



solar electricity

## CALRENEW-1 DELIVERS ZERO EMISSION SOLAR ELECTRICITY TO PG&E



Location is a project of Meridian Energy USA, Inc., a subsidiary of Meridian Energy Ltd.

### PROJECT

CalRENEW-1 is the first large scale solar project to achieve CAISO approval to deliver zero-emission solar power directly to the transmission level grid. This is significant because it enables electricity from solar facilities like CalRENEW-1 to be scheduled directly into the grid so that it can be moved over utility lines to meet electricity demands elsewhere.

CalRENEW-1 delivers five megawatts of emissions-free solar electricity to PG&E under a long term power purchase agreement. It generates electricity from more than 50,000 Sharp thin film solar modules, which occupy 50 acres of formerly fallow farm land in California's Central Valley.

### SOLUTION

CalRENEW-1 was developed and is owned by Meridian Energy USA, Inc., a subsidiary of Meridian Energy Limited. Engineering and installation of the facility was provided by Quanta Renewable Energy Services. Sharp Electronics Corporation's Solar Energy Solutions Group supplied the thin film photovoltaic modules, the first major deployment of Sharp's amorphous thin film product in the U.S. Sharp's amorphous silicon thin film modules are ideally suited for multi-megawatt solar applications. Produced using only a fraction of the silicon used in crystalline solar cells, Sharp's thin film products offer high performance with less semiconductor material, lowering the cost per kilowatt hour. Sharp's tandem-junction thin film solar modules feature up to a 9% module conversion efficiency and high 121 watt and 128 watt power output.

### OVERVIEW

#### LOCATION:

Mendota, CA

#### SYSTEM DEVELOPER:

Meridian Energy USA, Inc.,  
a subsidiary of Meridian Energy Limited

#### CONTRACTOR:

Quanta Renewable Energy Services

#### DATE COMPLETED:

April 2010

#### PEAK CAPACITY:

5 MW

#### NUMBER OF MODULES:

Over 50,000

#### PRODUCT:

Sharp 128 and 121 watt Thin Film modules

#### PROJECT SURFACE AREA:

50 acres

**BECOME POWERFUL**



## PERFORMANCE RESULTS

CalRENEW-1 is the first utility-scale photovoltaic solar electricity plant to connect to the California Independent System Operator's (CAISO) transmission grid under the state's Renewables Portfolio Standards program. CalRENEW-1 is among the most advanced photovoltaic solar facilities in the world. Avoided emissions from the facility will be an estimated 6.3 million lbs/year of CO<sub>2</sub>, the primary source of global warming and climate change, plus 6,905 lbs/year of NO<sub>x</sub> and 5,451 lbs/year of SO<sub>2</sub> (source: EPA eGRID2002 database).

## THE NAME TO TRUST

When you choose Sharp, you get more than well-engineered products. You also get Sharp's proven reliability, outstanding customer service and the assurance of our 25-year limited warranty on power output. A global leader in solar electricity, Sharp powers more homes and businesses than any other solar manufacturer worldwide.

**Design and specifications are subject to change without notice.**  
10F-062 Photo courtesy of Quanta Renewable Energy Services

# SHARP®

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**“Sharp is proud that our cutting edge thin film modules will help deliver clean power to the residents of California.”**

– Eric Hafter, senior vice president,  
Sharp Solar Energy Solutions Group

## SYSTEM BENEFITS

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