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

1. There are several barriers that large and mid-commercial scale customers have to overcome with the purchase of new emerging energy efficient technologies.
 - a. The first barrier that a customer faces is that a new technology has very little penetration into the market place. This creates the perception that it will not work at their facility and the performance is not at the minimum safe level for their operations. The customer has very little in the manner of examples and operating systems to view the new technology in operation and there is very little supporting data.
 - b. The newer emerging technology is in most cases more expensive than older technology and this then raises another barrier. Why should an operating customer make an increased investment in new tech that as far as they can see has not been deployed robustly? Add in the problem that the CEC and CPUC will not give any advice about the newer technology and both of these agencies along with the utilities create more barriers than they remove. This is the perception that the newer technology does not perform as well as the previous system and therefore it is not worth the energy savings that are present with newer technology.
 - c. Very often the newer technology has no incentive to install, however with additional cost the customer can attempt to procure an incentive program from the utility. This is also fraught with difficulties as the work to get the incentive is time consuming and costly to the customer. It is also a very long process and is also laden with mines as the utility and the CPUC always seems to be more interested in failing the project than pushing it through.
 - d. EPIC appears to be more interested in funding university research projects that actually have no long lasting impact on the realized energy savings and the demonstration of the emerging technologies is short termed. Many customers are looking for more projects that are distributed throughout the state and more convenient to their location. A more diverse package of projects demonstrating facilities that may more closely match their own is highly desirable. Also University studies are short termed and when the money runs out they often decommission the demonstration and move on to another funding. By moving that same funding out to the actual facility you will have a longer useful life of the funding and you will also be a better steward of the funds source.
 - e. Funding projects that are actual operating business concerns brings a “real” demonstration of technology that customers can use as a guideline for their decision to purchase the emerging technology while reducing the risk factor that

goes into all of these difficult decisions. An example is using Indirect Evaporative Air-conditioning in various applications. While it appears to be a good idea due to the tremendous energy savings, and peak-period reductions, there are so few demonstration locations that customers cannot see actual impacts and operations to base a decision on moving forward with the system. It is also difficult for pressing these decisions forward for the Facilities Manager when there are so few installations and the upper management has very little information to base a major decision on.

- f. Insure that the “funded” installations are open to other customers so that they can actually see the new emerging technologies in action. Have a requirement that before and after impacts are included in the requirements for any project and that these impacts can be viewed by interested parties for decision makers. This can be accomplished by having as a requirement that the project coordinator has to do a short executive summary after the project is completed. There should be an Executive Summary page added to the CEC website so that interested parties can view the results of whatever practices are adopted.
 - g. One of my biggest problems is that there is a lot of funding but I am hard pressed to find any results of any of the major funding that has been awarded. Where the results are listed that state that the funding that is awarded has been spent according to the CEC and EPIC. Just like the notice of award announcement there should be a known webpage that has the Project, Title, Cost, and then results of said award.
2. This entire solicitation appears to be a way to assign more EPIC funds to administrative functions and not move it to the end use customer. It appears that there will be a lot of money assigned for research and documentation to access the same things that have been. In example Group 3 states that they “will provide and coordinate key services, assistance, and resources needed to bridge the gap between emerging energy technology solutions and large scale procurement processes”. Most of the people I have had communications with have very little experience in any energy technology beyond the new found belief in LED Lighting and Solar panels. This does nothing to address the real impacts of Demand reduction and energy usage reductions, only spend rate-payers money on more administrative fees and very inexperienced new employees in a new division of energy employees. With everything that was stated for Group 3 there was nothing listed that required awardee to responsibly allocate this section to truly qualified energy professionals and deliver something to the customer other than a website and going to a few trade shows. Neither of those last two items have had great success other than to be a reporting item on an awardees final report “WE attended 12 trade shows and decimated 4,000 individual pieces of information”, the customers loved us. *(I know this last paragraph will not be viewed in a very positive note but I believe the subject needs illumination)*
3. Truly large scale customers usually have more competent energy professionals on staff, it is the next lower level scale that does not have the trained staff or professional services available to assist them in making a decision on direction toward emerging energy decisions. The cost of hiring these professionals usually precludes having access to technologies. Large scale then is

able already to research and develop their processes with emerging technologies. The need therefore is to assist the next scale in making these decisions that can cost a business their ability to continue and be competitive with the larger scale business. This segment is overlooked and basically ignored, even by the good intentions of these programs. More effort should be given to actually physically contacting these opportunities and creating success stories that can then translate to demonstrations and cost cutting energy strategies that will transcend all levels of customer support. More market research does not result in driving new and emerging technologies out to the market. Market penetration and support is what makes these new technologies available to more target customers.

4. There is a nearly unlimited amount of funding for solar and LED technologies. Why is there not a greater emphasis on reducing the overall energy usage and peak-period usage? The application of strategies for energy usage should preclude the desire for solar production. Neither of these aforementioned technologies would have the same success if not for the tremendous amount of funding support that they have received. Why not actively support emerging technologies that reduce overall energy usage?
5. Yes. Customers are restricted enough with time constraints without the requirement of having to travel long distances to view a technology that they are hoping to employ. The time required to travel from one part of the state to another may alone be the deciding factor in the decision to employ a new technology.
6. Indirect Evaporative Air-conditioning. It is a very sound system and recent production types have supply air at nearly 60 degrees. But I see no where that it is supported by utilities or CEC/CPUC. With a reduction of nearly 80 % energy usage and during peak-period it should be something that is routinely looked at for manufacturing and correct environments.
7. Not by having an awardee that goes to trade shows and hands out little magnets and an address to their website that has "useful information" on it. An awardee that sits in their office and comes up with clever ideas is just another expenditure of public funds. The awardee that physically spends their time going out to the customer and discussing their issues and putting forward solutions that the customer can actually implement is the one who can actually earn the customers trust. Showing a customer an emerging technology that has a ten year payback will not build trust. But creating the support of technologies that have a reasonable return on investment, even if that means supporting the customer with incentives to complete the project and accomplishing fewer projects with available funding, will lead to greater performance over the longer period of time.
8. Follow through, simple and true. Once the emerging energy technology has been developed, tested, and moved past the prototype stage the industry that assisted in its push looks at it and says "OK you're all good now, good luck". A new energy technology experiences two major obstacles at this time. 1) It is always more expensive until it has reached mature market penetration. 2) There is always concern that it will not perform as well as the previous technology and it has no support from agencies as well as powerful attacks from the resilient previous technology. More real life deployed demonstration facilities. All facilities should, for a time, be ready and understand that the incentives that they receive are due to the fact that they are demonstration sites. That is why they have received a premium incentive payment to assist

in the push for new technologies. By having more demonstration sites you get more exposure and competitors will come to the market to purchase and supply these new systems and devices.