) and PSE&G will retain this application and all associated documents whether or not this application is considered for the Program until any grants are awarded. I understand that CEEEP and PSE&G may confirm any and all of the information that I have provided and may obtain a business and/or credit report concerning the company and/or its principals. I understand that if selected for a grant award, I will execute a PSEG *Energy Technology Demonstration Grant Agreement*.

Signature of Applicant	Typed Applicant Name	Date

Applicant Title

Project and Implementation Details

Important:
All of the sections below must be completed. If the information for a specific section may be better presented in a different format (e.g., a separate MS Word, MS Excel, Adobe PDF, or image/JPEG file), then please state that the section's information is being supplied in a separate format and explicitly identify the filename so that it may be correctly accessed. For example, if a separate budget spreadsheet were to be supplied for section 6 below, the following text should appear: "The requested budget information is provided as a separate file called *YourCompanyName-budget.xls*." All such separately-supplied information that is referenced in the sections below should be submitted at the same time as this application but absolutely no later than the stated deadline of 5pm ET June 4 2010.

Your application will be reviewed by subject matter experts in the technology category of your proposed product or service. Please provide sufficient detail to allow for an in-depth technical evaluation. You will be contacted if clarification is needed but this recourse is not preferred as it will slow the evaluation.

1. Project Background

a. General background leading to this project. Please provide supporting documents, such as company brochures, published papers and/or patent information to demonstrate the core competence of your company or organization and/or the relevant experience of the project team leaders.

b. Has your company/organization and/or key project team members undertaken any related or similar project(s) in the past two years? If yes, please briefly describe these projects(s) and their sources of funding. Provide references or sources of verification for each project.

c. Are there any other technology demonstration projects similar to this project application which have been done or are being carried out by other parties? If yes, please identify the findings

and/or differences and explain how your project compares to others in terms of technological superiority, implementation costs, market acceptability, etc.

d. What companies, and what technologies, are your major competitors in the market place? How is your proposed project and technology solution superior?

e. Has any pilot-related work already been performed by your company and/or the project team members? If yes, please describe the work done.

f. Has an application request for funding for this project been previously rejected? If yes, please identify the organization(s). Please provide a description of any major differences between this project and the prior one.

g. Has there been any attempt to seek co-funding or support from other sources, such as NJBPU, NJDEP, State or Federal government, etc.? If so, please identify the sources, dollar amounts and the status. Also include: any funds in hand; funds anticipated (promised and highly likely); and funds applied for and the likelihood of success (detail the importance of these funds to the success of the project).

---

2. Implementation Approach, Schedule, and Milestones

a. Please elaborate on the technology to be demonstrated and/or the innovative use of existing technology. The brief information provided in your Letter of Intent Abstract is relevant.

b. Please provide a detailed project schedule from project initiation to product/service availability. Please include key milestones to be achieved including the specific dates or events on which financial payments are requested.

c. Please elaborate with technical details for each project milestone.

d. Describe the specific value added of your project to advancing this technology to the point of wide spread commercialization and use? What is the major obstacle and how will your project address it?

---

3. Collaboration with Other Organizations

a. Will there be any collaboration with any other organizations? If so, please elaborate on the form of such collaboration.

b. If there is collaboration with other organizations, are there any special arrangements, such a licensing of intellectual property rights? If so, please elaborate.

c. List all significant sub-contractors and sub-awardees. Provide organizational and staff qualifications, and detailed budgets, for each.

---

4. Company Details

a. Please provide information on your management team and, if relevant, your Board of Directors. Please include a short summary of experience, years with the company and any expertise

relevant to this project. Also identify all relevant subsidiaries, financial stakeholders, and beneficiaries.

b. Facilities and Administration – Describe the facilities and administrative resources you have available for this project, and what additional resources you will need for the project. Be sure to note any specialized equipment and facilities needed and how they will be made available.

