

The U.S. Department of Energy SunShot Initiative is a collaborative national effort to make solar energy technologies cost-competitive with conventional forms of energy by the end of the decade. Reducing the total installed cost for utility-scale solar electricity to roughly 6 cents per kilowatt hour without subsidies will result in rapid, large-scale adoption of solar electricity across the United States. Reaching this goal will re-establish American technological leadership, improve the nation's energy security, and strengthen U.S. economic competitiveness in the global clean energy race.



The Solar Ready Vets program trains military service members for careers in the solar industry as they transition to veteran status. This cohort of students from Ft. Carson in Colorado learns how to install PV panels. Photo Courtesy: Solar Energy International

## Soft Costs

### Balance of System Costs

The amount of solar energy connected to the electric grid has increased more than 20-fold since 2008, as millions of Americans choose clean technology to power their lives. Technology development, commercialization, and manufacturing scaling have contributed significantly to rapid reductions in solar hardware costs. However, the non-hardware costs, or “soft costs,” of going solar, including financing, customer acquisition, permitting, installation, labor, and inspection, have not declined as rapidly. Consequently, soft costs now make up more than half of the total cost of residential and commercial solar systems.

Soft costs can vary significantly as a result of a fragmented energy marketplace. In the U.S., there are 18,000 jurisdictions and 3,000 utilities with different rules and regulations for how to go solar. The same solar equipment may vary widely in its final installation price due to process and market variations across jurisdictions, creating barriers to rapid industry growth. SunShot supports the development of innovative solutions that enable communities to build their local economies and establish clean energy initiatives that meet their needs, while at the same time creating sustainable solar market conditions.

### SunShot's Soft Costs Portfolio

The SunShot Initiative has built a diverse portfolio of soft cost-reduction activities to expand access to solar energy to every home, business, and community. SunShot works with state and local governments to help improve the process of going solar and to create opportunities to train people for careers in the solar industry. SunShot also supports the development of an exciting new generation of technology tools that harness data and online platforms to increase market transparency, enhance consumer protection, and improve access to low-cost financing. These efforts are making it faster, easier, and cheaper than ever before to deploy solar technology.

### State & Local Networking and Technical Assistance

The SolSmart community designation is coupled with robust and agile technical assistance to spur communities across the country to earn recognition for achievements that distinguish them



The National Community Solar Partnership kicked off in July 2015 at the White House, as officials discussed the new initiative to bring solar energy to low- and moderate-income families across the country. Photo Courtesy: Department of Energy

from their peers as they become more solar-friendly, and in doing so, ignite local solar markets while establishing consistency in solar practices across the country.

The *National Community Solar Partnership* aims to expand solar access to all Americans, with specific emphasis on serving low and moderate income households. The community and shared solar business model allows for multiple households or businesses to benefit from the output of a single shared solar array. The Partnership's goals include greater utilization of existing federal and state resources, sharing of best practices at the state level, development of new shared solar business models, and deploying and sharing more solar on multifamily residences.

## Training

The *Solar Training and Education for Professionals* (STEP) funding program tackles soft costs by addressing gaps in solar training and energy education. STEP supports coordination among the Solar Training Network, the Solar Ready Vets program, and the solar industry. This ensures that solar instructors are well connected to solar employers and veterans are connected to solar training institutions. STEP also enables solar training for professionals in indirect and related fields such as real estate, finance, insurance, fire and code enforcement, and state regulations. The Grid Engineering for Accelerated Renewable Energy Deployment (GEARED) initiative is also supported under STEP, providing students with new training and education so more solar can be incorporated into the grid by the next generation of power systems engineers.

## Data Analysis

The *Solar Energy Evolution and Diffusion Studies* funding program investigates strategies to accelerate the pace of change



These start-up companies walked away from the Catalyst Energy Innovation Prize Demo Day with \$30,000 each after demonstrating their energy software solutions that address the challenges of going solar. Photo Courtesy: Department of Energy

for solar energy technologies as they are developed and deployed. The projects integrate the use of cutting-edge analytical and computational tools, such as agent based modeling, with real-world market data and pilot tests to speed the pace of solar energy becoming cost competitive.

The *Orange Button* initiative targets soft cost reduction by increasing data accessibility and quality. It will facilitate the growth and expansion of the solar industry by creating a standardized data landscape for solar. As the solar market continues to rapidly grow, it's critical that the management and exchange of solar datasets across the value chain are coordinated and streamlined to protect consumers, increase efficient pricing, and support new and existing businesses entering the solar marketplace.

## Finance and Business Innovation

The *Catalyst Energy Innovation Prize* program is an open innovation program that aims to catalyze the rapid creation and development of products and solutions that address near-term challenges in the U.S. solar marketplace. Through a series of prize challenges, Catalyst makes it faster and easier for American innovators to launch cutting-edge solar companies, while tackling time-sensitive market challenges.

The open, fast-paced innovation cycle allows crowd-sourced engagement and frequent partnerships with the nation's growing networks of technology mentors, incubators, and accelerators.

The *Solar Market Pathways* funding program explores emerging solar deployment pathways in locations across the country, including financing mechanisms like commercial property assessed clean energy and the integration of solar energy generation in local emergency response plans. Lessons learned from Solar Market Pathways will provide examples that can be replicated—an important step toward making solar deployment faster, easier, and cheaper across the country.

## Funding Opportunities

For more information on open funding opportunities, visit the SunShot Initiative's financial opportunities webpage: [energy.gov/eere/sunshot/financial-opportunities](http://energy.gov/eere/sunshot/financial-opportunities).

U.S. DEPARTMENT OF  
**ENERGY**  
energy.gov

DOE/EE-1326 • May 2016

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post-consumer waste.