

Solar-electric technologies  
are a **scientific marvel**.



SOLAR CELLS, ALSO CALLED PHOTOVOLTAIC  
OR **PV CELLS**, CAN  
**CONVERT SUNLIGHT  
INTO ELECTRICITY.**

**PHOTOVOLTAIC** CELLS GET THEIR NAME FROM THE PROCESS  
OF CONVERTING LIGHT— **PHOTONS**—TO ELECTRICITY—  
 **VOLTAGE**—WHICH IS CALLED THE **PV EFFECT**.

**1839**

EDMOND BECQUEREL  
DISCOVERED THAT THE



CAN PRODUCE AN  
**ELECTRICAL  
CHARGE.**

 **NREL**  
NATIONAL RENEWABLE ENERGY LABORATORY

IS A **WORLD-  
LEADING**

**1954**

BELL LABS DEMONSTRATED THE  
**FIRST PRACTICAL SOLAR CELL.**

**1977**

**NREL WAS BORN**

AS THE SOLAR ENERGY RESEARCH INSTITUTE (SERI),  
PARTLY IN RESPONSE TO THE 1973 OIL EMBARGO.



**“NOBODY CAN  
EMBARGO SUNLIGHT.”**

—PRESIDENT JIMMY CARTER

**1991**

PRESIDENT **GEORGE H.W.  
BUSH** ELEVATED SERI TO  
**NATIONAL LABORATORY**

**ADVANCED ENERGY  
RESEARCH  
LABORATORY.**

**NATIONAL LABORATORY**  
STATUS, RENAMING IT THE NATIONAL  
RENEWABLE ENERGY LABORATORY (NREL).

TODAY, THE U.S. HAS ABOUT **45  
GIGAWATTS** OF INSTALLED  
**SOLAR CAPACITY**—THAT'S  
ENOUGH TO POWER ABOUT **10  
MILLION HOMES.**



NREL POWERS  
ITS CAMPUS WITH  
MORE THAN  
**3 MEGAWATTS**  
OF SOLAR POWER  
**GENERATED  
ON SITE.**

ON AVERAGE, A PV  
SYSTEM IS **INSTALLED  
BY AMERICAN  
WORKERS** EVERY



NREL'S SOLAR RESEARCH  
HAS BEEN HONORED  
WITH **29 R&D  
100 AWARDS**,  
KNOWN AS THE  
**"OSCARs OF  
INNOVATION."**



  
THE **MARS  
ROVERS** SPIRIT  
AND  
OPPORTUNITY  
**RELY ON**

NREL LEADS RESEARCH INTO  
THIN-FILM SOLAR CELLS **1/10<sup>TH</sup>**  
**THE DIAMETER OF A  
HUMAN HAIR.** THIS TECHNOLOGY  
COULD **LIGHTEN THE  
LOADS** OF  
AMERICAN SOLDIERS BY



RESEARCH ON  
**SOLAR CELLS**

DEVELOPED WITH  
NREL TECHNOLOGY.



NREL IS EXPLORING A NEW  
TECHNOLOGY THAT COULD  
**SPRAY ON SOLAR  
CELLS LIKE PAINT.**

NREL CURRENTLY  
**PARTNERS**



WITH ABOUT **750** MAJOR  
CORPORATIONS, SMALL  
BUSINESSES, UNIVERSITIES,  
AND GOVERNMENTS  
NATIONWIDE TO  
**ADVANCE U.S.  
ENERGY INNOVATION.**

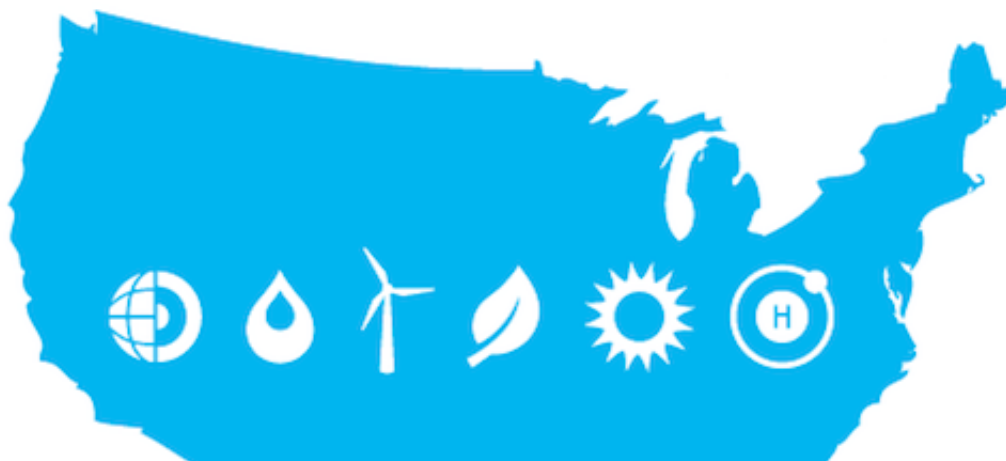
SOLAR ENERGY IS NOW AN  
**\$84 BILLION U.S.  
INDUSTRY**

THAT GENERATES MORE THAN



**DOMESTIC JOBS.**

AND THE SKY'S THE LIMIT. RENEWABLE ENERGY  
TECHNOLOGIES COULD PROVIDE UP TO **80%** OF TOTAL U.S.  
**ELECTRICITY** GENERATION BY **2050.**





July 2017 [nrel.gov/solar/infographic.html](http://nrel.gov/solar/infographic.html)

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Data sources include [www.seia.org/blog/1-million-solar-strong-growing](http://www.seia.org/blog/1-million-solar-strong-growing),  
[www.nrel.gov/docs/fy17osti/68425.pdf](http://www.nrel.gov/docs/fy17osti/68425.pdf), [www.nrel.gov/analysis/re\\_futures](http://www.nrel.gov/analysis/re_futures),  
[www.seia.org/research-resources/us-solar-market-insight](http://www.seia.org/research-resources/us-solar-market-insight), and  
[www.thesolarfoundation.org/solar-jobs-census/economic-impacts-report-2016/](http://www.thesolarfoundation.org/solar-jobs-census/economic-impacts-report-2016/).