

High Gain Solar Pilot Project 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: High Gain Solar Pilot Project B-Roll

Video Only/No Audio

Location: Nipton, California

Shoot Date: June 17, 2010

Total Running Time: 1:30

Scene 1: 00:05: A high gain solar pilot project produces over 80% of Nipton, California's electricity, equaling 82 kilowatts (kW) of power. The project employs a concentrating photovoltaics (CPV) approach, using a single-axis tracking system and metallic reflector racks that concentrate sunlight onto strips of monocrystalline solar cells. The system reduces the amount of silicon needed by 90 percent compared to traditional systems, greatly reducing system cost.

Learn More about Concentrating Photovoltaics

Concentrating photovoltaic (CPV) plants use mirrors or lenses to concentrate sunlight onto an array of PV panels containing high-efficiency solar cells. The concentration decreases the required cell area while also increasing cell efficiency. High gain solar (HGS) is a form of CPV that can deliver ten times more energy per gram of silicon than flat solar panels. HGS systems are easily upgradable and scalable, drawing on proven materials and traditional manufacturing processes available on a large scale to keep costs low.

The National Renewable Energy Laboratory (NREL) supports the research and development of CPV technologies as a viable alternative to other forms of CSP and PV. Learn more about NREL's CPV work at nrel.gov/csp/concentrating_pv.html.