

What is Renewable and Distributed Systems Integration?

Thanks to a \$6.3 million grant from the U.S. Department of Energy and \$5 million in local community support, the Renewable and Distributed Systems Integration (RDSI) project jump started FortZED by testing out technologies that reduced peak energy use and integrated renewable energy, such as solar panels, into the city's electric energy system.

RDSI was carried out in two phases: Phase I, which focused on how the electric peak could be managed with a combination of renewable and distributed system resources, and Phase II, which demonstrated that a microgrid could work across the Fort Collins system with remote sites.

New technologies enabled the integrated operation and control of distributed energy sources, like solar panels or natural gas turbines, to reduce peak load strain on the power distribution system.

The project paved the way for a greater understanding of how to successfully integrate solar energy sources into a microgrid, and how to manage demand response on a microgrid.

Phase I Breakdown:

- Provided valuable research for the Department of Energy's nationwide RDSI program, which included nine demonstration projects
- Enabled a 20-30 percent peak electric demand load reduction on the two feeders
- Supported the city's energy policy and greenhouse gas reduction goals
- Supported the existing and future clean energy economy in the region with participating local companies showcasing their technologies and potentially attracting new companies to the region

For more information about Phase I, contact Dennis Sumner at dsumner@fcgov.com or 970-221-6718.

Phase II Breakdown:

- Demonstrated operation of a microgrid comprised of the CSU Engines and Energy Conversion Laboratory (EECL) and the Northside Aztlan Center
- Demonstrated the use of advanced cyber security safeguards to protect the micro-grid control communications network

For more information about Phase II, contact Tom Vosburg at tvosburg@fcgov.com or 970-221-6224.



FortZED's RDSI Project Video



FortZed RDSI Jumpstart Project

To learn more about the other Department of Energy's RDSI projects and their multi-year program plan for Smart Grid Research and Development, check out this summary: RDSI Final Scientific/Technical Report.