

# Microgrid Guide

Ocracoke Island

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# NC Electric Cooperatives

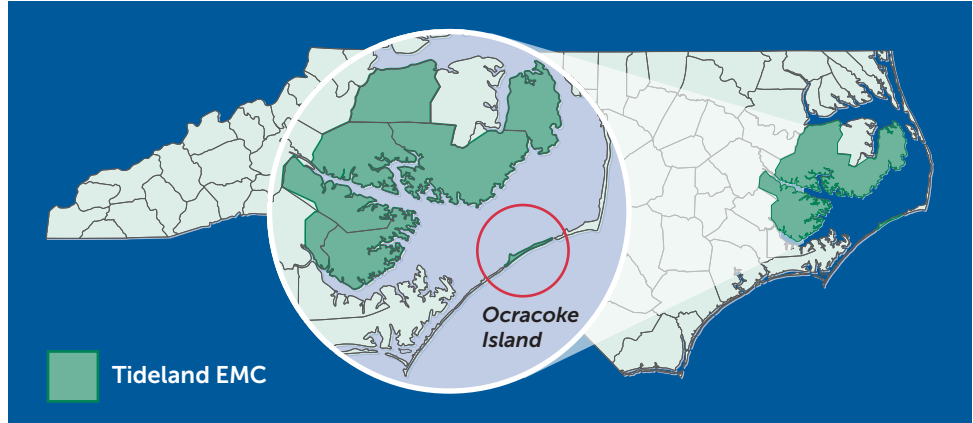
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A **microgrid** is a small electric system that combines local energy resources and control technologies to provide power to a defined area. Microgrids typically remain connected to the main grid but can operate independently.

**NCEMC**, in partnership with **Tideland EMC** and with support from **North Carolina's electric cooperatives**, recently completed the development and interconnection of a microgrid on Ocracoke Island.

Served by **Tideland EMC**, Ocracoke Island is part of the string of barrier islands that make up **North Carolina's Outer Banks**. Its location means it is vulnerable during severe weather events and is isolated from central generation sources, like power plants. If the transmission line feeding the island is without service due to storms or other circumstances, **the island could be without power**.



## The Ocracoke Island microgrid:

- Supports a goal of better reliability for the island.
- Is a resource we can call on during times of peak demand.
- Is an opportunity to test system components and their controller to discover future uses.
- Demonstrates the cooperatives' pursuit and application of technologies to better use the grid and serve members in new ways.

## The anatomy of the microgrid

The Ocracoke Island microgrid is a component of the main electric grid, although it can work independently. The controller is the lynchpin of the microgrid, calling on demand response components, as well as controlling the generation and storage resources to balance load with available resources.

