



FACT SHEET: RENEWABLE ENERGY



SUSTAINABILITY OPPORTUNITY

In October 2009, Stanford released a comprehensive and long-range Energy and Climate Action plan aimed at raising the bar in energy efficiency and the use of innovative, clean, and renewable energy supplies on campus. The plan includes high-efficiency standards for new buildings; continued efficiency improvements for existing buildings; and the cutting-edge energy supply system known as Stanford Energy System Innovations (SESI). SESI represents a transformation of university energy supply from 100% fossil-fuel based combined heat and power (CHP) to grid-sourced electricity and a more efficient electric heat recovery system. **Currently, 68% of Stanford’s electricity is generated from renewable sources—approximately 200 million kilowatt hours (kwh) per year.**

Onsite Rooftop Solar

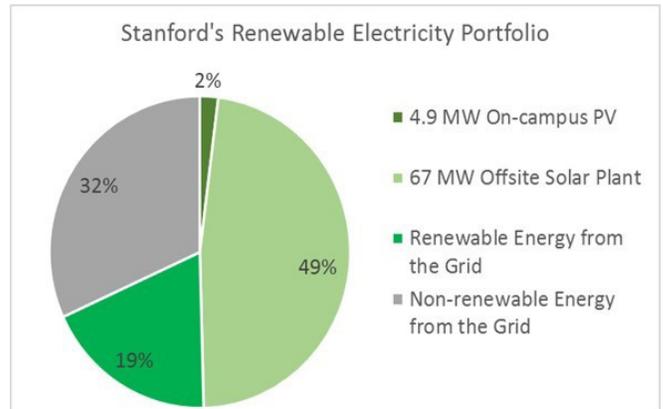
Stanford’s campus hosts 4.9 megawatts (MW) of solar photovoltaics (PV), distributed across 16 sites. Initially, the university audited and analyzed more than 60 campus sites for suitability for photovoltaic systems. Sites were selected based on aesthetic and historical impact to campus along with orientation, roof size and slope, and construction.

Offsite Solar Power Procurement

Also in April 2015, Stanford entered into an agreement with SunPower to build a 67 MW (DC) solar PV plant that supplies 50% of Stanford’s electricity for at least the next 25 years. The PV plant, located in southern California, officially opened in December 2016. The new plant uses SunPower’s state-of-the-art PV technology with single axis tracking. It will easily meet the university’s peak electricity demands of 42 MW and generate enough electricity to power approximately 20,000 homes.

Results

Stanford’s combined on- and off-site solar electricity generation supplies 50% of Stanford’s electricity requirements. Because a quarter of the remaining electricity procured directly from California’s electricity grid is also renewable, this results in 68% of Stanford’s



total electricity supply coming from renewable sources. This will only increase over time, as Stanford continues to explore renewable energy options and California’s grid meets its 33% Renewable Portfolio Standard in 2020.

Development of onsite renewable energy supplies provides lower long-term costs, stabilizes operating budgets, and allows Stanford to achieve top-tier emissions reductions. In 2011, Stanford’s greenhouse gas (GHG) emissions peaked at 230,000 metric tons. The new Central Energy Facility has reduced campus emissions by 50% from peak levels, and renewable power procurement reduces emissions by another 18%, leading to a total of 68% emissions reductions via SESI.

MORE INFORMATION

SUSTAINABLE STANFORD

<https://sustainable.stanford.edu/campus-action/stanford-energy-system-innovations-sesi>

CONTACT

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