

# Solar Energy Innovation Network (SEIN)

## Sustainable Energy Advisory Board

May 10, 2018

## BACKGROUND

- The City has been selected by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) to participate in a collaborative research effort to explore new ways that solar energy can improve the affordability, reliability, and resiliency of the nation's electric grid.



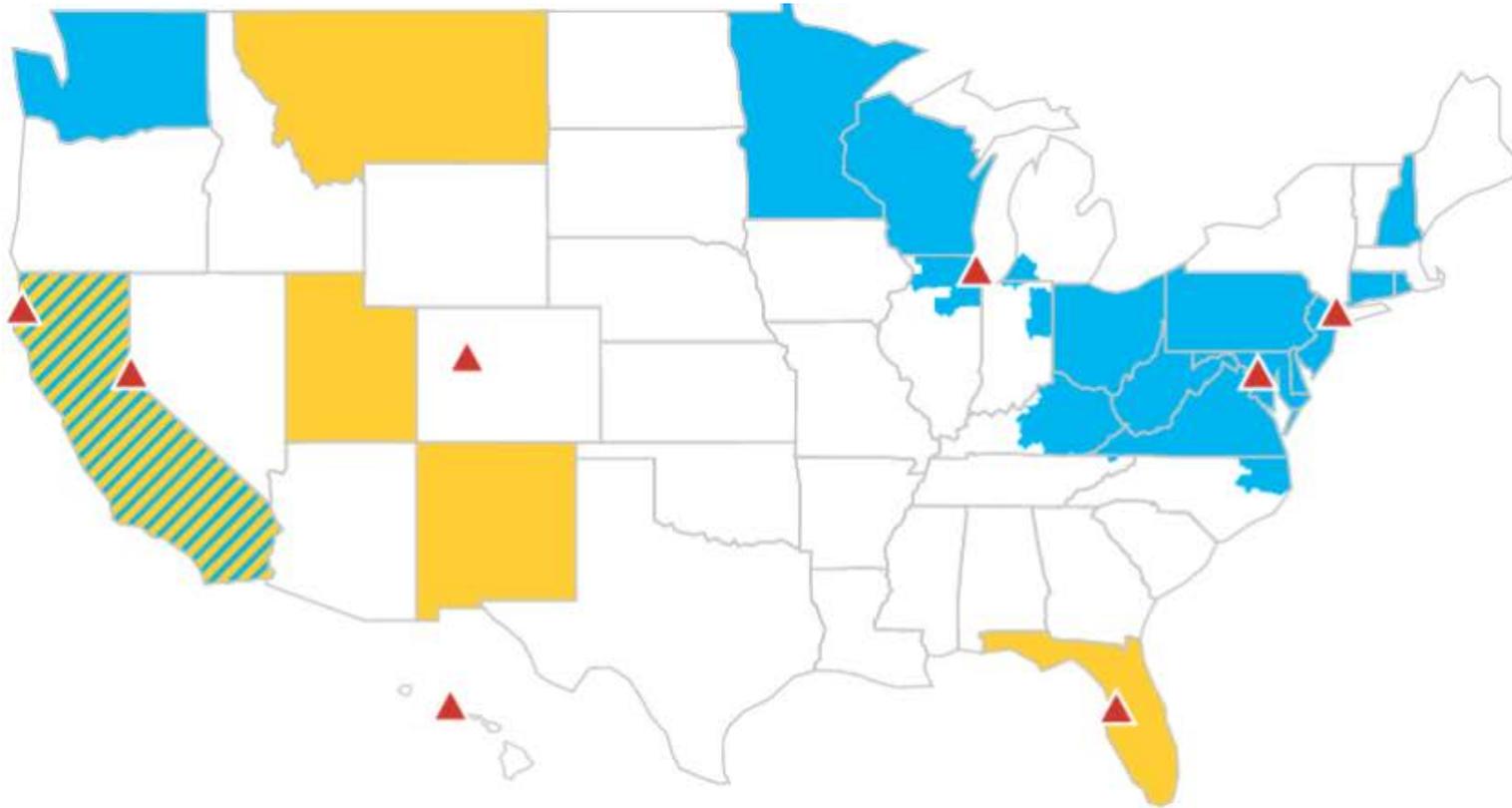


## BACKGROUND

- City of San Diego is 1 of 9 teams selected.
- The City's participation in the Solar Energy Innovation Network (SEIN) will include financial, analytical, and facilitation support as it works to identify and address new challenges and opportunities stemming from solar energy and other distributed energy technologies in San Diego.
- The solutions developed and demonstrated by the City will serve as a blueprint for other communities facing similar challenges and opportunities.



