

DEVELOPING LOCAL GOVERNMENT MICROGRIDS

PUBLIC POLICY CHALLENGES



A number of emerging public policy issues have the potential to impact the technical and economic feasibility of Town Center Microgrids.

CLIMATE CHANGE AND DECARBONIZATION

Over the last several years, the original TC microgrid goals of resilience and reliability are being supplemented with sustainability and decarbonization and amplified with increased societal and political attention to climate change.

Public debate over climate change energy economics currently includes if and on what schedule non-carbon fuel supply technology will be fully developed or comparable to the cost, resilience, and reliability attributes of carbon sources.

The current mismatch of energy supply cost, evolving technology, and advocacy of decarbonization policies presents a current policy conundrum for public officials and the public when considering microgrids. Specifically, microgrid industry practices and investments relying on natural gas as fuel for electric supply generation such as CHP and fuel cells can become undermined as being inconsistent with decarbonization policies.

At the same time, decarbonization concerns are aligned with adverse climate change-driven weather events. These often highlight the value that microgrids bring to emergency circumstances generally and TCs specifically.

This implies that microgrid projects may need to address the risk of local climate change and decarbonization policies. This may require a trade-off of short-to-medium term localized resilience risk for the longer-term benefit of CO2 reduction. Alternatively, it may warrant a trade-off of more stable, longer term resilience for a smaller amount of carbon reduction. Policymakers, regulators, and local officials need to engage in serious, multi-faceted discussions on how to address the conflict.

DER PROLIFERATION AND ITS IMPACTS ON EDCs

The economics of microgrids generally incentivize DER investments by those who can economically or environmentally benefit in replacing their grid-based supply. When a new TC microgrid or DER leaves the grid as a primary customer, the EDC loses rate-based customer payments



Climate Change



Decarbonization

LESS SHORT-TERM RESILIENCE
MORE SHORT-TERM CARBON REDUCTION
TRADE-OFF
MORE SHORT-TERM RESILIENCE
LESS SHORT-TERM CARBON REDUCTION

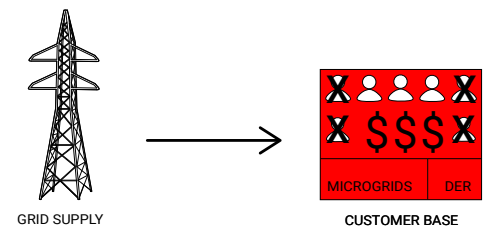
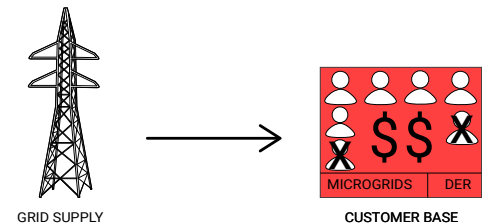
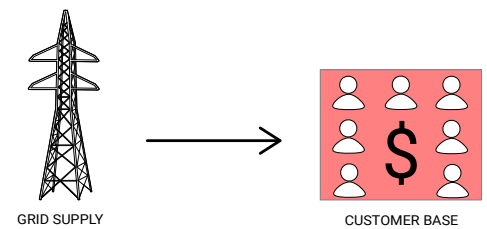
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used to support grid-related regulated operations. As microgrids and DER become more affordable and accessible to more customers, their value is amplified and the EDC loss increases.

Because these projects can lower a facility owner's costs, we now have a developing market of investors seeking reliable (if not lucrative) TC and other microgrid investment opportunities. Unless carefully managed through the regulatory process, the practice can have the economically/societally perverse effect of spreading fixed grid costs over a reduced rate-payer base and contributing to higher rates.

When these actions are beyond their control, EDCs may not be able to respond with competitive tariff-based solutions. Ultimately, the loss of former-customers-now-DER-users revenue affects EDC profitability and return to investors, and can lead to higher rates or reduced services to those remaining on the grid.

In some circumstances, DER departures can help reduce grid congestion and supply issues to the benefit of the EDC. Microgrid-based DER can, under controlled circumstances, support the grid by providing added capacity and ancillary services such as voltage support. On the other hand, they present a challenge to EDC grid operators when a usually off-grid microgrid requires grid supply.



DER Impacts on EDCs

POTENTIAL POLICY SOLUTIONS

There are potential regulatory solutions to some of these challenges. These include exit fees, blue sky access fees, connection fees, DER or critical facility tariffs, charges for developing behind-the-meter supply, or EDC authority to develop or maintain DER. They also include payment structures to facilitate microgrid development that can enhance grid operation or otherwise make valued, cost-effective services available to the grid.

Failing to impose such fees and to develop such policies may:

- Shift the burden of grid costs and/or impose stranded investment costs on those remaining in the EDC system;
- Create inequitable disadvantages to those without the financial capacity to lower their energy costs;
- Deprive microgrids of the compensation needed to incentivize their contributions to the grid; or
- Weaken the financial capacity of EDCs to meet their societal obligations.

If microgrids are to proliferate, an informed regulatory regime or grid policy guardrails are prerequisites. Grids must be able to develop the managerial, financial, and technological capacity to address these risks.

At present, these challenges have few if any ready responses; the industry is in the middle of a disruption. The next step, already started in some states, should be deeper research into how these issues are addressed.

DER TARIFFS
EXIT FEES
CRITICAL FACILITY TARIFFS
REGULATORY SOLUTIONS
BLUE SKY ACCESS FEES
CONNECTION FEES
BEHIND-THE-METER SUPPLY CHARGES
EDC DER DEVELOPMENT AUTHORITY

