

Smart Grid Pilot Program – Colorado B-Roll

Scene-by-Scene Description

Get the facts behind the footage available on the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) B-Roll Web site at eere.energy.gov/news/b_roll.cfm.

Video Title: Integrated Systems and Component Testing for Smart Grid Pilot Program B-Roll

Video Only/No Audio

Location: Fort Collins, Colorado

Shoot Date: May 18, 2010

Total Running Time: 5:51

- Scene 1:** 00:05: Industrial solar array on top of manufacturing facility connected to smart grid pilot program components. Smart grids allow for increased integration and optimization of renewable energy technologies such as solar electric systems into our power supply.
- Scene 2:** 00:49: Laboratory simulation of transferring load from various power generation sources. The ability to monitor and automate power delivery will result in a more reliable supply of energy to consumers.
- Scene 3:** 01:43: Power generator in laboratory used to simulate load from a wind turbine. Smart grid technologies can help manage the unpredictability of wind and solar to alleviate consistency and stability issues caused by fluctuations in renewable power.
- Scene 4:** 02:24: Smart grid monitoring hardware/software used to control electrical load from various generation sources.
- Scene 5:** 02:55: Rooftop solar panels on top of manufacturing facility connected to smart grid components.
- Scene 6:** 03:43: Cogeneration system (biogas and fuel blending engine generator) at a manufacturing facility. Cogeneration systems convert about 70% to 90% of the energy in burned fuel into useful electricity or heat; this system recaptures methane for further cost and environmental savings.
- Scene 7:** 04:03: State-of-the-art DC to AC power inverter at a manufacturing facility.
- Scene 8:** 04:31: Loyal utility substation connected to smart grid pilot program components.
- Scene 9:** 05:20: Downtown government buildings connected to the smart grid pilot project. The benefits of a smarter grid include improved response to power demand, more intelligent management of outages, better integration of renewable forms of energy, and the storage of electricity.

Learn More about the Smart Grid

Smart grids are like an automated electric power system that monitors and controls grid activities, ensuring the two-way flow of electricity and information between power plants and consumers—and all points in between. What makes a grid "smart" is the ability to sense, monitor, and control (automatically or remotely) how the system operates or behaves under a given set of conditions. As it significantly increases the efficiency of our network, a smarter grid adds intelligence to all areas of the electric power system to optimize electricity use.

Under the Recovery Act, the city of Fort Collins, Colorado received \$18.1 million in DOE funding to develop a smart grid energy management system. The city is installing 79,000 smart meters and in-home demand response systems including smart thermostats, in-home displays, and air conditioning and water heater control switches.

DOE continues to support smart grid research and deployment (R&D) as the lead agency of the Federal Smart Grid Task Force. More information about the smart grid and government-sponsored smart grid projects can be found at smartgrid.gov.