---

5. Project Team

a. Please provide information regarding the proposed Project Leader. Include name, position, department, telephone number, and email address. Detail relevant experience and qualifications.

b. Please provide information regarding other key team members. Include name, position, department, telephone number, email address and their role on the project. Detail relevant experience and qualifications

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6. Budget

a. Please provide a detailed budget for the project. Include all expenditures and also the intended source of funds, including PSE&G. For other sources that are anticipated or pledged, provide supporting material and contact information for verification. (A spreadsheet may be used in lieu of text or tabular data and submitted with your application.)

b. If a grant were awarded under this program that provided only partial funding (e.g., 50-75%) for your proposal, please explain how you would address the resulting funding gap. Please identify potential funding sources. Note that should this partial funding occur, the PSE&G grant award may be contingent upon securing the additional funding.

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7. Energy, Sustainability, and Socio-economic Benefits

Please describe outcomes of the project in terms of the broader societal, economic, and environmental benefits that will accrue. Be quantitative where possible, especially in terms of energy efficiency and/or demand reduction, employment impacts (i.e., job creation), and environmental impacts (air quality, water quality and quantity, greenhouse gases and carbon footprint, waste streams, and hazardous/toxic substances).

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Attachment 4

Non-Disclosure Agreement

Each subject matter expert was required to sign the following document.

CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

THIS CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT (hereinafter the "**Agreement**") is entered into as of _____ 2010 by and between the Center for Energy, Economic, and Environmental Policy, a center at the Edward J. Bloustein School of Planning and Public Policy at Rutgers, the State University (hereinafter "**CEEEP**") with offices located at 33 Livingston Avenue, New Brunswick, NJ 08901, and _____, an independent contractor (hereinafter referred to as "**Reviewer**"). CEEEP and Reviewer are hereinafter sometimes individually referred to as a "**Party**" or, collectively, as the "**Parties**".

WHEREAS, the Parties have expressed an interest in entering into one or more potential business transactions or relationships ("**Business Relationship**") with each other, and;

WHEREAS, the Business Relationship between the Parties pertains solely to the review of third-party applications to the PSE&G Energy Technology Demonstration Grant Program (hereinafter "the **Program**")

WHEREAS, the Parties, for their mutual benefit, and with their mutual objective to provide adequate protection and safeguards, may exchange and disclose certain Confidential Information (as hereinafter defined) to each other during the course of a Business Relationship, and;

WHEREAS, the Parties, for their mutual benefit, and with their mutual objective to provide adequate protection and safeguards, may receive and review certain Confidential Information from third-party program applicants (hereinafter referred to individually as "**Applicant"** or collectively as "**Applicants**") while evaluating an Applicant's proposal;

NOW, THEREFORE, in return for good and adequate consideration, the sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. From and after the date written above, the Parties agree to hold in trust and confidence and not to disclose to any third party any Confidential Information (as described below), whether of a written, visual, magnetically stored and/or electronically retrievable nature, as well as any physical samples thereof, which is disclosed and provided by an Applicant to a Party or to the Parties, and to limit its use as set forth in this Agreement.

2. The term "Confidential Information" means information disclosed by an Applicant to a Party or to the Parties, including, but not limited to: business secrets, business information, business plans, financial and pricing information, business practices, financial statements and reports, project specifications, projections, schematics and drawings, trade secrets, processes, materials, customer lists, supplier lists, sales volume, territories, markets, current, future or

potential acquisitions, technical, production, operational, marketing or sales information or any and all other financial, business, organizational and technological information related to an Applicant's business and/or organization, whether or not such information is specifically marked "Confidential" or other similar legend. "Confidential Information" shall include all writings, notes, memoranda, media (collectively, "Notes") made by an Applicant or its employees, agents or servants with respect to such Confidential Information.

3. The term "Confidential Information" shall not include information which at the time of receipt: (a) was already demonstrably in the public domain; (b) was already rightfully possessed by the receiving Party; (c) was available on a non-confidential basis prior to receipt (provided the source is not known to be itself bound by an applicable, effective confidentiality or similar agreement); (d) had entered the public domain without any breach or fault of a Party; (e) is required to be disclosed under court or governmental order (in such case, the receiving Party shall provide reasonable advanced notice to the Applicant so as to permit said disclosing Party to avoid or minimize disclosure by protective order or agreement or otherwise, or (f) is developed independently by either Party as evidenced by the developing Party's documentation made in the ordinary course of business.

