

The SunShot Initiative: Making Solar Energy Affordable for All Americans

The U.S. Department of Energy (DOE) SunShot Initiative is a collaborative national effort launched in 2011 that aggressively drives innovation to make solar energy fully cost competitive with traditional energy sources before the end of the decade. SunShot supports efforts by private companies, universities, non-profit organizations, state and local governments, and national laboratories to drive down the cost of solar electricity to \$0.06 per kilowatt-hour, without incentives, by the year 2020. SunShot aims to make it faster, easier, and more affordable for Americans to choose solar energy to power their daily lives.

Through game-changing innovations, SunShot projects are transforming the ways in which solar systems are conceived, designed, manufactured, and installed in order to drive down prices. SunShot funds more than 250 projects that explore groundbreaking ways to make it easier and cheaper to go solar, from developing an efficient solar cell that's thinner than a human hair, to creating a tool that can perform solar site assessments from space. The SunShot Initiative is designed to re-establish American technological

leadership, strengthen U.S. economic competitiveness in the global clean energy race, help cut carbon pollution to combat climate change, and secure our energy future.

SunShot Goals

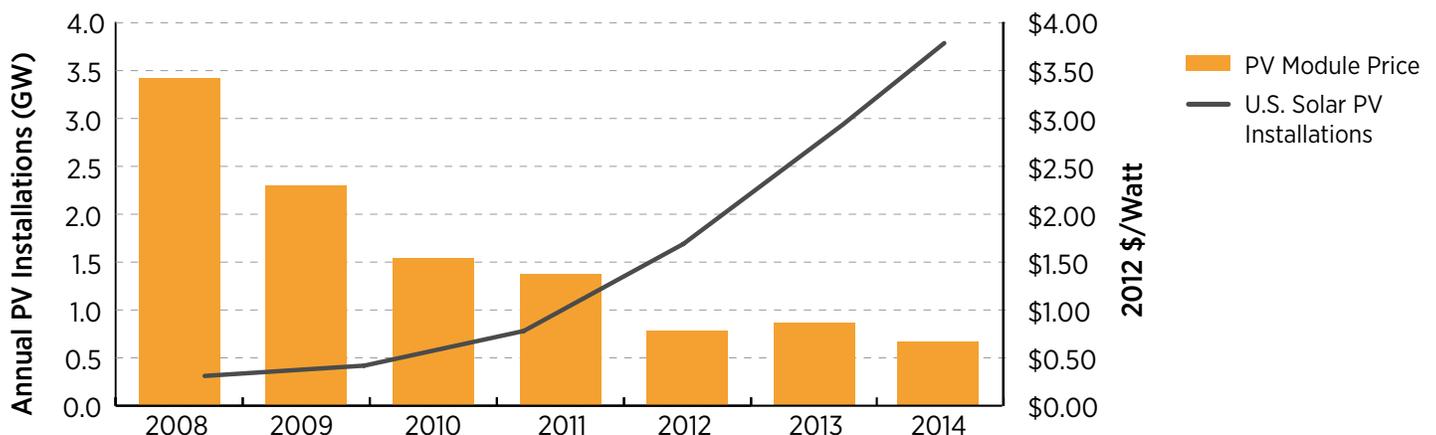
SunShot builds on a tradition of steady collaboration between the DOE Office of Energy Efficiency & Renewable Energy (EERE) and solar industry pioneers. Between 1975 and 2008, more solar energy patents were linked to EERE than to any other organization in the world.

SunShot is accelerating and advancing research and development (R&D) efforts by adopting new approaches to lowering the cost of solar electric systems—from the panels and other hardware costs, to cutting red tape and improving access to affordable financing.

SunShot projects set measurable objectives to track their progress toward the program's key goals:

- Increase photovoltaic (PV) solar cell efficiency, reduce production costs, and open new markets for solar energy
- Shorten the amount of time it takes to move promising new solar technologies from development to commercialization, and strengthen the U.S. supply chain for manufacturing and commercializing cutting-edge PV technologies

Deployment and Module Price for U.S. PV 2008–2014



Note: The bars represent the falling price per watt of solar modules from 2008 (\$3.42) to 2014 (\$0.71). The line shows the rise in annual solar PV installations from 2008 (311 megawatts) to 2014 (6,201 megawatts).

- Drive down the cost of concentrating solar power (CSP), fostering collaboration that leads to utility-scale solutions and integrates solar into the electric grid
- Invest in the education, policy analysis, and technical assistance needed to remove critical barriers and speed rapid solar deployment
- Develop a well-trained workforce to foster U.S. job creation in the solar industry
- Develop innovative, cost-effective solutions that allow more solar to integrate seamlessly with the national power grid
- Accelerate the adoption of solar energy technologies in the marketplace by reducing non-hardware costs, removing bureaucratic barriers, and fostering market growth

SunShot Successes

Critical advances in solar technology—driven by SunShot and DOE—have catalyzed growth in the solar industry and have helped to drastically drive down costs throughout the marketplace. SunShot’s work is making a tangible impact on the U.S. solar energy industry each day:

- **Solar Growth:** Since 2008, the amount of solar energy in the United States has grown nearly twenty-fold. At the end of 2014, the U.S. had an estimated 20 gigawatts (GW) of solar installed, enough to power the equivalent of 4 million average American homes - and that amount is growing daily. During 2014, solar represented 32% of all new electric generating brought online in the United States, more than any other renewable energy source.
- **Falling Costs:** Since the beginning of 2010, the average cost of solar PV panels has dropped more than 60%, and the cost of a solar electric system has dropped more than 70%. As these costs decrease, the U.S. solar market continues to grow.
- **Job Creation:** Today, the solar industry employs more than 174,000 Americans. According to The Solar Foundation, one out of every 78 new jobs created in America in 2014 was a solar job, making solar one of the fastest-growing industries in America.

- **Outstanding Return on Investment:** DOE has spent approximately \$2.3 billion on R&D to advance PV technology, with net economic benefits totaling more than \$15 billion.
- **Innovation and Technology Acceleration:** DOE’s solar R&D work has yielded foundational knowledge that drives today’s private sector innovation, including an estimated 274 patent families.
- **Reduced Carbon Emissions:** In 2014 alone, U.S. solar energy systems displaced more than 20 million metric tons of carbon emissions. That’s the same as taking four million cars off U.S. roads for a year.

Follow SunShot’s Progress

- For more information about SunShot’s work, visit energy.gov/sunshot
- Sign up for SunShot’s monthly email newsletter at energy.gov/sunshot
- Follow the Office of Energy Efficiency and Renewable Energy on Facebook at facebook.com/eeregov



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