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Pennsylvania Agriculture and Rural Affairs Committee Hearing  
Utility Scale Solar Development and Agricultural Land

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Chair Vogel, Chair Schwank and members of the Senate Agriculture and Rural Affairs Committee, thank you for the opportunity to speak today about utility scale solar development and agricultural land in Pennsylvania.

#### **Lightsource bp in PA**

My name is Alyssa Edwards, and I am the Vice President of Environmental Affairs and Government Relations for Lightsource bp. In this role I lead environmental compliance and sustainability, as well as policy and legislative affairs on a nationwide basis. As our company name suggests, we are a 50:50 joint venture with bp, and together we are reimagining the world of energy. Our experienced team is developing approximately 10GW of solar farms in various stages of development across 20 states, and we will have 1GW in operations by the end of 2021.

Lightsource bp has four operating solar farms in Pennsylvania, and one in construction - all located in Franklin County. Our three Nittany solar farms, totaling 70 MW, were developed in partnership with Penn State University to provide 25% of the school's electricity requirements on a yearly basis. Additionally, our two Elk Hill solar farms, totaling 46MW, were developed in partnership with Southeastern Pennsylvania Transportation Authority (SEPTA) to provide nearly 20 percent of SEPTA's 380,000 MWh per year electricity demand. These solar farms are on leased land, providing a new source of revenue for local landowners for 25-30 years, all while saving the University and SEPTA millions of dollars on electricity and providing long-term budget certainty.

We are in the process of developing 150 MW of solar farms as part of our Cottontail portfolio, which will be located on six sites across Juniata, Snyder, Montour, Northumberland, Columbia and York counties. The electricity produced by the solar farms will enable the Commonwealth of Pennsylvania to source approximately 50 percent of its annual energy consumption from solar as part of Pennsylvania PULSE (Project to Utilize Light and Solar Energy). Construction work for the seven sites will begin later in 2021 in a staged approach, and all will be operational by 2022. In total, an estimated \$24 million in property tax revenues over the life of the solar farm will stay in the local communities, a significant increase over current payments. That means increased income for local school districts, fire and police departments, and counties and townships.



Solar farms also create an opportunity to hire local people for new construction jobs in the local area. For our Cottontail portfolio, each project will employ 85-100 local workers. We estimate that 400-500 workers will be engaged in the construction of these new clean energy assets for Pennsylvania, and most of these local workers will come from central Pennsylvania.

More details about the Cottontail portfolio will be shared after we obtain local municipal approvals. It's important to us that the local municipalities do not feel as though we're pressuring them in any way by talking about specific locations that they haven't approved yet. We also want to make sure that we don't publicly announce something that might change based on local feedback.

### **Solar and Land Leasing**

What is most important for me to note today is that at the heart of our solar farms is the relationships with Pennsylvania farm families, who are consistently multi-generational with deep histories and stories to tell. They are often eager to engage in this *other* kind of farming, which provides dependable and long-term financial security for the future.

Please allow me to explain the typical structure of the relationship between a solar company and a landowner:

Contractual arrangements with landowners usually start with an Option to Lease agreement for a period of three years, which is often known as the "Option Period". During this time the solar company performs site specific surveys and assessments to determine site suitability. Landowners receive annual compensation during the Option Period.

During the Option Period the solar company may exercise the option for a long-term lease with the landowner. If this occurs, the lease provides a payment structure for the construction period, and then a per-acre payment for the operational life of the solar farm, which is usually 25-30 years. Additionally, a commercial rate escalator is applied to payments during the operational life of the solar farm to account for inflation and other factors.

As I know you are aware, utility-scale solar facilities must secure required agreements and approvals from municipalities and comply with any ordinance in effect. Additionally, compliance with the Pennsylvania National Pollution Discharge Elimination System (NPDES), state agencies and federal regulations is a key part of this process. This ensures that each solar farm is developed in the most environmentally-friendly way and does not create undesirable impacts.

Furthermore, at the end of the operational life of the solar farm, we are bound by our lease agreements to decommission the system, which involves removing solar equipment and restoring the land to its original condition or adapting it to a new use, based on the preference of the landowner. Neither the county nor the landowners will pay the costs associated with decommissioning the solar farm. Unlike the decision to build a subdivision or strip mall, which permanently transforms the land to a non-agricultural use, at the end of the solar farm's useful life, the pilings and equipment are easily removed. Additionally, solar development does not involve large-scale removal of topsoil, allowing the land to return to agricultural production at the end of a solar farm's life.

## Co-Locating Solar and Agriculture

I recognize that the increase in solar farms in Pennsylvania leads to important questions about land use and appropriate siting. Many utility sized solar farms are located on agricultural land because it offers areas that are previously disturbed, flat and often with landowners who wish for alternative revenue sources. Indeed, farmers can rely on solar lease payments for a steady revenue stream to help mitigate market volatility, droughts and other threats to their livelihoods, which can help family farms stay in the family.

Solar development in rural areas also shields agricultural land from other developmental pressures that permanently change the land. I'd like to stress that the choice is not between farms and solar arrays – the choice is more often between solar arrays and subdivisions, or strip malls. It is a choice between permanently transforming the land to a non-agricultural use or choosing to contract with a solar company which will drill holes in less than 1% of the footprint of their arrays to drive temporary posts on which the panels will sit for several decades while preserving the land underneath for future agricultural use.

With proper planning, solar can be installed as a dual land-use system that provides ecosystem services and other benefits, such as agricultural income for participating farmers and, sometimes, continued agricultural production under and around solar panels. Because the land under solar panels goes undisturbed for decades, there is an opportunity to integrate solar energy with continued agriculture (otherwise known as "agrivoltaics"), increased biodiversity, and land conservation.

Agrioltaics is a key part of Lightsource bp's work as long-term stewards of our solar farms. As an active supporter and collaborator with the America Solar Grazing Association, our goal is to generate clean power and farm products simultaneously. This partnership allows landowners to hold onto their farms with their solar income, reinvesting and diversifying into new agricultural enterprises.

For example, we recently introduced sheep at one of the Nittany solar farms with great success. A neighbor and his son, who are not participating landowners, graze almost 500 sheep among the solar panels, using a rotational system to feed the flock and maintain vegetation at the solar farm. This family's productivity is enhanced with this structure, where they are paid on a per acre basis, per year, in a long-term contract with the solar farm. The additional 125 acres of solar pasture is a meaningful expansion of acreage and revenue to this Pennsylvania family.

Additionally, Lightsource bp has invested in high quality, Pennsylvania-based seeds for all of our solar farms in the state. At our Nittany solar farms we sourced seed mixes that lay the foundation for agricultural integration with solar grazing. The "Fuzz and Buzz" seeds are nutritious for sheep, supportive of pollinator habitats and food sources, and improve soil health.



## **Conclusion**

Across the country, solar and agriculture not only exist side-by-side, but increasingly are found together. Lightsource bp is actively working to introduce solar grazing programs and other farm producing activities at various other solar farm in Pennsylvania, helping to create strong rural communities alongside clean, renewable energy.

Thank you for the opportunity to comment today on the development of the solar industry in Pennsylvania, and how it might provide a wealth of benefits for Pennsylvania's farmers, communities, and economy. I would be happy to answer your questions.