

Testimony of Laura Abram
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Roundtable on Issues Related to Public Lands in the Western United States
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Introduction

Good morning Chairman Murkowski, Senator Manchin and members of the Energy and Natural Resources Committee. I am pleased to be here today to discuss solar energy development on public lands, some of the challenges faced by the industry, and recommended solutions to ensure that public lands can continue to be used to create jobs and help our country reach its goal of American energy dominance.

My name is Laura Abram and I am the Director of Project Execution and Public Affairs for First Solar. For more than a decade, I have had the privilege to collaborate with BLM and the Department of Interior to develop the first and largest solar power plants on public lands, including in collaboration with tribal communities. My testimony today will present information from my direct experience, as well as those in the solar industry, with a focus on large scale solar development on public lands in the West, primarily California and Nevada.

The messages I hope to leave with you today are these: Number one, solar is one of the lowest cost energy resources today and is an important part of America's energy mix. Number two, Western public lands are ideal for responsible solar development that avoids or minimizes resource conflicts. Yet we face challenges to utilizing public lands because certain policies in place today have created substantial hurdles including burdensome permitting processes, lack of resources to ensure timely completion of Right of Way grants, access to available land, and high rents that are not competitive with private lands. Number three, First Solar and the solar industry are committed to working with BLM and DOI to develop solutions that will allow public lands to continue to be used to meet America's energy demands.

To begin with, I would like to provide you with a high-level overview of First Solar. First Solar is an American solar manufacturer and the largest U.S. provider of thin-film PV panels. The company has about 30% share of the U.S. solar market today. First Solar has extensive experience and a proven track-record developing, constructing and operating the world's largest solar power plants. We have sold over 17 gigawatts (GW) worldwide, which is equivalent to the energy capacity of approximately 8.5 Hoover Dams. First Solar has over 6,000 megawatts (MW) of technology in operation, construction or contracted development across the U.S., including 2,500 MW on BLM land. The company has created American jobs and economic benefits across the value chain, including approximately 30 million construction workhours, equivalent to 15,000 one-year construction jobs. Over \$1 billion is spent

annually with U.S. suppliers in over 35 states, resulting in over 7,000 indirect jobs. Last year First Solar broke ground on a new 1.2 GW manufacturing facility in Ohio which will directly employ over 500 full-time associates. Shortly after, Pilkington glass announced a \$265 million investment in the first new float glass factory built in over a decade to service our Ohio operations. These investments were the result of strong demand, competitive corporate tax rates and the solar 201 tariffs designed to level the playing field with foreign competition.

Solar Technology Growth, Economic and Job Benefits

Over the past decade, solar technology and efficiency has dramatically improved and the cost of solar has rapidly decreased, driving increased utility and commercial demand. While conventional baseload resources have historically been used to ensure a cost-effective power mix, large-scale solar power prices have plummeted in the last few years, making it one of the lowest-cost sources for electricity generation available today. Currently, 25,000 MW of large-scale solar energy is in operation. Additionally, the solar industry fuels the economy and creates American jobs. In 2017, the solar industry generated a \$17 billion investment in the American economy. It ranks third in total employment among energy industries, behind only petroleum and natural gas. Since 2010, solar employment has grown 159%, from just over 93,000 to more than 242,000 jobs in all 50 states. Veterans now make up 7.8% of solar workers, compared to 6.6% of the overall U.S. workforce.

Solar on Public Lands and Current Challenges

As demand for solar energy continues to grow, it places more importance on the availability of Western public lands due to their high solar insolation values, topography, access to available transmission, and location near high-energy load centers. In 2010, BLM approved the 50 MW Silver State North Project, developed and constructed by First Solar, which was the first solar project on public lands. As of March 2018, BLM approved 25 solar projects, totaling 6,319 megawatts (MW) of installed capacity. This includes the 550 MW Desert Sunlight project developed and constructed by First Solar. The project is located in Riverside County, CA and is the largest solar plant on public land and one of the largest in the world. Several projects are currently proposed by solar developers, including three in Riverside County, Calif., four in Nevada near Las Vegas, and one in southern Wyoming. Together, these projects are expected to generate more than 2.5 gigawatts of solar power capacity. One of these projects in Riverside County, the 450 MW Desert Quartzite project, is being developed by First Solar.

