

## Energy Efficient Commercial Buildings – Interiors 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](http://eere.energy.gov/news/b_roll.cfm).

**Video Title:** Energy Efficient Commercial Buildings – Interiors

*Video Only/No Audio*

**CG:** National Renewable Energy Laboratory Research Support Facility, Golden, Colorado

**Shoot Date:** September 2, 2010

**Total Running Time:** 5:29

**Scene 1:** 00:05: Office interiors of the Research Support Facility (RSF). The primary lighting source—natural daylighting—is enhanced by window orientation, directional louvers, and reflective surfaces. Daylight enters the upper portions of the south-facing windows and is reflected to the ceiling and deep into the space with light-reflecting devices.

**Scene 2:** 01:11: Energy efficient work spaces incorporating daylighting, LED task lamps, and a power management system. 100 percent of the workstations are daylight.

**Scene 3:** 01:51: Recycled materials used in the building interiors: natural gas pipes for structural support; composite sunflower seed countertops; plastic-bottle carpeting; waste granite-chip flooring; beetle-kill wood accents.

**Scene 4:** 03:35: Triple-glazed operable windows with individual sunshades; timelapse footage of dynamic electrochromic window. Occupants can open some windows to bring in fresh air and cool the building naturally.

**Scene 5:** 04:18: Radiant heating and cooling through tubing underlying all floors of the building is shown along with ventilation distributed through an underfloor venting system. Approximately 42 miles of radiant piping runs through all floors of the building, using water as the cooling and heating medium in the majority of workspaces—instead of forced air. A labyrinth of massive concrete structures in the RSF crawl space stores thermal energy and provides additional capacity for passive heating of the building.

### *Learn More about Energy Efficient Commercial Building Strategies*

Buildings designed and constructed with attention to energy efficiency under Leadership in Energy & Environmental Design (LEED) standards promote sustainability while minimizing operating costs and increasing asset value. The EERE Building Technologies Program's Commercial Building Initiative promotes a whole-building design approach to achieve these standards. The continued development of energy efficient equipment, lighting systems, and windows as well as advances in passive solar, photovoltaics, fuel cells, advanced sensors and controls, and combined heating, cooling, and power will enable buildings to reduce energy use while assisting the nation in reaching its goals for sustainability, environmental protection, and energy security.

The National Renewable Energy Laboratory's (NREL) Research Support Facility (RSF) in Golden, Colorado is an example of these energy efficient building strategies put into practice. The 222,000 ft<sup>2</sup> office building showcases numerous high-performance design features, passive energy strategies, and renewable energy technologies. Dubbed the "Workplace of the Future," the RSF is a prototype for the future of large-scale ultra-efficient buildings.

More information about how DOE is working with alliances and partners to significantly improve commercial building efficiency and quality can be found at the EERE Building Technologies Program Web site at [eere.energy.gov/buildings/](http://eere.energy.gov/buildings/).