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Sustainable Energy at Coastal Facilities

Howard, Alan R.; Naylor, Brandon L.; Fletcher, Kristen; Hancock, Michelle L.

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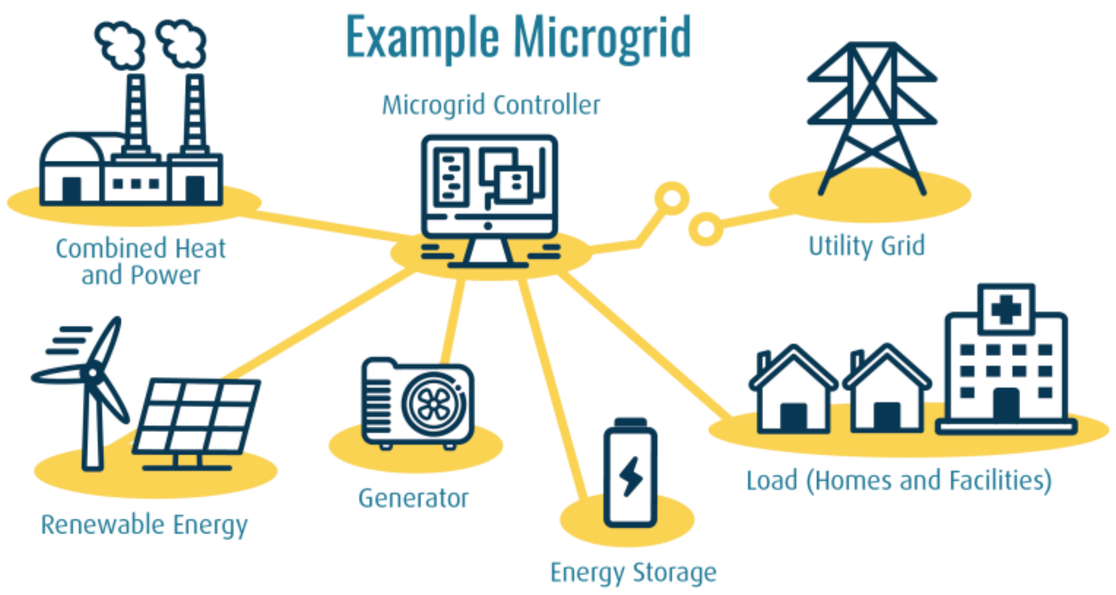
The Push for Renewables

Recent extreme climate events and adversary actions have highlighted the importance of resilient energy supplies. Renewable onsite generation is an excellent candidate for improving energy security and is also required to meet new DoD climate goals. But implementing renewables effectively requires overcoming a number of technical, legal, and policy challenges.

Solar and Wind are currently the most viable renewables for DoD Installations



Renewable Energy must be paired with storage and microgrids to meet Navy resilience goals

Technical Challenges

In order to improve resilience, renewables must be incorporated in microgrids with energy storage. Another challenge with implementing renewables and microgrids that there are few DoD personnel who are capable of operating and maintaining these systems. Compounding this problem, many of these systems are custom-built for the facility in which they operate, so the knowledge of these systems' inner workings is concentrated in just a few individuals.

Law and Policy Challenges

Facilities implementing microgrids will encounter legal and policy challenges including zoning, safety, environmental, and site-specific. Case studies in California and Texas showed that site-specific characteristics such as location, environment and existing energy facilities are key factors in implementing microgrids. Unique administrative and financing options can help including the Power Purchase Agreement and Enhanced Use Lease.

Microgrids, renewables and other emerging energy technologies have legal and policy frameworks within which a facility must operate.

Recommendations

To overcome the technical challenges of ownership and the policy challenges of acquisition, it is recommended to acquire microgrids with renewable generation through contractor-owned and operated finance models, such as a Power Purchase Agreement or Enhanced Use Lease.

A best practice is to identify and address policy and legal challenges early in the design and development process. Existing agreements and/or environmental reviews may expedite the process. Facilities should factor time for collaboration with local, state and federal partners to implement new technology.

Researchers: Mr. Alan Howard, Mr. Brandon Naylor, Ms. Kristen Fletcher, and Ms. Michelle Hancock

Graduate School of Engineering and Applies Sciences

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