

SOLARBRIDGE TECHNOLOGIES

EFFICIENT POWER CONVERTERS FOR PV ARRAYS

PROJECT TITLE:	Scalable Submodule Power Conversion for Utility-Scale Photovoltaics		
ORGANIZATION:	SolarBridge Technologies, Inc.	LOCATION:	Austin, TX
PROGRAM:	Solar ADEPT	ARPA-E AWARD:	\$1,749,408
TECH TOPIC:	Power Conversion	PROJECT TERM:	2/23/12 – 2/22/15
WEBSITE:	www.solarbridgetech.com		

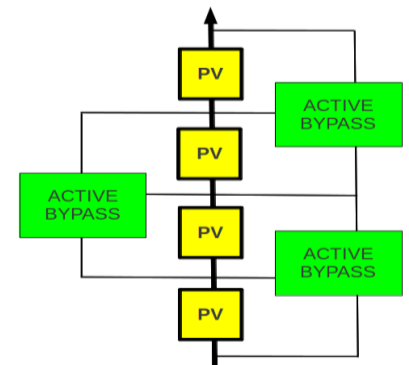
CRITICAL NEED

Photovoltaic (PV) solar systems convert the sun’s energy into electricity, but only a small percentage of the sunlight that reaches a PV system is converted into useful electricity. This is due in part to the inefficient and failure-prone electrical components used in most PV systems today. Improving the performance of these components would lower the overall cost of PV systems—helping to make renewable solar energy cost-competitive with conventional, nonrenewable forms of electricity generation.

PROJECT INNOVATION + ADVANTAGES

SolarBridge is developing a new power conversion technique to improve the energy output of PV power plants. This new technique is specifically aimed at large plants where many solar panels are connected together. SolarBridge is correcting for the inefficiencies that occur when two solar panels that encounter different amounts of sun are connected together.

In most conventional PV system, the weakest panel limits the energy production of the entire system. That’s because all of the energy collected by the PV system feeds into a single collection point where a central inverter then converts it into useable energy for the grid. SolarBridge has found a more efficient and cost-effective way to convert solar energy, correcting these power differences before they reach the grid.



IMPACT

If successful, SolarBridge would create a power conversion system for solar power plants that is more efficient than conventional methods.

- **SECURITY:** Lowering the cost of PV systems would help increase the use of solar energy, which in turn would decrease our dependence on fossil fuels and improve U.S. energy security.
- **ENVIRONMENT:** Solar energy systems create zero harmful emissions while providing energy to homes and businesses, so their widespread use would significantly improve air quality.
- **ECONOMY:** This project could help position the U.S. as a leader in the power electronics industry.
- **JOB:** Widespread use of residential and commercial PV systems could create jobs for system installers, technicians, and salespeople.

CONTACTS

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