4. All written Confidential Information shall remain the property of the Applicant and immediately upon (i) the decision by either Party not to proceed further with consideration of the Business Relationship or (ii) a request by the Applicant at any time (which will be effective upon receipt, or three days after being mailed first class prepaid postage to the receiving Party), the receiving Party will turn over to the Applicant all Confidential Information of the disclosing Party and all Notes containing any such Confidential Information and any and all copies or extracts thereof; or, destroy all of the above upon notice to and approval of the Applicant. However, such return or destruction will not abrogate the continuing obligation of confidentiality hereunder.

5. The Parties may disclose the Confidential Information to employees, consultants, employees of affiliates and attorneys on a "need to know" basis, provided that such persons have agreed to adhere to the terms of this Agreement.

6. Neither this Agreement nor the disclosing or receipt of Confidential Information shall constitute or imply any promise or intention to make any purchase of products or services by either Party, to enter into the Business Relationship, or to make any grant award or provide any funding to an Applicant.

7. The laws of the State of New Jersey shall govern this Agreement, except for New Jersey's conflicts of laws provisions that would defeat the application of its substantive laws to this Agreement. Any disputes or lawsuits arising out of or related to this Agreement resulting in litigation shall be litigated in New Jersey or the U.S. District Court for the District of New Jersey.

8. In the event the receiving Party directly or indirectly obtains information pertaining to any PSEG employee or customer, it shall hold said information in trust and confidence and comply with all PSEG requests and requirements pertaining to such PSEG employee or customer related information in accordance with the Privacy Regulations ("HIPAA").

9. This Agreement shall be binding on all successors of the Parties.

10. Any one Party's liability under this Agreement shall be limited to the dollar amount of any direct damages that are proven to result from a breach of a Party's obligations under this Agreement. Under no circumstances shall the Parties or Applicant be liable to each other for any

special, incidental, indirect, or consequential loss or damages whatsoever (including lost profits or revenue) for anything arising out of the use, reliance upon, or disclosure of Confidential Information, whether claims for said loss or damages are premised on contract, tort (including negligence) or otherwise.

11. This Agreement constitutes the entire and only agreement between the Parties and the Applicant relating to the confidentiality of information, and supercedes any previous agreements between the Parties with respect thereto.

12. The terms and conditions of this Agreement may not be changed, amended or waived unless in writing signed by both Parties. There are no third party beneficiaries to this Agreement.

13. This Agreement may be executed in counterparts. Each shall be deemed an original, but together shall constitute one and the same instrument.

14. In the event that a transaction or engagement between the Parties and an Applicant is not consummated, the obligations and restrictions contained herein shall continue in full force and effect for a period of one year from the date of this Agreement.

IN WITNESS WHEREOF, each Party hereto has caused this Agreement to be executed by its duly authorized representative, as of the first date written above.

For CEEEP:	**Reviewer:**
By: _____ (Signature)	By: _____ (Signature)
Name: _____	Name: _____ (Print Name)
Title: Director, CEEEP	Title: _____
Date: _____	Date: _____

Attachment 5

Post-evaluation Survey of SME

Following are the results of the post-evaluation survey that was sent to each of the subject matter experts who either performed an evaluation or declined the invitation to evaluate a proposal.

1. Was the length of the invitation email:

#	Answer	Response	%
1	Too Long	1	3%
2	About Right	37	97%
3	Too Short	0	0%
	Total	38	100%

2. Was the frequency of our contact:

#	Answer	Response	%
1	Too Frequent	0	0%
2	About Right	37	100%
3	Not Frequent Enough	0	0%
	Total	37	100%

3. Was the project description:

#	Answer	Response	%
1	Sufficient information	35	92%
2	Not enough detail	3	8%
	Total	38	100%

4. Did the time of year (early summer) positively or negatively affect your decision to participate?

#	Answer	Response	%
1	Positively	37	97%
2	Negatively	1	3%
	Total	38	100%

5. What would be a better time of year to participate?

Text Response
mid-semester

6. Please rank-order the following as motivations to review the proposal: (Where 1 = the primary motivator, and 5 = the least important motivator).

