

## DOCKETED

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*Comment Received From: Frank Shu*

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### **Comments by Astron Solutions Corporation**

Please see attached pdf document from Astron Solutions Corporation with 5 comments

*Additional submitted attachment is included below.*

## EPIC Request for Comments: Increase Adoption of Emerging Clean Energy Technologies through Procurement (February 27, 2017)

Comments by: Frank H. Shu, Astron Solutions Corp. (March 9, 2017)

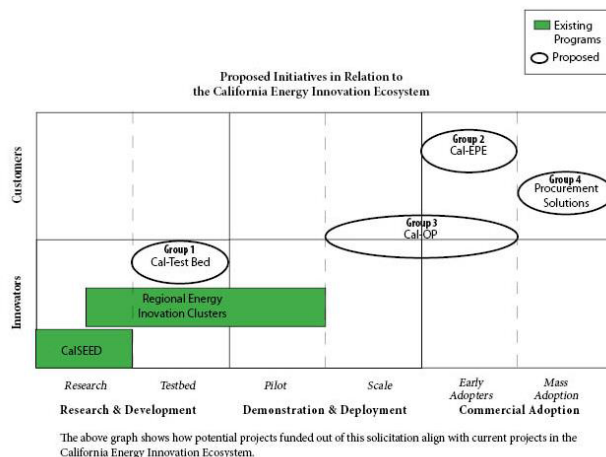
### A. Request for Comments on Draft Solicitation to Increase Adoption of Emerging Clean Energy Technologies through Procurement

California Energy Commission staff is developing a competitive Grant Funding Opportunity (GFO) through the Electric Program Investment Charge (EPIC) to increase the adoption of emerging clean energy technologies in large-scale procurement processes. Staff is seeking input from stakeholders on the proposed solicitation approach, and more specifically seeks input to the questions asked about the solicitation at the end of this document (see page 6).

The Energy Commission's strategy to increase the adoption of emerging clean energy technologies in large-scale procurement processes is supported by the following objectives:

1. Enable new technologies to be designed and tested to the specifications of large-scale customers.
2. Support target customers in making informed clean energy procurement decisions.
3. Assist California clean energy ventures in successfully navigating and securing energy technology procurement opportunities.
4. Streamline the procurement practices and processes of large-scale customers.

Funding for this GFO is \$33 million, focused on the de-risking of clean energy procurement processes in an effort to increase the adoption of emerging clean energy technologies by target customers. This GFO proposes to fund the following four project groups to create pathways to deploy and increase adoption of emerging clean energy technologies.



**Written Comments** Comments should be submitted by **5 p.m. on Monday, March 13, 2017**. The Energy Commission encourages comments through the Energy Commission's docket system to Docket # 16-EPIC-01(EPIC Idea Exchange).

### B. Comments by Astron Solutions Corp:

Our comments focus on commercializing a new technology to process biomass at large scale to provide renewable solid and liquid products that have energy applications. Astron Solutions Corporation (ASC) has technology that fits with the goals for Group 3 (Cal OP) and would benefit from services provided by Groups 1

and 2. The comments are to clarify our understanding of the GFOs and the functions of Groups 1, 2 and 3.

1. It is unclear if the GFO for Group 3 (Cal OP) is targeted to program administrators or to technology companies. Is the purpose of the proposed award in Group 3 directed at vendors to administer the program or at the companies that have the technology for development and deployment? The first deals with linking large-scale customers to appropriate early technologies. The second performs the actual development and deployment of breakthrough approaches that could fulfill needs that are not currently met by existing technologies.
2. In the field of using waste biomass to derive new forms of bioenergy and biomaterials, there is a need for chemistry testing labs to evaluate laboratory and field data. The typical equipment needed for such measurements are standard in modern chemistry laboratories, for example, thermogravimetric assays, scanning electron microscopes, nuclear magnetic resonance spectroscopy, energy dispersive X-ray spectrometers, Brunauer-Emmett-Teller (BET) surface area analysis, wet and dry labs for chemical testing and computer modeling.
3. The following comments address Questions 5, 6, and 7 posed in the request for comments.

*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.*

Comment: The voucher system described for Group 1 should be flexible as to location of the test bed if the testing uses routine laboratory equipment that many university or commercial labs have. Can a voucher system described in Group 1 (Cal Test Bed) be established for such needs so that startups do not have to establish and maintain their own staff and testing labs?

*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.*

Comment: A large scale project to use waste biomass should be added. Such a project would benefit greatly from Groups 1 and 2 functions that have a biomass focus. Currently, biomass technology is at small scale so the need has not arisen. However, biomass technology that operates at large scale would require the establishment of appropriate Groups 1 and 2 types of infrastructure.

*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?*

Comment: For biomass projects, confidence comes from reproducible testing of incoming biomass and final commercial products that meet the needs of the customer. Some US and international standards already exist. Additional confidence comes from records demonstrating reliability of the technology such as hours of operation, down time for maintenance or repairs, size of staff needed for operations, etc.