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EPIC Request for Comments: Increase Adoption of Emerging Clean Energy Technologies through Procurement

Additional submitted attachment is included below.



March 13, 2017

Nicholas Blair
California Energy Commission
Energy Research and Development Division
1516 Ninth Street, MS-51
Sacramento, CA 95814-5512

Dear Mr. Blair:

On behalf of Cleantech San Diego, thank you for the opportunity to submit comments in response to the "EPIC Request for Comments: Increase Adoption of Emerging Clean Energy Technologies through Procurement."

Cleantech San Diego is a nonprofit business organization that positions the greater San Diego region as a global leader in the cleantech economy. We support the cleantech industry by fostering collaborations across the private-public-academic landscape, leading advocacy efforts to promote cleantech priorities, and encouraging investment in the San Diego region.

In 2016, Cleantech San Diego was awarded a grant from the California Energy Commission (CEC) to create the San Diego Regional Energy Innovation Network, a partnership between a number of regional business organizations and academic institutions that connects entrepreneurs in San Diego, Imperial, Riverside, and San Bernardino counties to facilities and resources to help them successfully bring energy innovations to market. The program is identifying innovative entrepreneurs that are developing solutions to the region's priority energy needs and providing them with access to advisory support, technology commercialization services, and proof-of-concept and pilot testing. Entrepreneurs in the program also have opportunities to connect with investors and companies that can assist in product commercialization and adoption.

Cleantech San Diego appreciates the work the State of California and the California Energy Commission are doing to support the development of energy technologies and provides the comments below based on our experiences supporting the development of this industry.

CEC Questions with Cleantech San Diego Responses:

1. (For all groups) What are barriers that large-scale customers face when procuring emerging energy technology solutions? Would projects funded from this solicitation help address those barriers? If not, what specific changes would you recommend to help ensure the resulting projects meet large-scale customer procurement needs?

The projects funded from this solicitation would absolutely help address some of the barriers that large-scale customers face in procuring emerging energy technology solutions. However, even if large-scale customers provide test beds/entrepreneurs with the technical specifications they require for new technologies to be integrated into their operating environments, this information is not enough to address other issues and challenges that may arise when these technologies actually make it into customer environments. For example, customers may not have the internal resources or expertise needed to perform maintenance on or modifications to these new technologies (and the technology developers may not have this capacity either) once they are procured. While it is important to grant energy entrepreneurs access to sophisticated lab testing (test bed) environments that can simulate the conditions of customer operating environments, we feel it is also important to get key potential customers involved earlier in the technology development process so that their feedback can help inform the design of end-products/services and make them more commercially relevant.

Recently, Cleantech San Diego (on behalf of the San Diego Regional Energy Innovation Network) submitted an application in response to DE-FOA-0001703: Innovative Pathways for Industry-Startup Partnership. In it, we advocated for the creation of a Commercial Validation Network (CVN) composed of pre-qualified industry pilot partners who possess both the interest and capacity to host pilot projects with emerging energy technology solutions. While test beds provide invaluable resources (both specialized testing equipment and lab technicians) that will enable technology innovators to validate the performance of their products and services to key regulatory and industry standards, most large customers are reluctant to be the first adopter of a new technology until they see a reference customer in their specific business/service segment with similar operating conditions and schedules. It would therefore be beneficial to expand the scope of this GFO to include the creation and formalization of a Commercial Validation Network that includes financial subsidies for full-scale commercial pilot evaluations with end-use customers from each of the 12 targeted customer groups.

2. (For all groups) What are specific recommendations you can provide for improving the purpose of the solicitation outlined in this RFC? Please explain the rationale behind the recommendations.

Consider allowing the awardee from Group 1 to also oversee the objectives of Group 3. It makes more sense for one organization or ecosystem of organizations to manage the

innovation pathway from research to deployment or early adoption. By doing this, they will have familiarity with a technology over the course of its development and be able to ensure that end-use customers are involved through the whole process in encouraging startups to design solutions that meet their needs.

3. (For all groups) Are there existing efforts that complement the groups identified in this RFC? What specific changes to this proposed solicitation would you suggest to best leverage these existing efforts?

The CEC's Energy Innovation Clusters program should oversee the objectives listed in Groups 1 and 3. Under the EPIC program, these Clusters were designed to help accelerate the commercialization of emerging energy technologies. However, they are currently limited to providing the following services: proof-of-concept facilities and laboratory pilot testing, business development and advisory support, policy expertise, and mentorship. There is a huge need for resources that make customer discovery and industry-startup collaboration possible. Entrepreneurs who have been accepted into the San Diego Regional Energy Innovation Network program have provided ongoing feedback to support this need for increased access to market intelligence and opportunities for real-world demonstration projects with industry partners.

The Emerging Technology Groups of the IOU's and the statewide Emerging Technology Coordinating Council (ETCC) are currently conducting testing and evaluation of emerging breakthrough energy technologies. In order to avoid duplication of efforts and take advantage of any potential synergies, there should be some level of integration and collaboration between these newly funded programs and the existing statewide ETCC organization.

4. (For all groups) Are the proposed funding amounts identified in this RFC appropriate for the work requested? Please explain the rationale behind the recommendations, and, if applicable, what would the expected cost be to adequately test and evaluate the technology types identified in this draft solicitation?

No response.

5. (For Group 1) Should the Energy Commission require test bed locations in both Northern and Southern California? Please explain the rationale behind the recommendations.

Absolutely. These regions often have needs for different types of emerging energy technologies. In addition, entrepreneurs from both regions should be able to easily access test beds in their geographic areas of operation. It could be very cost-prohibitive for startups to have to travel long distances in order to make use of such facilities if they aren't located nearby. Without facilities in both Northern and Southern California, the

success of startups could be limited to those just in one region. With 326 startup companies in Technology Readiness Levels 1-5 having recently responded to the first CalSEED grant, there will clearly be a high demand for test bed and hub resources across the state.

6. (Groups 1 and 2) Are there additional technologies we should consider or technologies we should remove from the lists provided in this RFC? Please explain the rationale behind the recommendations.

Since the CPUC and CEC have an aspirational goal of converting 50% of existing buildings to Zero Net Energy, one important measure that can reduce energy consumption and the resultant solar PV requirement is building envelope upgrades. We recommend editing bullet six in Group 1 as follows: Aftermarket treatments and retrofits that improve energy efficiency of existing HVAC and building envelope systems. We also recommend the addition of "Building Envelope" to the list of measures included for the Cal-EPE hubs in Group 2.

7. (Group 3) How can Group 3 most effectively build trust with target customers to ensure that the target customers are buying high quality products?

No response.

8. (For Group 4) What are the largest impediments to successful deployment of solutions that can facilitate successful procurement of emerging energy technologies? Are there solutions not addressed under this proposed solicitation that would address these impediments? Please explain the rationale behind the recommendations.

No response.

Thank you again for this opportunity. Should you need any clarification on the comments above we would be delighted to provide it.

Sincerely,

Jason Anderson
President and CEO
Cleantech San Diego