Background

On May 31, dozens of experts from across industry, government, academia, and more met in Philadelphia to discuss and brainstorm actions to advance the future of microgrid policy. After several hours of dynamic discussion about topics spanning the value of resilience, role of clean energy, prioritization of equity, barriers to progress, and role of private investment, attendees reconvened to highlight policy steps and best practices across offices and agencies positioned to affect microgrid policy. Below, Think Microgrid outlines some ideas that came out of this exercise, including examples of trailblazing action across the country.

Executive

Executives should act as convenors on microgrid policy. Too often, opportunities for policy progress get lost in translation and fall flat. In addition to leveraging the powers of executive order and budget design, executive offices can establish working groups and task forces, convene conferences, or forge informal relationships across offices and agencies that lead to more collaboration and ultimately positive policy outcomes.

1. *Establish a task force and/or office on resiliency.* Executive offices should establish grid resiliency task forces to identify challenges and propose solutions for the electrical system's greatest resiliency needs. *Example*: Former Maryland Gov. O'Malley created the state's Grid Resiliency Task Force in 2012 by executive order. Recommendations of the task force contributed to the establishment of the Maryland Energy Administration's microgrid and resiliency hub grant program, which has facilitated the deployment of community and critical facility projects in the state.

2. *Convene strategic conferences.* Governors should host conferences that bring together stakeholders and experts invested in driving microgrid deployment and policy. *Example*: In May 2022, Alaska Governor Dunleavy's office convene the Alaska Sustainable Energy conference. The event brought together microgrid champions from around Alaska and the nation to discuss policy and technology within the state's uniquely rural, community-based microgrid landscape.

3. *Direct investigations into microgrid technology*. Executive offices should designate portions of their budget towards investigating and developing microgrid technology. *Example*: In New York, Gov. Hochul used her executive budget to make the state a green hydrogen hub. She directed state agencies to develop a green hydrogen microgrid regulatory framework and facilitate the distribution of $27M for product development and pilot projects.

State Legislature

The law is as powerful of a tool as any to support long-term planning and investment in microgrids. Legislatures can affect activity across the rest of government: directing Public Utility Commission (PUC) to investigate microgrid compensation or deployment, requiring State Energy Offices to conduct feasibility studies or author roadmaps, directing disaster management agencies to evaluate microgrids as an emergency resiliency solution.

4. *Develop legislation funding strategic microgrid deployment.* State legislatures should advance legislation establishing state programs to facilitate the design and deployment of microgrids, especially for community and critical facility resilience. *Example*: Connecticut PA 12-148, passed in 2012, established the state's still-active Microgrid Grant and Loan program. PA 20-5, passed in 2020, expanded the program goals to include resilience.

5. *Develop legislation directing PUC tariff proceedings.* State legislatures should advance legislation directing state utility commissions to open investigatory dockets for developing microgrid tariffs. *Example*: Hawaii's microgrid tariff proceeding, now in its second phase, was initiated by 2018 law HB 2110.

6. *Reform specific technical barriers to microgrid deployment.* In some states, microgrids experience barriers to deployment related to jurisdictional and technical nuances. Legislatures may have opportunities to identify and reform laws. *Example:* Stakeholders interested in microgrid development supported New Jersey's redevelopment law amendments and Connecticut has reformed right-of-way ownership.

7. *Identify microgrids as a resilience, decarbonization solution in broader climate & energy legislation.* In sweeping legislation driving decarbonization, resilience, and energy innovation, states should identify microgrids as a resilience and decarbonization solution and include them in potential funding or development opportunities. *Example*: Section 40101(d) of the United States Infrastructure Investment and Jobs Act, identified microgrids as a qualifying technology for resilience investments initiated by the law.

Public Utility Commission

Public Utility Commissions (PUCs) play a dynamic role in implementing microgrid policy. PUCs can implement policy from the 'top down' through microgrid investigations, deployment programs, and rulemakings, which are often initiated in response to legislative or gubernatorial directive. They also play a role in response to utility planning, helping design and facilitate efforts to develop or encourage deployment.

8. *Initiate investigations into microgrid tariffs.* Commissions should establish proceedings to investigate the integration of microgrids into the electric grid, including the development of tariffs. Such investigations should be a venue consider mechanisms for valuing resilience. *Example*: Hawaii's microgrid tariff proceeding, now in its second phase, is developing compensation mechanisms and regulation across issues spanning the value of resilience and other grid services, interconnection, and synchrony with

existing DER compensation mechanisms microgrid programs and planning across government offices and agencies. The proceeding's phases are driven by stakeholder working groups facilitated by the PUC.

9. *Include microgrids in broad investigations into grid modernization, DER integration.* In utility commission investigations into comprehensive grid transformation topics like grid modernization planning and DER integration, commissions should specifically consider microgrids. *Example*: In Michigan's comprehensive MI Power Grid proceeding, staff issued a report with a chapter dedicated to reviewing barriers to and opportunities for microgrid markets in Michigan.