It is critically important to ensure responsible development of large-scale solar on public land that avoids, minimizes and mitigates impacts in compliance with the National Environmental Policy Act (NEPA). However, the NEPA process can take many years and cost companies millions of dollars before gaining approval to begin construction of a project on public land. The current administration has taken important steps to address these issues by implementing new regulations that require NEPA to be completed within one year and Environmental Impact Statements (EIS) to be no more than 300 pages. This should not short-cut environmental review, including sufficient studies critical to protecting resources, but it can help to more efficiently expedite the permitting process. The Department of

Interior has also played a key role in supporting Fast 41 priority projects, helping to keep them on schedule and address concerns in a timely manner. However, more resources are needed to adequately staff agencies that support the NEPA process including resource and cultural specialists at local BLM offices and timely coordination with the Fish and Wildlife Service. Re-establishment and staffing of Renewable Energy Coordination Offices, which were largely dismantled under the last Administration, would be a key to making permitting more efficient.

In addition to these cost and time constraints, a series of land use planning actions by the BLM has resulted in the majority of federal land in the Western U.S. being declared off limits for development of large-scale solar facilities. The Programmatic Environmental Impact Statement (PEIS), which began a decade ago, and the Desert Renewable Energy Conservation Plan (DRECP) intended to conduct landscape level planning that would provide dedicated land for the development of utility-scale renewable energy generation and transmission, while simultaneously providing for the long-term conservation and management of federal lands to protect environmental, cultural, and physical resources. While this is a worthy goal, the final plans imposed a variety of arbitrary exclusions and setbacks unrelated to any science. As a result, far less land is available today than is needed to meet the public's growing demand for solar energy, and far more could be made available without loss of resource values. Lands in the Development Focus Areas (DFAs) under the DRECP are encumbered with Conservation Management Actions (CMAs) that make development impossible.

Solar technology and construction practices have significantly changed since the PEIS was developed in 2009, which excluded lands that did not have enough solar irradiance or the slope of the land was too steep. Solar projects are developed across the U.S. in areas that have far less solar irradiance and steeper slopes and can still deliver cost-competitive and reliable energy to the electric grid. Additionally, construction practices that once scraped the land have now evolved to "light-on-the-land" site preparation techniques that keep the root structure in place or just mow the existing vegetative growth without impacting the natural landscape. In fact, at some sites such as the Topaz Solar Farm in San Luis Obispo California, sheep are used to maintain growth of grasses under the panels, and kit fox-friendly fences allow the kit fox to return to the site and thrive in the shade of the panels. A site that was originally thought to be a threat to kit fox is now the haven for many of them. Pollinator-friendly solar sites are also being developed to support healthy bee populations and ecosystem.

It is important for BLM, the conservation community and the solar industry to take a step back and re-evaluate land use planning efforts so they align with current technology and construction practices and impose restrictions only as necessary for conservation of important resources. In 2017, BLM issued a request for comments to begin re-evaluation of the DRECP and has begun to evaluate some of the more problematic CMAs. It is important for any changes made to balance both conservation and solar development goals in a way that is a win-win for both.

As we work to address these public land use issues, we must also be sure that solar projects developed on BLM land are cost competitive. A project is not viable if it does not have a power purchase

agreement with utilities, Community Choice Aggregators (CCAs) or corporate buyers for the sale of the energy generated. The BLM's Solar and Wind Energy Rule was intended to support solar development on BLM-managed land, but instead resulted in charging rents that vastly exceed fair market value, megawatt capacity fees that unnecessarily increase the cost of land and are not found in private land contracts, and excessive bonding requirements. This has made development on public land uncompetitive with private land. For example, the rent and megawatt capacity fee for First Solar's Desert Quartzite Project would cost about \$73 million over thirty years. On private land in California, a 30-year lease would be approximately \$28 million over the same time. The average cost per acre on BLM land would be about \$38,000 compared to about \$14,000 per acre on private land. This is a significant cost difference and demonstrates the issue solar companies are facing.

To address these issues, on June 6, 2018, the U.S. Department of the Interior Royalty Policy Committee (RPC), including representatives of government, tribes, and renewable energy companies, unanimously approved recommendations related to both the Bureau of Land Management's (BLM) rule on Competitive Processes, Terms, and Conditions for Leasing Public Lands for Solar and Wind Energy Development and Technical Changes and Corrections, 81 Fed. Reg. 92,122 (Dec. 19, 2016) (the "Rule"), including for those projects subject to the BLM's Western Solar Plan. The discussions in the RPC document are consistent with this testimony regarding rents and bonds, and should be implemented.

Conclusion

Many developers are now avoiding development on public lands because of these challenges. Responsible construction of solar infrastructure on public lands can and should be a bipartisan priority. Many of the challenges can be addressed by rules that provide more flexible approaches to land availability, ensuring that rents and other commercial issues are competitive with private land markets and re-establishing and adequately staffing Renewable Energy Coordination Offices to enable thorough consideration of resource issues and timely, effective and efficient permitting and issuance of ROW grants. These solutions represent a bipartisan and coordinated approach to the advancement of American energy development.

Thank you very much for the opportunity to testify here today. I would be happy to answer any questions you may have.