

DOCKETED

Docket Number:	17-EPIC-01
Project Title:	Development of the California Energy Commission Electric Program Investment Charge 2018 â€“ 2020 Triennial Investment Plan
TN #:	216626
Document Title:	Willdan Group EPIC Comments
Description:	N/A
Filer:	System
Organization:	Willdan Group/Mehdi Ganji
Submitter Role:	Public
Submission Date:	3/20/2017 4:52:23 PM
Docketed Date:	3/20/2017

Comment Received From: Mehdi Ganji

Submitted On: 3/20/2017

Docket Number: 17-EPIC-01

Willdan Group EPIC Comments

Additional submitted attachment is included below.



March 20th,2017

Dear Anthony Ng,

Willdan Group extends its gratitude to California Energy Commission (CEC) for their continuing support and dedication to addressing the state's pioneering energy priorities, accelerating technology innovations and tools, and providing benefits to California ratepayers. Willdan is committed to helping the CEC reach their goals through forward-thinking policy, cutting-edge research, and the promotion of energy innovations that help the State of California continue to be a global leader in combating climate change and to drive national and international policy changes. Willdan is pleased to provide a response to the 2018 – 2020 EPIC Investment Plan Draft Funding Initiatives. We appreciate this opportunity to offer feedback and the suggestions below are opportunities or additional methods that our team has identified to meet the stated themes as well as the overall EPIC goals.

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Theme 1: Advance Technology Solutions for Deep Energy Savings in Buildings and Facilities

- a. Employee engagement technologies/Programs, which improves the end user's knowledge and awareness in Non-residential buildings and reduce facility energy consumption (office space, factory, lab, etc).

Energy consumption management of individuals in Non-residential buildings will target the currently untouched audiences. Leveraging existing systems such as LEED or PEER (USGBC) or implementing new ones to engage and incentivize deep energy savings at the non-residential consumer/user level. Reaching this goal will be possible through the creation and development of innovative technologies, deployment and demonstration of already created applications and technologies, and outreaching to the targeted commercial buildings across the State of California.

Theme 2: Accelerate Widespread Customer Adoption of Distributed Energy Resources

- a. Demonstrate advanced DER integration into Transportation sectors (Ports, Railways, airports, etc.) to identify the challenges and build better business cases for emerging applications of DERs while benefiting the surrounding communities and their daily commuters/cargo/customers.
- b. By increasing the deployment of residential solar systems, some grid level voltage-related and Power quality issues have developed. These issues can be eliminated or alleviated at the circuit level. Development, deployment, and demonstration of plug and play DER packages that are inherently designed to minimize grid impact and are usable by single-family or Multi-family homes would address these challenges.
- c. To increase the deployment level of more DERs, aid in the development of an analytical model to estimate current load for each asset, including aggregation of assets, utilizing available Smart Meter data as well as other data inputs. The reasons why a model is needed to do load estimation are due to the delay in Smart meter data collection, unavailability of Smart Meters to every customer, and the presence of customers with special (large, Non-Smart Meter) contracts.

Theme 5: Create a Statewide Ecosystem for Incubating New Energy Innovations

- a. Innovative financing options development at the state and even private levels similar to DOE loan guarantees (which may not be available in the near future) for projects with high technology risks that "avoid, reduce GHG emission, increase system reliability and employ new or significantly improved technologies as compared to commercial technologies in service in the United States or State of California". These financing options should be intended to encourage early commercial use of new or significantly improved technologies in energy projects. These options would help community permanent assets such as schools, with defined financial background but low appetite for risk, to apply and deploy emerging technologies.
- b. Emerging technology market facilitation through workforce training and development of local community, utility, and industry partnership. Lack of knowledge and experience in new technology operation and maintenance and the distance between research and adoption curves causes large-customer resistance in deploying emerging technologies. Training local workforces and students will not only provide more high quality clean energy related jobs, but will also educate utilities and communities on new technology operation and inter-operability challenges.

Theme 6: Maximize Synergies in the Water-Energy-Food Nexus

- a. Encourage development of industry specific research and tools for batch process food and the agricultural sector to better leverage energy and water efficiency processes and technologies and better understand the impact on individual businesses bottom line as well as the industry and consumers as a whole. The goal can be to create a well-defined tool allowing individual businesses to more easily engage in food-energy-water nexus supporting technology implementations and accelerate decision making and planning in corporate structures.