



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

Hearing on: Advancing the Next Generation of Solar and Wind Energy Technologies
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Mr. Chairman, thank you for the opportunity to participate in this Subcommittee hearing on federal government involvement in solar and wind energy research.

My name is Kenny Stein, I am the Policy Director for the Institute for Energy Research, a free-market organization that 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 limited and 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.

The content of the discussion drafts for this hearing slips into precisely this error. Wind and solar generation are widespread and well understood. Utilities and independent generators across the country have announced large targets for investments in increasing wind and solar installations. This action is being taken in response to regulatory and consumer demand. This investment record does not suggest a shortage of private sector funding or commitment to wind or solar generation. The companies making these investments already have market and regulatory incentives to increase “efficiency, reliability, security and capacity” of wind and solar generation, to take just the first mission bullet of the discussion drafts.

Both the wind and solar industries are mature industries, with plenty of private sector interest and investment in innovation and deployment. We are not talking

about a nascent or speculative industry. The need for federal funding at all is debatable to put it mildly. If federal money is still required at this point the question must be asked whether there is ever a point where enough will be enough.

Given the already high rate of wind and solar investment, it is hard to see how more federal intervention could possibly be beneficial. In fact, a heavier federal hand could end up limiting growth and innovation. 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. Indeed federal interference of the sort envisioned by these discussion drafts can lead an industry to spend its time trying to meet federal benchmarks for grants rather than asking the question whether alternatives might make more sense, ironically limiting innovation.

The best example of an appropriate role for the federal research funding 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 of or competency to be a startup accelerator, but it can effectively provide a base level of data and information for private innovators to build on.

Thus a better path forward for federal research spending would be focusing on the original mission that I suggested above: funding emerging or novel technologies and applications not otherwise supported by private interests. One example of this kind of focus is the National Renewable Energy Laboratory research into the use of perovskite materials in solar cells. This is the kind of basic research that the federal government should be funding, leaving private entities to determine the most useful application of these discoveries. 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.

Note that this is not 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.

The premise underlying these discussion drafts is unsound. Mature industries like the wind and solar generation sectors with extensive and dynamic economic activity are not in need of federal interference, however well intentioned. While basic research is a reasonable federal role, responsibility for later phases of the business cycle such as commercialization or deployment is best left in the hands of the industry itself.