

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. Through SunShot, DOE supports efforts by private companies, universities, and national laboratories to drive down the cost of solar electricity to \$0.06 per kilowatt-hour, making solar energy affordable for more American families and businesses.

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.

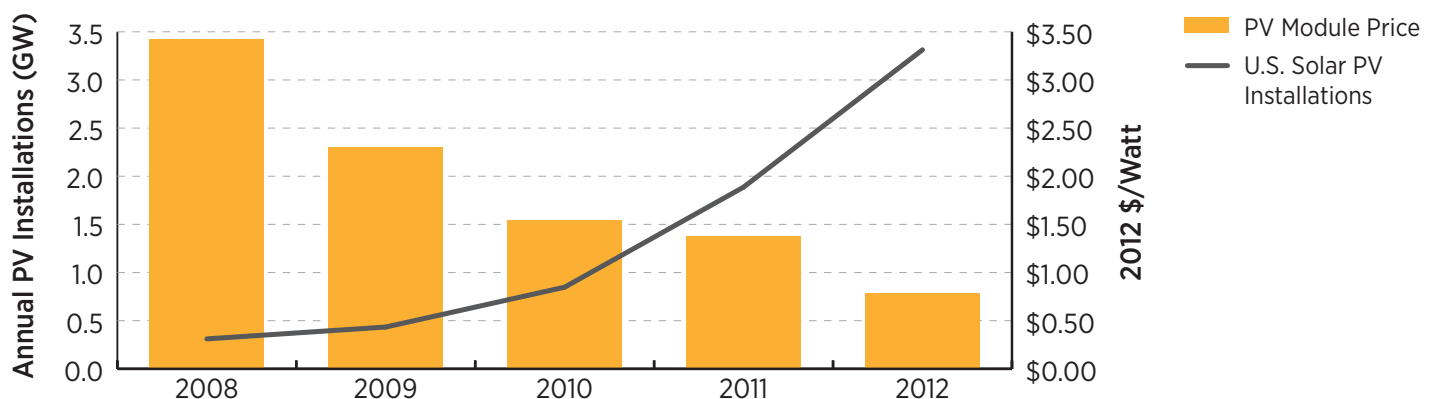
The SunShot Initiative is designed to re-establish American technological leadership, strengthen U.S. economic competitiveness in the global clean energy race, help cut carbon pollution to combat climate change, and secure our energy future. As a cornerstone of DOE's work to make solar fully cost-competitive, the SunShot Initiative will enable solar power to account for at least 15% of America's electricity generation by 2030.

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 the solar electric system—from the panels, to other hardware costs, to cutting red tape and improving access to affordable financing.

Deployment and Module Price for U.S. PV 2008–2012



Note: The bars represent the falling price per watt of solar modules from 2008 (\$3.42) to 2012 (\$0.78). The line shows the rise in annual solar PV installations from 2008 (311 megawatts) to 2012 (3,313 megawatts).

SunShot projects set measurable objectives to track progress towards 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
- 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:

- **Job Creation:** Today, the solar industry employs nearly 120,000 Americans at more than 5,600 companies, most of which are small businesses spread across the country. According to The Solar Foundation, 13,872 new solar jobs were created in

2012 alone—and nearly 20,000 since 2010—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.
- **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 by more than 70%. And as the price of solar panels has decreased, the U.S. solar market is booming.
- **Solar Growth:** Total installed solar capacity in the United States increased by 76% from 2011 to 2012. Since 2008, the amount of solar energy powering homes, businesses, and military bases has grown by more than 800%—from 1,100 megawatts to more than 9,400 megawatts today, which is enough to power more than 1.5 million average American households.
- **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:** From 2008 to 2012, U.S. PV systems displaced 13.9 million metric tons of carbon emissions. This is equivalent to taking 2.9 million cars off of U.S. roads for a year.

For more information

Visit www.energy.gov/sunshot.



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