

By the Numbers

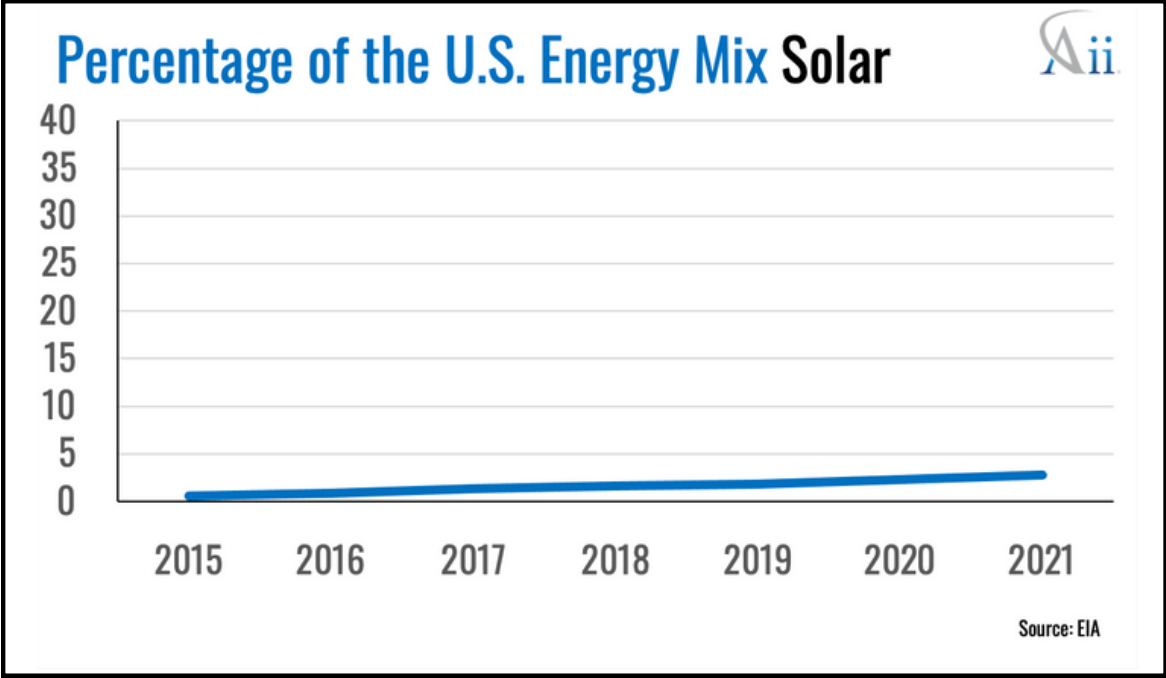
SOLAR

United States

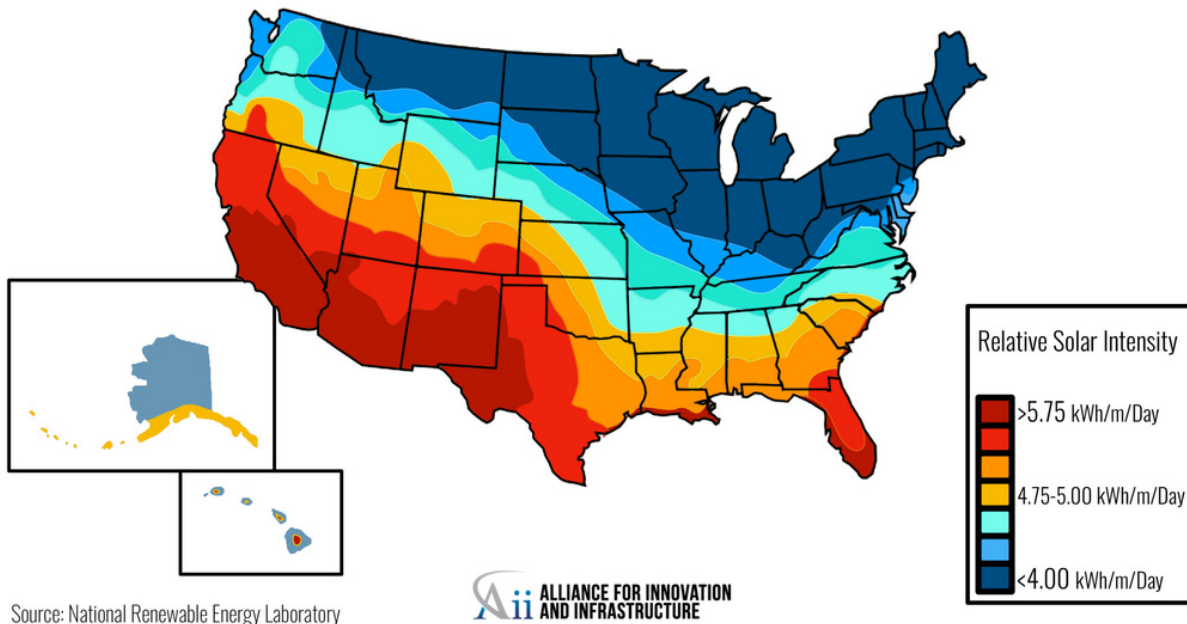
World

2.8%	Share of U.S. electricity mix	3.6%	Share of global electricity mix
115 billion kWh	U.S. Generation	1 thousand TWh	Global Generation

Solar energy is radiation from the sun captured in solar cells assembled on panels and arrays. Solar energy can also be concentrated to a single point to capture heat, which is then used to turn a generator to produce electricity. When captured in photovoltaic cells, energy from sunlight is converted directly into electrical power by receiving photons that displace electrons in the solar cell. Conductors in the cell form a circuit, allowing electrons to run through as electricity. This direct current energy can then be converted into alternating current for home appliances.



Average Daily Sunlight Concentration



The United States has vast regions with predictable and concentrated sunlight for most of the year. Because solar energy is available intermittently, and panels capture low energy density – only converting around 20 percent of the incoming energy – solar panels are most practical in the Southwest. Over time, higher efficiency technology may increase the proportion of solar energy that is capturable to generate electricity. While solar energy produces no emissions as a passive collection technique, the mining and manufacturing process to create solar technology is highly energy and material intensive. Accordingly, solar power is a function of both unlimited energy from the sun and limited physical resources for developing, deploying, and disposing of panels.

AVAILABILITY IN
THE U.S.



daytime solar energy

HOW LONG WOULD
THAT LAST?



IMPORTS

23

million peak kW modules

EXPORTS

1.1

million peak kW modules

