

# A Value Chain Partnership to Accelerate U.S. PV Industry Growth

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## ABSTRACT

GE's objective is to become a leading PV supplier in the United States by delivering PV energy-generating systems with cost and performance features that will enable competitive retail electricity rates.

### 1. Objectives

A team approach is being utilized to deliver a variety of PV products to their respective markets. Relationships have been established with several partners who hold technology leadership positions in the solar industry and will work with GE to accelerate commercialization.

Technology partners include REC for silicon feedstock, Solaicx for single crystal growth, and Xantrex for inverter technology. Daystar and Miasole will provide thin film cells for flexible module development. Critical research support will be provided by North Carolina State University, experts in the electronic properties of silicon, the University of Delaware, experts in thin film materials and characterization, and Georgia Institute of Technology for their silicon solar cell device expertise.

The GE team will pursue three technical pathways: bifacial high-efficiency silicon, abundant low-cost multicrystalline silicon, and flexible thin films. Each pathway spans the full product value chain and combines the team's technical and business strengths to enable the development, commercial scale-up, and customer delivery of complete system solutions. In addition, advanced balance of systems components will be developed for each pathway. The full systems will utilize market, financial, and technical synergies with other GE businesses including GE Consumer and Industrial (lighting and appliances), and GE Consumer Finance (energy efficient mortgages).

GE Solar's commercialization strategy will focus on residential and commercial buildings that currently consume over 60% of the electricity generated in the U.S., and will exercise GE's existing market channels into the building sector.

### 2. Conclusions

GE is targeting a LCOE (levelized cost of electricity) of \$0.14/kWh for residential markets and \$0.09/kWh for commercial markets by 2010, resulting in PV systems that are competitive with retail electricity rates.

