



Item 9: Optimizing Long-Duration Energy Storage to Improve Grid Resiliency and Reliability for Disadvantaged and Low-Income Communities and California Native American Tribes GFO-22-307

June 12, 2024 Business Meeting

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Solicitation Overview

- Improve grid reliability and resilience for DACs, LICs, and tribes
- Electrochemical or thermal battery storage
 - 100 kW minimum capacity
 - 24-hour minimum duration
- Accelerate commercialization and validation of long-duration energy storage technologies



Benefit to Californians

- Increased resiliency and safety
- Avoided curtailment
- Energy cost savings
- Emissions reductions

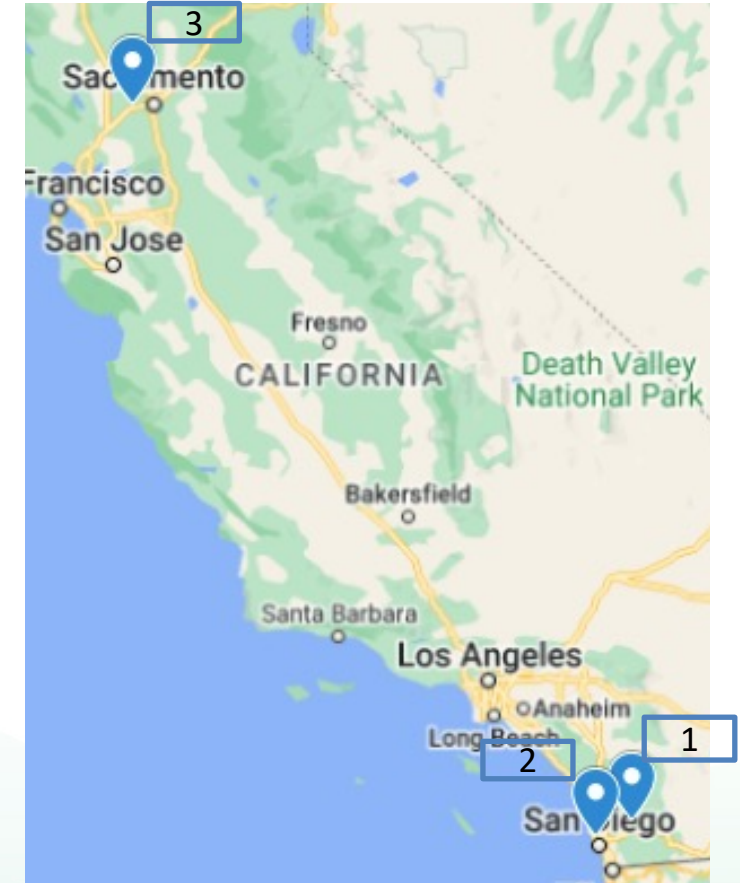


Source: Center for Sustainable Energy



Summary of Proposed Agreements

	Applicant	CEC Funds	Match Funds
1	Barona Band of Mission Indians	\$9,000,000	\$4,105,418
2	RedoxBlox, Inc.	\$8,936,778	\$3,126,912
3	Noon Energy, Inc.	\$8,760,557	\$4,978,027





Barona Band of Mission Indians

- Redflow zinc bromine flow battery
- 275 kW for 24 hours or 100 kW for 66 hours
- Integrated with existing PV
- MWh-scale hibernation functionality
- Provide energy to essential tribal facilities



Source: Redflow LLC



RedoxBlox, Inc.

- Thermochemical energy storage system
- 3 MWh system paired with microturbine
- Scaling of technology from 600 kWh to 3 MWh
- Previously awarded federal ARPA-E grant
- Provide energy to critical medical facility

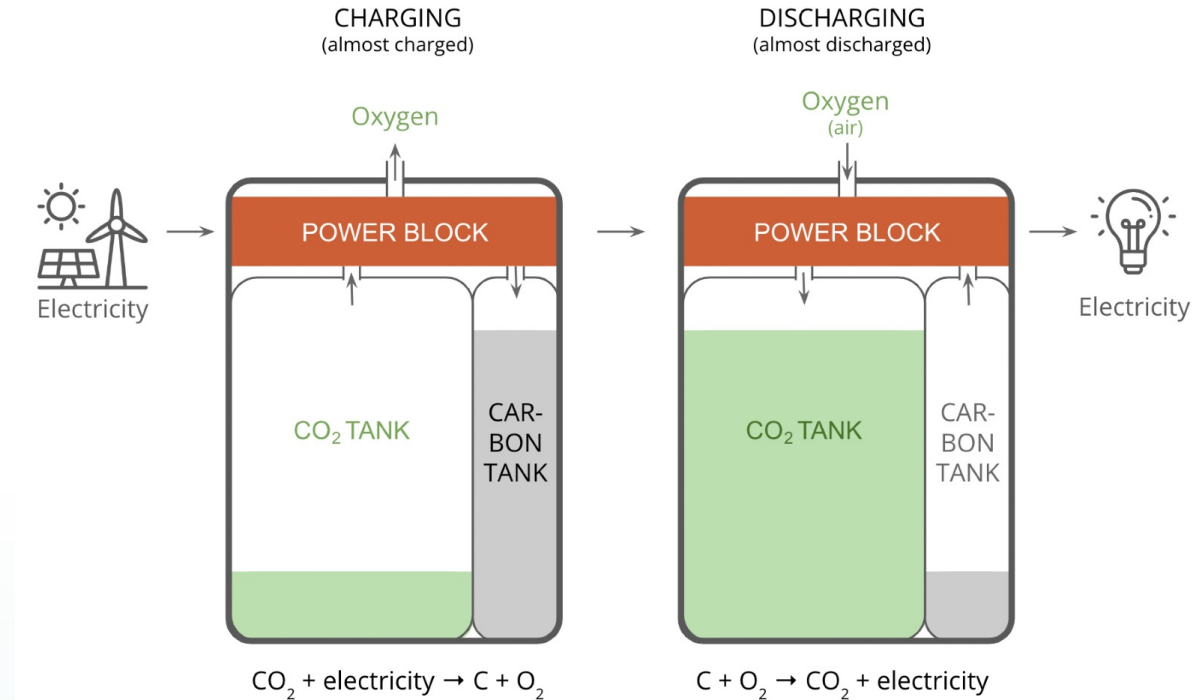


Source: RedoxBlox, Inc.



Noon Energy, Inc.

- Carbon-oxygen battery
- 100 kW/10 MWh paired with 7 MW existing PV
- Ultra small footprint (320 ft²)
- Previous technology scaling with CEC BRIDGE grant
- Previously awarded federal ARPA-E and CEC CalSEED grants
- Energy for critical water treatment plant and homeless shelter



Source: Noon Energy, Inc.



Staff Recommendation

- Adopt Staff determination that these projects are exempt from CEQA
- Approve three grant agreements