#	Answer	1	2	3	4	5	Responses
1	The honorarium	5	8	15	8	0	36
2	The subject matter of the proposal	25	5	5	1	0	36
3	Your availability (free time)	3	14	10	8	0	35
4	Professional obligation	5	8	6	12	1	32
5	Other (Please Specify):	0	1	0	0	2	3
	Total	38	36	36	29	3	-

Other (Please Specify):
Time given to review
contributing to energy sustainability
experience

7. Was the description of the evaluation process adequate?

#	Answer		Response	%
1	Yes		37	97%
2	No		1	3%
	Total		38	100%

8. How would you rate the evaluation process (the technical rating and narrative evaluations):

#	Answer		Response	%
1	Very Sufficient		15	39%
2	Sufficient		23	61%
3	Insufficient		0	0%
4	Very Insufficient		0	0%
	Total		38	100%

9. Please tell us why the evaluation process was sufficient or insufficient:

Text Responses:
It was very clear what was required and expected of me as a reviewer.
One -two or three individuals is more than enough to provide a reading, assessment and/or evaluation of what has been compiled, written and presented.
Measures in terms of which the proposal was to be evaluated were clearly stated.
The guidelines were clear and emphasized on the important aspect of the proposal.
Because it could be completed on line, although it took some to become familiar with the system.
I believe it was sufficient because it covered all the important aspects of the proposal.
I think the narrative part would be important for you and the proposer if they see the evaluation. Provides information on why it was rated the way it was.
The criteria and sub-criteria for the evaluation are very good measurement of a proposal. They cover almost all aspects of a successful project, such as innovation and novel ideas, reasonable budget, qualified personnel, performance measurement, and impacts.
Good coverage of important items to be rated plus narrative evaluation of the technical approach
1) The ranking criteria (technical and project) are very clear and well organized. 2) The Evaluation Framework Description is clear and instructive 3) The Narrative Review and Comments form (file) is provided 4) The other documents (the Consultant Agreement form and W-9 form) are professionally setup
It was sufficient because it includes both quantitative and qualitative evaluations.
It was sometimes hard to draw strong distinctions between the good projects and those that seemed unlikely to ever succeed.
Instructions were thorough and concise. The only concern was the level of scrutiny expected. It would have been beneficial to see level of review of other reviewers.
Nothing in particular stands out. In these sorts of funding opportunities it is often hard to gauge "the bar". So, it may be of use to reviewers to know information such as what percent of proposals are typically funded and what the expectations are for "a successful project". Honestly I can't remember the extent to which you articulated these characteristics...
I was uncertain what would be an appropriate scope for the project. Descriptions of past projects would have helped, but I think there have not been any yet.
The summary scoring sheet was easy to use and the point system made scoring consistent. The free form written evaluation gave me the freedom to comment on all aspects of the proposal without a cumbersome structure.
I thought the process was good overall. Thorough with good assessment categories.

10. Was the narrative evaluation form a useful complement to the ranking spreadsheet in evaluating the proposal?

#	Answer		Response	%
1	Yes		38	100%
2	No		0	0%
	Total		38	100%

11. How much time did you spend on the evaluation?

#	Answer		Response	%
1	1-2 hours		3	8%
2	2-4 hours		9	24%
3	4-6 hours		14	37%
4	More than 6 hours		12	32%
	Total		38	100%

