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 the Stanford Energy System Innovations (SESI) project. SESI represents a transformation of university energy supply from 100 percent fossil-fuel-based combined heat and power plant (CHP) to grid-sourced electricity and a more efficient electric heat recovery system. By the end of 2016, 65% of Stanford's electricity will be generated from renewable sources—approximately 200 million kilowatt hours (kwh) per year.

Onsite Rooftop Solar

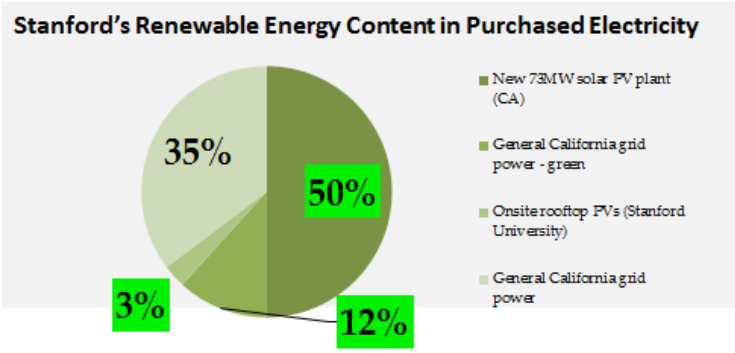
In April 2015, Stanford signed into contract 5.5 megawatts (MW) of solar photovoltaics (PV) to be installed at 15 sites on campus. Initially, the university audited and analyzed more than 60 campus sites for suitability for photovoltaic systems. Sites were selected based on aesthetic and historical impact to campus along with orientation, roof size and slope, and construction. Stanford plans to have the panels fully installed and generating power in late 2016.

Offsite Solar Power Procurement

Also in April 2015, Stanford entered into an agreement with SunPower to build a 73 MW solar PV plant that will supply 50% of Stanford's electricity for at least the next 25 years. The PV plant will be built in southern California and is anticipated to start generating electricity in late 2016. The new plant will use 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 will supply 53% of Stanford's electricity requirements. Because a quarter of the remaining electricity procured directly from California's electricity grid is also renewable, this will result in 65% 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 will provide lower long-term costs, stabilize operating budgets, and allow Stanford to achieve top-tier emissions reductions. In 2013, Stanford's greenhouse gas (GHG) emissions totaled 264,000 metric tons. The new Central Energy Facility has reduced campus emissions by 50% from current levels, and renewable power procurement will reduce emissions by another 18%, leading to a total of 68% emissions reductions from the SESI project.

MORE INFORMATION

SUSTAINABLE STANFORD

http://sustainable.stanford.edu.html/sesi

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