U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

# Energy Efficient Data Centers 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 website at **eere.energy.gov/news/b_roll.cfm**.

**Video Title:** Energy Efficient Data Centers
*Video Only/No Audio*
**Location:** National Renewable Energy Laboratory Research Support Facility, Golden, Colorado
**Shoot Date:** September 2, 2010
**Total Running Time:** 6:16

**Scene 1:** 00:05: General establishing shots of energy efficient data center.

**Scene 2:** 01:30: Close-up shots of energy efficient data center.

**Scene 3:** 02:32: Uniform cable runs minimize heat dispersion. Regulating temperature protects vital data and computing functions in data centers.

**Scene 4:** 03:42: Separate fresh air supply and return air systems. Better air management is one method of reducing energy demand and improving efficiency.

**Scene 5:** 04:48: Fresh air ventilation system.

**Scene 6**: 05:24: Computerized monitoring of data center's energy efficient performance. Strategic energy management is the key to controlling energy consumption and operating costs. Continuously monitoring energy and environmental conditions is key to maintaining energy savings—and thus extending the life and capacity of existing data center infrastructure.

## *Learn More about Energy Efficient Data Centers*

Data centers provide mission-critical computing functions essential to the daily operation of top U.S. economic, scientific, and technological organizations. These data centers consume large amounts of energy to run and maintain their computer systems, servers, and associated high-performance components. To protect these systems and their vital functions, however, data centers also employ energy-intensive HVAC systems, fire suppression systems, redundant/backup power supplies, redundant internet connections, and high-security systems.

In 2006, U.S. data centers used approximately 61 billion kWh (about 209 trillion Btu in end use), accounting for about 1.5% of all U.S. electricity consumption. A coordinated program of focused R&D and operating practice improvements in data centers could produce large energy savings, reduce the load on the electric grid, and help protect the nation by increasing the reliability of critical computer operations. The EERE Industrial Technologies Program (ITP) is working with U.S. computer data centers to reduce data center energy consumption.

More information about saving energy in data centers can be found at the EERE Industrial Technologies Program website at **eere.energy.gov/industry/datacenters/**.