COMMITTEE ON
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Lamar Smith, Chairman

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Statement from Randy Weber (R-Texas)

Advancing Solar Energy Technology: Research Trumps Deployment

Chairman Weber: Welcome to today's Energy Subcommittee hearing. Today, we will examine the status of U.S. research in solar energy and explore the future of this administration's effort to refocus funding on early-stage research and innovative technology.

This September, the Department of Energy's Office of Energy Efficiency and Renewable Energy, or EERE, announced that the cost of utility-scale solar power has met the SunShot 2020 goal of under six cents per kilowatt-hour.

This is an incredible achievement by solar power companies across the country, including many in my home state of Texas. More importantly, with this new benchmark, EERE announced a new direction in solar energy research, prioritizing early-stage research and emerging solar energy technology instead of cost reductions for commercially available technology.

The new research will focus on two primary areas. The first is innovative technology in Concentrating Solar Power (CSP) systems, which use mirrors to reflect and concentrate sunlight onto a focused point in order to heat water and create steam to power turbines and create electricity.

The second research priority relates to power electronics technologies. This technology connects solar photovoltaic (PV) arrays to the electrical grid. Advancements in power electronics will help grid operators and consumers to manage electricity use.

EERE also recently released the FY 2018-2022 multi-year program early-stage research for PV technology, grid integration, PV materials and concentrating solar thermal power.

EERE will focus on advancements in fundamental technologies and research in materials science that will drive solar energy innovation forward.

For example, at the National Renewable Energy Laboratory (NREL), materials science research is advancing the capabilities of solar energy technology.

As you will hear from NREL Lab Director, Dr. Martin Keller, linking basic and early-stage research in materials to applied solar energy research can produce major breakthroughs in this area of technology.

One example is the lab's experiments with perovskite solar cell technology, which uses a low-cost and high-efficiency material that has widespread application prospects. Perovskites may provide a low cost and scalable material for solar cells or semiconductors, and could lead to much more efficient solar technology.

Perovskite solar cells have the potential for a "roll on" application, similar to printing newspapers, and research in materials science at NREL could provide a fundamentally new way for industry to manufacture solar cells. These research breakthroughs can transform energy markets far more than using limited research dollars to push deployment of today's solar technology.

Congress should focus on making America the global leader in research and innovation in the energy sector. We don't need to pick winners and losers in energy markets to support next generation technology.

I want to thank our accomplished panel of witnesses for testifying today and I look forward to a productive discussion about the future of solar energy research.

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