Policy & Market Mechanisms for Microgrids:
Opportunities & Challenges in the West Coast

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Microgrids: The Opportunity to Revolutionize the Power Sector

♦ 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.
# West Coast Microgrid Policy

## California

### Legislative
- **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.
  - Passed and signed into law September 2018
- **SB 774 (Stern) – 2019 – 2020**
  - Support 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
  - Status: Currently in Assembly U&E, hearing not set

### Regulatory
- **CPUC Order R.19-09-009 (2019 – 2020)**
  - Scoping ruling issued December 2019
  - Breaks proceeding into 3 tracks: short, medium, long term solutions
  - Expected to take ~24 months

## Hawaii

### Legislative
- **Act 200 (HB 2110) – 2018**
  - Directs the HPUC to develop a Microgrid Services Tariff to accelerate microgrid deployment
  - Passed and signed into law July 2018
- **HB 1583 (Lowen, et al) – 2019 – 2020**
  - Authorizes the Department of Education to evaluate feasibility of microgrids to provide backup power in emergencies
  - Status: Currently in House; carried over to 2020 legislative session resumed January 15th

### Regulatory
- **HPUC Docket 2018-0163 – 2019 – 2020**
  - Order issued instituting the creation of working groups for interconnection and market facilitation
  - Initial tariff proposals due January 2020
  - Final tariff proposal report due March 2020
  - Work ongoing, decision and order expected April 2020
# 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

## Technical barriers
- **Pairing technologies**
  - Acknowledge generation, storage, and controls as distinguished and different
  - Utilities should evaluate the aggregate performance of microgrids with multiple resources with respect to interaction with the larger grid
- **Address sizing issues**
  - Remove nameplate capacity limits and allow sizing flexibility
  - Allow projects to be sized to meet customer/community needs during an emergency.
- **Streamline interconnection process**
  - Develop standardized process that makes pairing technologies and sizing for resiliency easier in the interconnection process
  - Establish standard and transparent interconnection costs up front
  - Establish more concrete timelines within each stage of the process and require IOUs to meet those timelines

## Financial barriers
- **Departing load charges**
  - Exempt critical facility and public agency microgrids from PCIA charges
- **Standby charges**
  - 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
  - SBCs should be minimized and develop clear rules for maximum charges
- **Transmission Access Charges**
  - Reassess TAC and ensure that associated costs fairly reflect actual use of transmission by microgrids
- **Interconnection costs**
  - Conduct a thorough review of all interconnection costs and identify opportunities for reduction or elimination of excessive fees
  - Special Facilities Agreements, ITCC taxes, cost of ownership, and other costs need to be reexamined
## Longer term solutions

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<th>Market mechanisms</th>
<th>Policy</th>
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<td>◇ Create a resilience tariff</td>
<td>◇ Revise regulations to enable community-level microgrids</td>
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<td>◇ Encourage longer duration resources that have the ability to island</td>
<td>◇ CA PU Code 218 over-the-fence rule</td>
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<td>◇ Critical facility public benefit payments</td>
<td>◇ Establish roles and requirements for microgrid owners and/or operators</td>
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<td>◇ Support hybrid microgrids and facilitate public-private partnerships</td>
<td>◇ Rules and cost recovery for being single point of interconnection at the grid edge</td>
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<td>◇ Non-utility operated microgrids that use utility wires are 100% feasible. They require reasonable payment for use of utility wires and grid infrastructure</td>
<td>◇ Establish safety and liability provisions</td>
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<td>◇ In other states payment is determined through collaborative negotiation and partnerships between parties</td>
<td>◇ Commitment to decarbonization in line with state 100% goal timelines</td>
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<td>◇ Create more pathways for microgrids to participate in wholesale, local capacity and ancillary services markets</td>
<td>◇ Microgrids prioritized as lower risk alternatives for grid investment</td>
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<td>◇ Explore remote grids as alternatives to investments in new transmission infrastructure for rural communities</td>
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- Microgrids can provide solutions to many West Coast 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 and Hawaii should boldly lead the way in facilitating the commercialization of a robust and diverse microgrid market as is the statutory intent of the states’ 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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