



# **Item 12: Power Electronics for Zero Emission Residential Resilience (PEZERR) - GFO-23-302**

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# Solicitation Purpose

- Clean, affordable backup power solutions important for Justice Communities
- High balance-of-system (BOS) costs make solar-and-storage systems unaffordable to many
- Demonstrate emerging technologies that **reduce the time, cost, and complexity** of installing zero-emission backup power systems



Source: Blue Lake Rancheria



# Research Objectives

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## 1) Simplify Installation

via pre-wired or standardized solutions

## 2) Demonstrate Scalability

via modular design

## 3) Streamline Replicability

by verifying utility and customer acceptance

## 4) Validate Cost-Effectiveness

via comparative analysis

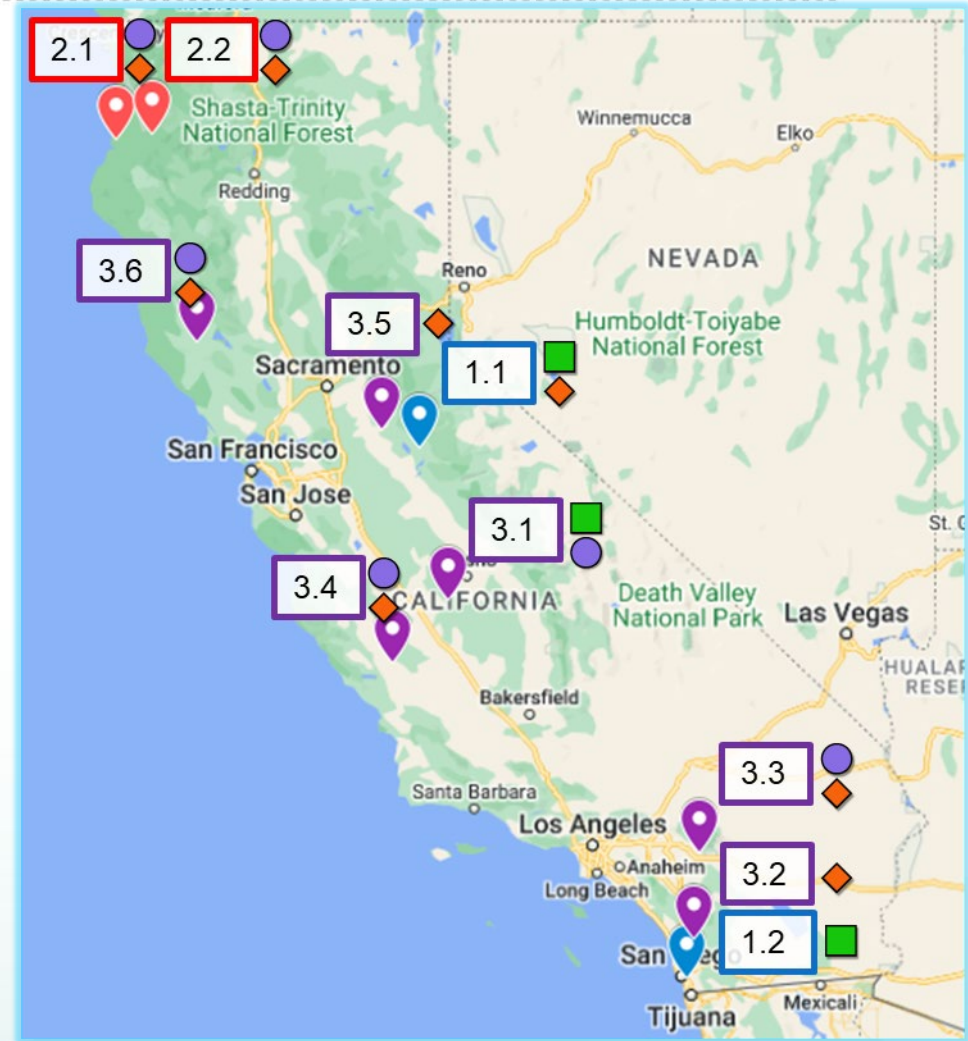


# PEZERR Project Map

#	Applicant	Location
1.1	<b>NeWorld Energy</b>	Sonora, CA
1.2	"	National City, CA
2.1	<b>Prospect Silicon Valley</b>	Arcata, CA
2.2	"	Willow Creek, CA
3.1	<b>Zimeno, Inc.</b>	Riverdale, CA
3.2	(match)	Escondido, CA
3.3	"	Cherry Valley, CA
3.4	"	San Miguel, CA
3.5	(match)	Valley Springs, CA
3.6	"	Hopland, CA

Legend:

- DAC – Disadvantaged Community
- LIC – Low-Income Community
- ◆ HFTD – High Fire Threat District





# NeWorld Energy



- UL-certified meter collar device integrated with grid isolation switch and plug-in smart panel
- Achieve two-week interconnection for pre-integrated battery systems
- Deployment at two low-income multifamily developments and ten single-family homes in Tuolumne and San Diego Counties, respectively

Source: NeWorld Energy



# Prospect Silicon Valley

- Collectively manage smart panels and modular plug-in batteries to:
  - expand panel capacity
  - provide resilience
  - optimize power use
- To be deployed at two affordable multifamily housing developments in Humboldt County



Sources: Prospect Silicon Valley (left), EcoFlow Tech. (right)



# Zimeno, Inc. dba Monarch Tractor



- Smart panel incorporates
  - multiple EV charging interfaces
  - automatic islanding functionality
  - solar/battery inverter-ready input
- Paired with bidirectional electric tractors and pickup trucks
- Tailored to rural applications
- To be deployed at six family-owned farms across California

Source: Zimeno, Inc.



# Staff Recommendation

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- Approve grant agreements.
- Adopt staff's determination that projects are exempt from CEQA.