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

Geothermal Heat Pumps Installed in Commercial Buildings 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: Installed and Operating Geothermal Heat Pump (GHP) System B-Roll
Video Only/No Audio
Location: Denver, Colorado
Shoot Date: March 12, 2010
Total Running Time: 5:14

Scene 1: 00:05: The various components of a church building with a GHP system, including the rooftop system, intake pipes, heat exchanger, and refrigeration unit. GHP systems use 25% to 50% less electricity than conventional heating or cooling methods.

Scene 2: 01:10: The rooftop air circulation/exchanger and filter system of the church building provides energy-efficient temperature control.

Scene 3: 01:40: A maintenance crew working the GHP's mechanical system. A well-maintained heat pump can use 10% to 25% less energy than a severely neglected one.

Scene 4: 02:54: The indoor monitoring, control, and pipe systems of the church building. GHPs have low operating costs because they take advantage of relatively constant ground or water temperatures.

Scene 5: 04:00: Establishing exterior shots of the church.

Scene 6: 04:18: The internal piping system of a fire station that also uses a GHP. GHP systems allow for design flexibility and can be installed in both new and retrofit conditions.

Learn More about the Geothermal Heat Pump

The geothermal heat pump (GHP) is a highly efficient renewable energy technology used in residential and commercial buildings. GHPs concentrate naturally existing heat to provide space heating and cooling as well as water heating, providing a clean energy alternative to producing heat through the combustion of fossil fuels. GHPs are generally more efficient than traditional heating and cooling systems, making them less expensive to operate and maintain, saving an average of 30% to 60% of your annual energy use.

As it heats or cools a building, a GHP takes advantage of the relatively constant temperature of the Earth's surface, transferring heat stored in the Earth into the building during the winter and out of the building and back into the ground during the summer. The EERE Building Technologies Program supports using GHPs and other renewable energy technologies in new and existing commercial buildings. Comprehensive information about the commercial application of geothermal heat pumps can be found on the EERE Geothermal Technologies Program Web site at **eere.energy.gov/geothermal**.

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