## SOLAR ENERGY INNOVATION NETWORK TEAM



**Options Analysis**  
Improving reliability and affordability of solar energy through options analysis and systems design



**Grid Flex**  
Improving grid flexibility and resiliency through advanced siting and operations of solar + DER



## OPTIONS ANALYSIS COHORT

- Developing data sets and geo-spatial mapping tools that assess impacts on reliability of various levels of variable generation at municipal or utility service territory scale
- Identifying and validate new solar siting methods that minimize grid impacts and reduce distribution system costs
- Identifying innovative ownership models, financing structures, and procurement strategies
- Exploring options for the integrated planning and deployment of solar and electric vehicles and solar+storage
- Exploring alternative rate designs and compensation mechanisms.



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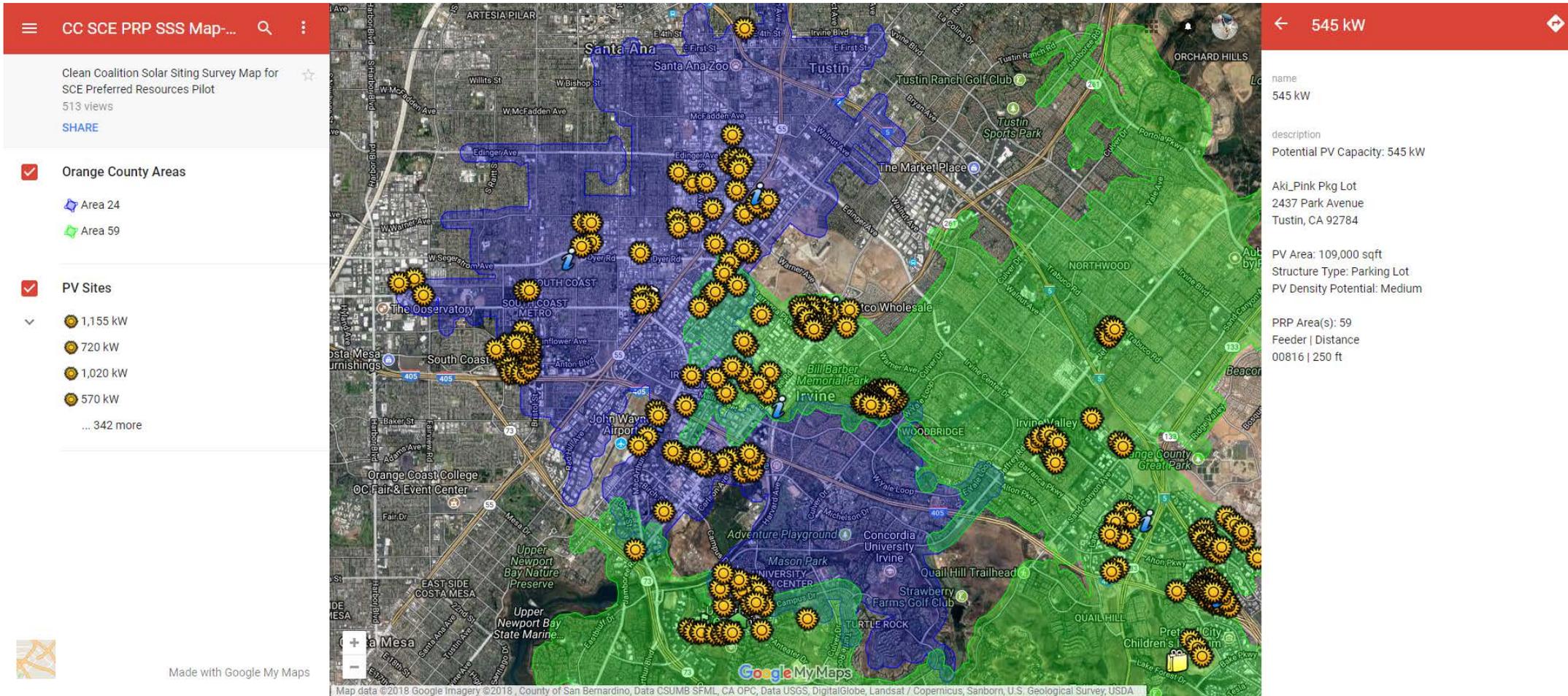


## SCOPE OF WORK

- Power Purchase Agreement Cost Analysis
- Solar Siting Survey Database, Map, and Key Findings (1 MW+)
- Guidance and Policy Document for Renewable Energy Electricity Supply Including FIT Program Design
- Request for Proposal Template
- Stakeholder Engagement Sessions
- Roadmap for Renewable Energy Electricity Supply Publication



## SOLAR SITING SURVEY





## KEY BENEFITS

- Assessing the associated distribution grid interconnection hosting capacity, which is an important indicator of whether interconnection costs would overwhelm the economics of a solar project; and
- Developing a tariff program that can mitigate such obstacles and barriers of solar adoption; and
- Applying the resources and outcomes of the Solar Energy Innovation Network towards the CAP goals, including 100% renewable energy electricity supply by 2035. This opportunity will serve as a building block for the City to achieve many of its energy goals.



THANK YOU.

**Bryan Olson**

Senior Engineer