The Role of Microgrids in the Aftermath of Wildfires & Public Safety Power Shutoffs

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PSPS: Devastation leads to opportunity

- Achieving true resilience and decarbonization will require us to rethink how we modernize our grid and value distributed energy resources.
- Microgrids necessitate that policymakers rethink the planning, project management and construction process for building a cleaner, safer, resilient, and more technologically advanced grid.
- MRC encourages policymakers to reimagine the roles of the utility, developers, customers, and the regulatory model that governs the power sector and energy markets.
- Be bold and forward thinking – embrace and nurture innovation in clean energy technology and market diversity.
Governor’s Office

- Resiliency, decarbonization, and climate adaptation are prominent in the Governor’s proposed budget.
- Over $12 Billion is being allocated to climate change mitigation efforts across the board and reflected in the Governor’s 2020 Proposed Budget
  - Issued January 10, 2020
  - May revise in the Spring
  - Final budget approved by June 15, 2020
- The Governor’s office is working with several legislators on budget bills that will direct the allocation of funds to state agencies and local governments.

Community Resilience & Climate Adaptation
- SB 45 (Allen, et al.) - $5.5 BILLION Resiliency Bond
- Wildfire Mitigation, forest health, vegetation management, biomass energy
- Decarbonization and GHG emissions reduction – prioritize DAC and vulnerable pop.
California Microgrid Legislation

2018

- SB 1339 (Stern) – 2018
  - Directs the CPUC to create interconnection process and separate tariffs as necessary to facilitate the commercialization of microgrids by Dec 2020.
  - Concerns about cost-shifting by many legislators and opposition by utilities and labor
  - Passed out of legislature on 8/31/19
  - Signed into law September 2018
  - Camp Fire and PSPS had not happened at this point

2019-2020

- SB 774 (Stern) – 2019 – 2020
  - Supports the development of microgrids for critical facilities and accelerate the growth of microgrids by building on SB 1339
  - Focus on local government procurement of microgrids and removing regulatory barriers not addressed in 1339
    - MRC advocating for addressing standby charges, over-the-fence rules, and easing public procurement process
  - Status: Currently in Assembly U&E, hearing not set
California Microgrid Regulation

- CPUC Order R.19-09-009 (2019 – 2020) implementation of SB 1339
  - Scoping Ruling issued December 2019
    - Amended topic to include “and resiliency strategies” to address issues with PSPS
  - Breaks proceeding into 3 tracks: short, medium, long term solutions
  - Track 1 – utility and staff proposals for near-term solutions
    - Focus on critical facilities, local government data access, and actions that can be taken before 2020 fire season
    - Opening comments for Track 1 due January 30th – over 50 parties commented
    - Reply comments for Track 1 due February 6th
  - Track 1 expected to conclude in March 2020; Track 2 scope issued soon after
# Commercializing Microgrids

## Opportunities

- Microgrid project siting at public, critical and essential service facilities
  - Schools, community centers, local govt, grocery stores, gas stations, etc.
- Blue sky conditions:
  - Provides grid services to the utility
  - Cost savings and clean energy to customers
- Black sky conditions:
  - Provide backup power to facilities
  - Serve as resiliency centers for the community
- Microgrid Services Agreements
  - Shift CAPEX to OPEX
  - Asset and risk management
  - Compensation for public benefits

## Challenges

- Regulatory barriers
  - PU Code exemptions or changes needed
  - Flexibility in interpretation of laws
    - Over the fence, right of way regs
    - Definition of a Public Utility/Electrical Corp
- Interconnection
  - Lengthy timelines for development and interconnection
  - Uncertainty and lack of transparency with interconnection costs
- Market Participation
  - Allow microgrids to easily access and participate in markets for services
  - Encourage multiple use applications
  - Utilities develop tariffs specifically for microgrids
# Addressing microgrid roadblocks

<table>
<thead>
<tr>
<th>Technical barriers</th>
<th>Financial barriers</th>
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<tbody>
<tr>
<td>◇ Pairing technologies</td>
<td>◇ Departing load charges</td>
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<tr>
<td>◇ Acknowledge generation, storage, and controls as distinguished and different</td>
<td>◇ Exempt critical facility and public agency microgrids from PCIA charges</td>
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<td>◇ Utilities should evaluate the aggregate performance of microgrids with multiple resources with respect to interaction with the larger grid</td>
<td>◇ Standby charges</td>
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<td>◇ Address sizing issues</td>
<td>◇ SBCs are calculated assuming an improbable worse case scenario that does not reflect the practical reality of grid operations and customer behavior in the real world</td>
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<td>◇ Remove nameplate capacity limits and allow sizing flexibility</td>
<td>◇ SBCs should be minimized and develop clear rules for maximum charges</td>
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<td>◇ Allow projects to be sized to meet customer/community needs during an emergency.</td>
<td>◇ Interconnection costs</td>
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<td>◇ Streamline interconnection process</td>
<td>◇ Conduct a thorough review of all interconnection costs and identify opportunities for reduction or elimination of excessive fees</td>
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<td>◇ Develop standardized process that makes pairing technologies and sizing for resiliency easier in the interconnection process</td>
<td>◇ Special Facilities Agreements, ITCC taxes, cost of ownership, and other costs need to be reexamined</td>
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<td>◇ Establish standard and transparent interconnection costs up front</td>
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## Longer term solutions

**Market mechanisms**

- Create a resilience tariff
  - Encourage longer duration resources that have the ability to island
  - Critical facility public benefit payments
- Support hybrid microgrids and facilitate public-private partnerships
  - Non-utility operated microgrids that use utility wires are 100% feasible. They require reasonable payment for use of utility wires and grid infrastructure
  - In other states payment is determined through collaborative negotiation and partnerships between parties
- Create more pathways for microgrids to participate in wholesale, local capacity and ancillary services markets

**Policy**

- Revise regulations to enable community-level microgrids
  - CA PU Code 218 over-the-fence rule
- Establish roles and requirements for microgrid owners and/or operators
  - Rules and cost recovery for being single point of interconnection at the grid edge
  - Establish safety and liability provisions
  - Commitment to decarbonization in line with state 100% goal timelines
- Microgrids prioritized as lower risk alternatives for grid investment
  - Explore remote grids as alternatives to investments in new transmission infrastructure for rural communities
Microgrids & PSPS: The Opportunity to Revolutionize the Power Sector

- Microgrids can provide solutions to many California climate policy goals:
  - Resiliency and mitigating outages, whether planned or unplanned
  - Integrating high penetration of DERs and balancing renewable resource intermittency
  - Building decarbonization and energy efficiency
  - Electric vehicle demand integration
  - Resource Adequacy and capacity constraints
  - Prioritize communities and equity in energy planning

- California should boldly lead the way in facilitating the commercialization of a robust and diverse microgrid market as is the statutory intent of the microgrid legislation

- Microgrid market development will have the effect of managing the impacts of PSPS, addressing the critical resiliency needs of communities, and advancing state climate and sustainability policy goals
What is the value of Resiliency?

Q&A – Thank You!

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