12. Is the honorarium:

#	Answer		Response	%
1	Insufficient		5	13%
2	Sufficient		30	79%
3	More than sufficient		3	8%
	Total		38	100%

13. Were you correctly identified as an appropriate subject matter expert for the proposal you reviewed?

#	Answer		Response	%
1	Yes		37	97%
2	No		1	3%
	Total		38	100%

14. Was the Sakai system:

#	Answer		Response	%
1	Easy and intuitive		22	58%
2	Complicated but usable		15	39%
3	Unusable		1	3%
	Total		38	100%

15. Were the Sakai access instructions:

#	Answer	Response	%
1	Adequate	36	95%
2	Inadequate	2	5%
	Total	38	100%

16. Would you prefer a secure email system for transferring documents and forms rather than Sakai?

#	Answer	Response	%
1	Yes	16	42%
2	No	22	58%
	Total	38	100%

17. Can you suggest a different online collaborative tool to use other than Sakai?

#	Answer	Response	%
1	Yes. If so, please specify the system:	2	5%
2	No.	35	95%
	Total	37	100%

Yes. If so, please specify the system:
google sites
Does Sakai have a drop box instead of Resource uploads?

18. Were your questions answered in a timely manner?

#	Answer	Response	%
1	Yes	35	92%
2	No	0	0%
3	Never asked a question	3	8%
	Total	38	100%

Attachment 6

Post-evaluation Non-reviewer SME Survey Report

Following is the report from the brief survey that was sent to the SME candidates who declined to participate.

1. What was the primary reason for declining the invitation to review a proposal?

#	Answer		Response	%
1	No time, too busy		20	61%
2	Not my field of expertise		3	9%
3	Vacation, travel, out-of-office, etc.		4	12%
4	Insufficient compensation		0	0%
5	Other (Please Specify):		6	18%
	Total		33	100%

Other (Please Specify):
I was involved in a large number of reviews for DOE HQ at the time.
Signing a non-disclosure agreement is an open-ended liability that I don't need.
lack of direct communication
travel restrict due to family thing
Received other grant
A combination of too busy and business travel taking me out of the office for about 70% of my time this fall.

2. Would this invitation be better received at a different time of year (e.g., fall, winter)?

#	Answer		Response	%
1	Yes (Please specify better time of year)		9	27%
2	No		8	24%
3	Doesn't matter		16	48%
	Total		33	100%

Yes (Please specify better time of year)
summer
Spring
Summer or Fall
summer
summer (sometimes)
spring/summer
Currently occupied with family emergency
It is not necessarily the time of year, but when specific activities hit. However, late September to early November and March and April are often very busy.

Attachment 7

SME Management and Tracking System

Before initiating contact with the SME candidates, the project team implemented a system to record all of the contacts with both the SME candidates and the successfully recruited SMEs. These records provided process data that helped to manage the recruitment effort. A record for each potential reviewer was maintained from the date of the initial recruitment contact, to their acceptance or rejection, and to the completion of their evaluation. The date of every email, fax, and phone call was recorded along with a brief note if required.

A labeling system was developed that linked the grant application and the SMEs who reviewed it. The project team assigned each expert a coded label which consisted of three letter alpha code that identified the proposal for which they were being recruited and a two-digit number that indicated their position in the sequence of reviewers for the respective proposal. For example, the label ABC04 would refer to the fourth SME who had been contacted to review the ABC grant proposal. The number would be increased for each new SME that was contacted. In this way, the team would easily know how many recruitment attempts were required for each proposal.

Within a few days of sending the recruitment email, the project team would follow up with a phone call if the candidate had not responded. In most cases, the candidate replied to the email. The phone call served two purposes: to clarify any questions or concerns they might have and to persuade them to participate in the program. Again, all of these contacts were recorded.

Attachment 8

Project Timeline

The project was informally initiated in late 2009 but the contract was not signed until early 2010. The following timeline shows the major milestones and deadlines for the project. All dates are in 2010.

- **January:** Project team formally convened; development of project forms and documents begun (LOI, full application, non-disclosure, program description, etc.)
- **February 25**: Program announcement
- **April 16**: Original LOI deadline
- **April 23**: LOI extended deadline
- **May 14**: Notification of eligibility to all applicants
- **June 4**: Full application proposal deadline
- **June – September**: SME recruitment
- **July 30**: Original deadline for technical evaluations
- **September 7**: Delivery of technical evaluation results to PSE&G
- **November 2010**: PSE&G announces grant awards