

**PUBLIC
SAFETY
POWER
SHUTOFFS**





Vipul Gore, Gridscape Solutions

EPIC POLICY + INNOVATION COORDINATION GROUP

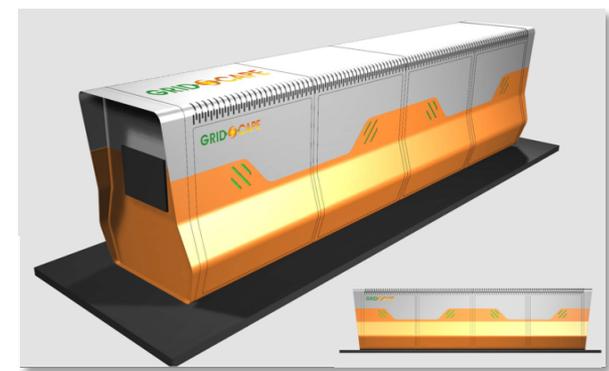
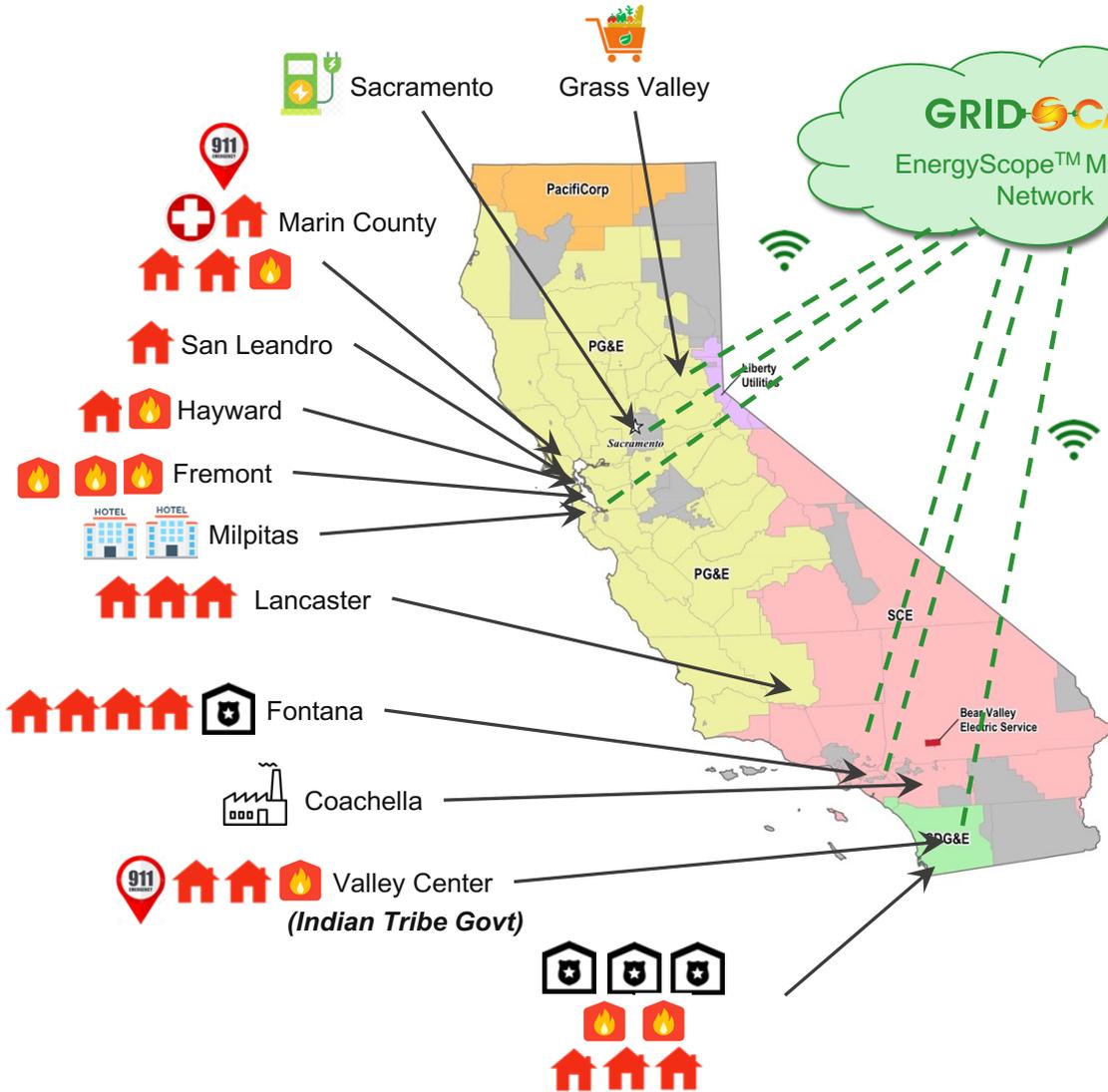


