EPIC Funded Grid-integrated Research

Power Association of Northern California Annual Spring Seminar



David Erne, California Energy Commission

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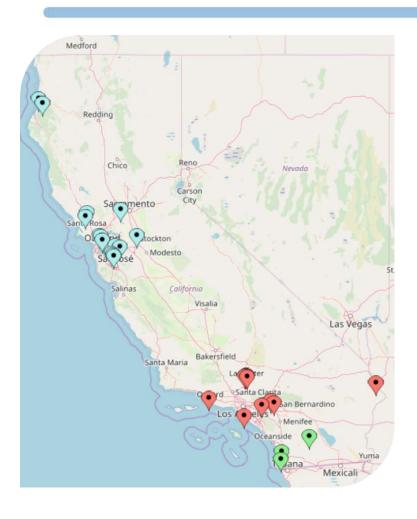
Major Research Programs

- Electric Program Investment Charge (EPIC)
 - Ratepayer-funded program to benefit ratepayers
 - Administered by the Energy Commission and three Investor-Owned Utilities (PG&E, SCE, and SDG&E)
 - Energy Commission Program ~ \$130 M/year
- Natural Gas RD&D
 - Approximately \$24 M/year
- Special Funds (e.g., climate vulnerability, transportation research)

TECHNOLOGY APPLIED RESEARCH **MARKET DEMONSTRATION** AND DEVELOPMENT **FACILITATION** AND DEPLOYMENT Focuses on validating new **Demonstrates strategies** Addresses non-technical ideas and technologies at real-world scales hurdles like policy, market, and workforce barriers so proven solutions can achieve accelerated deployment



Energy Commission Microgrid Landscape



- 20 microgrid projects with total of 30 sites
 - Critical infrastructure (fire station, hospital, evaluation shelter, wastewater treatment plant)
 - Campus
 - Community
 - Military base
 - Port
 - Distribution Center
- \$84.5 million Energy Commission funds and \$73.4 million match fund











Non-lithium Ion Demonstrations



Primus Power



UET



Eos Energy Storage



Amber Kinetics



Supporting Vehicle Grid Integration





- Managed Charging
- Bi-direction Power Flow
- Energy Storage
- Ancillary Grid Services



Initiating Research on Technologies for Ignition Prevention

Fuel Management

- Clearance Requirements
- Vegetation Management
- Right Tree Right Place
- Aerial Patrols
- LiDAR Surveys

System Management

- Infrastructure Hardening
- Protective Device Settings
- Preventative De-energization
- Fault Detection & Analysis
- Maintenance & Inspection

Weather Monitoring & Prediction

- Weather Prediction
- Condition Assessments
- Situational Awareness
- Storm Preparation & Response

Questions

David Erne

David.Erne@energy.ca.gov

(916) 327-1399

