



Testimony before the House Science, Space, and Technology Committee – Energy
Subcommittee

Hearing on: Advancing Solar Energy Technology: Research Trumps Deployment
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Mr. Chairman, thank you for the opportunity to participate in this Subcommittee hearing on federal government involvement in the solar industry.

My name is Kenny Stein, I am the Policy Director for the Institute for Energy Research, a free-market organization which conducts research and analysis on the functions, operations, and government regulation of global energy markets.

The purpose of federal government funding for research in any industry should be clearly defined. The justification for such funding is that research in emerging or novel technologies would not otherwise be provided by private interests, whether companies or individuals. This is a reasonable role for the federal government to play; however this cannot be a license to spend money. Federal support should not go to projects that private interests already have a clear incentive to develop. Far too often it is the case that the federal government provides grant money to companies to subsidize activities that they would already be undertaking.

A perfect illustration of this failure of mission is the SunShot Initiative. Launched by the Department of Energy in 2011, this move sought to reduce the cost of solar energy systems so that they could become cost competitive with other forms of energy. Simply put, that is a political goal, not a research goal. It is not the federal government's responsibility to support the success or spread of a given technology or way of operating. Any solar manufacturer or operator already has an overwhelming market incentive to lower costs. Offering government money in addition to existing economic incentives does not add to the wellbeing of the American people or address some unmet need of the federal government itself, it simply subsidizes activities which private interests are already doing. Indeed, government funding often crowds out private funding when it enters a given area, limiting the overall level of investment and spurring calls for even more government spending to make up for the exit of private investment.

The federal government, slow and process-constrained as it is, cannot adjust rapidly to technological developments. As new operating processes or products enter the market, it can be left funding old or obsolete initiatives. Getting locked in on lowering the costs of existing solar technologies does nothing to support emerging or novel technologies. Indeed, in another form of crowding out, this federal focus can lead an industry to spend its time trying to meet federal benchmarks rather than asking the question whether alternatives might make more sense, ironically limiting innovation.

The SunShot initiative has tried claiming victory as the costs of solar installations have indeed fallen. But how much of that cost decline is because of federal research spending rather than Chinese manufacturing innovation, tax support from the Investment Tax Credit, state renewables mandates, or the simple financial imperative to make money? The fact that is an impossible question to answer suggests the folly of the SunShot initiative. SunShot was not about research; it was about picking winners and losers, arbitrarily seeking to improve the economics of certain solar applications because of the political preferences of the previous administration.

A more appropriate role for the Department of Energy can be found in the earliest days of solar energy generation technology. Early solar panels with poor efficiency found little uptake for terrestrial uses. However, the burgeoning space program identified solar as a potential energy source for spacecraft. Government funding from NASA helped develop nascent solar technology to the point where it was usable in space applications. Years later, solar companies built on that foundation to develop the generation technologies that are now being applied to terrestrial electricity generation.

The lesson here is that the federal government didn't choose a solar technology and then try to commercialize it or reduce its costs. The basic technology was developed for a specific national purpose, with private innovation later finding applications for the private market. This is how the process should work. The federal government does not have the characteristics or competency to be a startup incubator, but it can effectively provide a base level of data and information for private innovators to build on.

Thus a better path forward for the Department of Energy would be focusing on the original mission that I suggested above: funding emerging or novel technologies and applications not otherwise supported by private interests. There is a legitimate federal role in supporting such basic research that has the potential to improve the overall wellbeing of the American people or is required to meet a specific federal need. The current administration has indicated an interest in reorienting federal priorities to early-stage research; I applaud this goal and look forward seeing how that develops.

Note however that this pivot should not be just a branding exercise, with anything called “early-stage” becoming eligible for funding. Federal research spending should focus on truly novel technologies or applications. Further, this should not be a license to spend more money. Clearly focusing federal priorities means discarding some spending areas to hone in on research at, for example, National Labs or universities—a case where less is more.