

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.**

**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

**NREL**

NATIONAL RENEWABLE ENERGY LABORATORY

IS A **WORLD-LEADING ADVANCED ENERGY RESEARCH LABORATORY.**

**1991**

PRESIDENT **GEORGE H.W. BUSH** ELEVATED SERI TO **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 SOLAR CELLS** DEVELOPED WITH NREL TECHNOLOGY.



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 **20 POUNDS.**



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.**



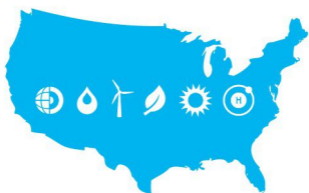
SOLAR ENERGY IS NOW AN **\$84 BILLION U.S. INDUSTRY**

THAT GENERATES MORE THAN



**373,000 DOMESTIC JOBS.**

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



**NREL**

NATIONAL RENEWABLE ENERGY LABORATORY

**40**

1977 - 2017

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

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/).