EPIC Policy+Innovation Forum
PSPS Panel

Commercializing Renewable Microgrids in California
Modular, Scalable, Software-driven, Product-Centric Approach

Vipul Gore, President & CEO
18 Feb 2021

Gridscape Microgrid Network in CA



Scalable, Modular, Software-driven Microgrids

Gridscape Microgrid Deployments



Photo Credit: CEC



Photo Credit: CEC



Key Learnings

| | Description | Opportunities | Benefits |
|--|---|---|--|
| Standardized Pathways | Standard, “cookie-cutter”, modular design, permitting and interconnection process | <ol style="list-style-type: none"> 1. Standardize Designs and Building Code to speed up permitting and interconnection Process 2. Promote vertical integration of technologies, i.e. Modular, Scalable technology “plug-n-play” blocks based on standards | <ol style="list-style-type: none"> 1. Drastically Reduces Time to Deploy 2. Eases Financial Investments |
| Access to local grid and customer data | Easy access to local grid/utility data for feasibility of microgrids in the local distribution grid | <ol style="list-style-type: none"> 1. Allow and promote data-driven approach – what sites benefit the most in terms of energy savings, resilience and grid stability? 2. Increase public and customer awareness using data-driven approach | <ol style="list-style-type: none"> 1. Quick go/no-go decision on whether it’s worth investing in a microgrid at a certain location in the distribution grid |
| Value of Resilience | Establish a financial value of resilience | <ol style="list-style-type: none"> 1. Develop microgrid tariff to quantify the value of resilience 2. Establish standard process for financiers to monetize resilience as important payback for their investment | <ol style="list-style-type: none"> 1. Increases ROI (Return on Investment) making microgrid projects easily financeable. |

Thank You



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Marna Schwartz, City of Berkeley

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Communities should design community-focused energy projects that address their core objectives and recognize their unique needs.

For community-focused energy projects, there is unlikely to be a single, replicable project model that works in all communities across the state. Having a clear understanding of the objectives and a process to weigh these decisions when faced with development realities, will help communities develop stronger plans that are more likely to move forward.

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The Local Context

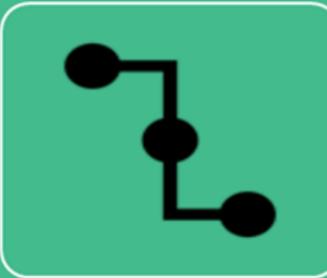


Equity Considerations
Local Community Goals
Resilience Needs
Community Engagement

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Infrastructure: Current and planned infrastructure and # of customers on a line



Interconnection: Standardized & streamlined interconnection process and timeline



Cost: Currently available tariffs, rates, fees, costs, funding and financing

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Allowing multi-customer microgrids to use existing distribution lines or cross rights-of-way will enable low-cost and quicker deployment.

Currently, motivated customers who wish to share power during grid outages between adjacent facilities, or among customers on a designated segment of a utility distribution circuit, are unable to develop such multi-customer microgrid projects, due to the absence of rules that enable them to use existing utility wires or share power across rights-of-way.

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Can't use existing distribution lines; must pay for new parallel ones.

Can't share energy across the public right-of-way.

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Utility must own & operate new lines; customer pays utility for O&M.

Need microgrid tariffs that value resiliency and blue-sky operations.



Nikky Avila, PG&E

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Clearly defined operational responsibilities can help enable multi-customer microgrid solutions.

- Controls are the automated programming that enable microgrids to island from the broader grid and energize the customer.
- There should be training for remote and onsite utility and third-party operators on how to monitor and control the microgrid.
- Hardware and communication failsafes should be designed to ensure public safety while maximizing the islanding capability of the microgrid.