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

Residential Solar Panels 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: Residential Solar B-Roll
Video Only/No Audio
Locations: Arvada, Colorado and Lowry, Colorado
Shoot Dates: May 16, 2010 and May 27, 2010
Total Running Time: 6:18

Scene 1: 00:05: Rooftop solar collectors are shown on homes in Lowry, Colorado. Rooftop photovoltaic (PV) arrays are mounted at a fixed angle facing south and can generate electricity even on cloudy days. Both the geographic location and the tilt of the panels can affect system efficiency.

Scene 2: 03:20: An Arvada, Colorado residence displays its rooftop solar system. Like all solar technologies, PV systems function most efficiently in the southwestern U.S., which receives the greatest amount of solar energy.

Scene 3: 04:15: A utility meter shows a system's net energy generation of about 2800 kilowatt-hours. Net metering reveals the grid-connected energy system "turning back" its electricity meter as excess energy generated by the solar panels is fed back into the grid. A PV system producing more electricity than needed can return the excess electricity back to the grid. The utility may pay the homeowner for that electricity.

Scene 4: 05:40: A PV solar control panel shows how much electricity the solar panel array is creating (approximately 2800 watts).

Learn More about Residential Solar Electric Systems

Solar electric systems, also known as photovoltaic (PV) systems, generate power without pollution as they convert sunlight into electricity. Homeowners can install these systems to collect renewable solar energy, thereby reducing their dependence on external electric power.

Thanks to their modularity, PV systems can be designed to meet any electrical requirement—no matter how large or how small—and can either be connected to an electric distribution system (grid) or stand alone (off-grid), allowing for a customizable application to residential property. Homeowners who purchase photovoltaic systems are eligible for federal tax credits through 2016—30% of the cost of the system with no upper limit.

More information about technologies, financing, and incentives for applying solar and other renewable energy technologies to the home can be found at the EERE *Energy Savers* Web site at **energysavers.gov**.

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