10. *Require microgrids in resource planning.* Commissions should require the utilities they regulate to consider microgrid deployment in their resource planning processes. *Example*: In 2020, Puerto Rico Energy Bureau mandated that PREPA incorporate microgrids into its integrated resource planning.

11. *Direct utilities to develop strategies for capturing federal funding related to microgrids.* Commissions should require utilities to identify and develop strategies for capturing federal funding opportunities related to microgrids and other innovative technologies. *Example*: The Michigan PSC initiated a proceeding in May 2022 directing Michigan utilities for capturing innovative energy project funding related to the U.S. Infrastructure Investment and Jobs Act.

State Energy Offices

State Energy Offices conduct much of the strategic planning and evaluative work that establish priorities for microgrid development. These include identifying overall deployment strategies or studying specific project opportunities that can help facilitate the development of microgrids where they are needed most, especially at critical facilities and in vulnerable communities. Similar to the executive office, State Energy Offices should also play a proactive convening and communication role, as there are often opportunities to collaborate with other state agencies and the private sector on microgrid policy, program, and project development.

12. *Conduct or fund microgrid feasibility studies.* State Energy Offices should conduct, or contract consultants to conduct, assessments and/or studies identifying potential resilient microgrid projects in their state. *Example*: In 2021, Kentucky's Office of Energy Policy partnered with the Smart Electric Power Alliance to conduct a 570-project statewide microgrid feasibility study.

13. *Identify microgrids as a resilience and decarbonization solution in broader climate & energy planning.* In studies or reports, including State Energy Plans and State Energy Security Plans, dedicated to comprehensive grid modernization and hazard mitigation, State Energy Offices should identify microgrids as one resilience and decarbonization solution. State Energy Offices can also produce roadmaps or data sets that among other things, catalogue critical facilities in the state that need a back-up power supply. *Example*:
Connecticut's Department of Energy and Environmental Protection's 's 2021 "Integrated Resource Plan" identified microgrids as "a critical tool in the climate resilience tool kit" and offered recommendations for driving resilient microgrid development.

14. *Develop a state microgrid program.* State Energy Offices are able to develop microgrid programs that fund grants for projects across the state. These programs can have a multitude of goals from decreasing greenhouse gas emissions to enhancing resilience to supporting disadvantaged communities. **Example:** The Maryland Energy Administration's Resilient Maryland competitive grant program provides funds for the analysis, planning, and design of clean and resilient distributed energy resources including microgrids.

15. *Enable multiple funding and financing options for microgrids.* State Energy Offices often have responsibility for managing different state-led financing programs that can provide capital for microgrid project research, development, and deployment. These include State Energy Revolving Loan Funds and Green Banks. **Example:** The Washington Department of Commerce's Energy Division helped fund a solar plus storage microgrid through, in part, a Revolving Loan Fund, that connected several county facilities.

Other State Offices

Disaster or emergency preparedness offices, economic development authorities, and even regional military authorities can also play a role. For offices and agencies whose engagement with microgrid policy may not be statutorily required or readily apparent, coordination with other offices and agencies represents a critical first steps.

14. ***State disaster and emergency preparedness offices should assess opportunities for high-impact disaster preparedness microgrid opportunities.*** State disaster preparedness or similar offices should conduct studies and reports identifying disaster-vulnerable communities or facilities and coordinating with other state authorities to develop microgrid projects. *Example*: The United States Department of Energy coordinated with Columbia's National Center for Disaster Preparedness and ComEd to design and test the emergency resilience capabilities of Chicago's Bronzeville Community Microgrid.

15. ***State departments of transportation should study, coordinate, and pilot the integration of microgrids with EV fast-charging.*** As the nation's vehicle fleet electrifies, departments of transportation should facilitate the study, coordination, and deployment of microgrids co-located with critical charging hubs, like highway corridors and public transportation stations. *Example*: The Los Angeles Department of Transportation received a California Energy Commission grant to design and build a solar plus storage microgrid at the city's Washington Bus Yard, a large hub designed to charge the city's fleet of electric public buses.

16. ***Base commanders should work with state authorities to pursue the army's goal of a microgrid on every installation.*** The U.S. Army recently established a goal (of building a microgrid on every base by 2035, to serve both the immediate needs of the military base and that of surrounding communities the Navy and Marine Corps also have a similar goal). Base commanders should proactively work with relevant state authorities, as well as private developers, to drive this effort.
Example: Los Alamitos Joint Base paired solar and storage microgrid has begun construction in California, eight years since former base commander U.S. Army Maj. Gen. Michael Leeney initiated the project.

Leadership at the base have since coordinated with Bright Canyon Energy, San Diego Gas & Electric, and Southern California Edison, whose infrastructure will be involved in the project, as well as The California Governor's Office of Emergency Services' Southern Regional Emergency Operations Center and FEMA, who will store regional disaster stock at the base.