

DOCKETED

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Decoupling energy from irrigation - A new FEW nexus

Agricultural Related: Maximize Synergies in the Water-Energy-Food Nexus

Decoupling energy from irrigation:

Irrigation can be defined in two categories: A) the transport of water to a field either by well pumping to the surface or by pumping through an irrigation canal. B) the actual application of water on the field. This project initiative is directed toward the second category (B), applying water on the field.

The purposed initiative is to decouple what has become the current trend for pressurized systems to irrigate crops, looking for new technology that can decrease the pressurization cost, such as low pressurized systems or eliminating all pressure and relying 100% on gravity.

Example of energy consumption:

Traditional irrigation from flood is a zero-irrigation application.

Drip tape requires 10 – 30 PSI

Sprinklers require 30- 60 PSI

The initiative should focus on one type of orchard crop and one row crop for quantitative comparison.

Additional submitted attachment is included below.

CALIFORNIA ENERGY COMMISSION

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The Energy Commission is currently soliciting ideas and stakeholder input for the 2018 – 2020 EPIC Triennial Investment Plan. For those that would like to submit an idea for consideration in the 2018-2020 EPIC Triennial Plan, we ask that you complete the form below. Submittals are due by **5:00 p.m. on February 10, 2017.**

Part 1. Initiative Description and Purpose:

1. Please provide a brief description of the proposed initiative:

2. What technical and/or market barriers would the proposed initiative help overcome? For scientific analysis and tools, what knowledge gaps would the proposed initiative help fill?

Part 2. Benefits and Impacts

3. If this initiative is successful, either fully or partially, what would be the expected impact?
Who are the primary users and/or beneficiaries?

4. Describe what quantitative or qualitative metrics or indicators would be used to evaluate the impacts of the proposed initiative:

5. Please provide a list of peer-reviewed references that support the responses for questions 3 and 4. Proposed initiatives that include peer-reviewed references will be given stronger consideration.

6. (For technologies only) What competitive advantages does the proposed technology solution have over current benchmark technologies? If the technology is beyond the prototype stage, what strategies do you suggest to bring to scale?

Part 3. Connection to Energy Commission’s EPIC Framework

Energy Commission staff have developed a draft strategic framework to guide the CEC’s planning and implementation of EPIC across triennial investment cycles. One of the objectives of the draft strategic framework is to communicate a consistent set of priorities for organizing current and future EPIC investments.

7. Please indicate which of the following strategic framework themes you feel the proposed initiative best fits within:

- Advance Technology Solutions for Deep Energy Savings in Building and Facilities
- Accelerate Widespread Customer Adoption of Distributed Energy Resources
- Increase System Flexibility from Low-Carbon Resources
- Increase the Cost-Competiveness of Renewable Generation
- Create a Statewide Ecosystem for Incubating New Energy Innovations
- Maximize Synergies in the Water-Energy-Food Nexus
- Develop Tools and Analysis to Inform Energy Policy and Planning Decisions
- Catalyze Clean Energy Investments in California’s Underrepresented and Disadvantaged Communities

If Other, Please Specify