

**Opening Statement  
of  
Brent Alderfer,  
CEO and Founder of Community Energy, Inc.  
to the  
Pennsylvania Senate Majority Policy Committee  
October 22, 2019**

Chairman Argall, and members of the Senate Majority Policy Committee, thank you for inviting me to participate in this workshop. We are a Pennsylvania-based company that has developed grid-scale and community solar generation across the country. I would like to present an update on the economics of solar and what it has to offer Pennsylvania.

Advances in solar generation in the last five years now make solar generation the number-one energy jobs opportunity, delivering both energy savings and increased tax revenues from significant capital investment in the state.

Economics                      The cost of solar generation has come down more than 70% since 2010. The cost declines have come from technology producing more electricity from each module, new tracking systems allowing modules to track the sun throughout the day like a sunflower from east to west extending the hours of production into the late afternoon when power is needed most, more efficient installation with prefabricated wiring harnesses and standardized systems, economies of scale on large solar systems, and finally reduced cost of capital as solar has proven 25-year reliability under commercial 25-year warranties.

Most important from an economic development point of view even after achieving those efficiencies and significant cost reductions

solar still produces more jobs per unit of electricity than any other source of generation—by a wide margin. Solar jobs are good paying jobs including electricians, surveyors, design and civil engineering, real estate, geotechnical, material procurement, distribution, construction, operation and maintenance. Ramping up to 10% solar in Pennsylvania produces 65,000+ new jobs and brings \$9 billion in new investment to the state.

Solar technology is unique in its ability to scale from roof-top up to community and utility-scale solar delivering hundreds of megawatts of wholesale power to the utility grid. As a result, solar jobs are distributed across every county of the state. Solar works throughout the state with no county left out.

Impact on Electricity Prices      The most striking change in solar economics is that the upfront investment in solar now reduces wholesale energy prices across the board for all customers. By producing more power during hot sunny days when demand is highest, solar generation suppresses high energy prices during times of peak demand reducing the cost of electricity during those key hours. Sometimes called “peak shaving” or “price suppression,” this is not a new, but it is new for Pennsylvania because we haven’t had that level of solar. It is not difficult to quantify the savings from increased solar production during peak . By running a standard PJM unit-by-unit hourly dispatch model to compare hourly wholesale energy prices with and without PA solar. we confirmed that adding 10% solar in Pennsylvania will reduce overall wholesale energy costs for PA customers by about \$620 million annually. In other words, the upfront investment in building out PA 10% solar pays off in wholesale energy savings at multiples of the cost of the investment.

Competition to Reduce Solar Prices      Current electricity markets follow the price of fuel up and down, so there is no long-term energy

pricing available in current energy markets—beyond three-to-five year energy price hedges are volatile and expensive. Because solar is all upfront capital, with no fuel cost, financing solar projects needs long-term price certainty to reduce financing costs, which are the biggest driver of solar energy costs. Just as a 30-year home mortgage drastically cuts the cost of financing a home compared to credit-card loans, 25-year solar financing drastically reduces the cost capital for solar projects compared to selling into volatile short-term energy markets. Long-term energy contracting is the key to taking advantage of drastically reduced solar generation costs in Pennsylvania.

The best way to use markets to deliver the solar price savings for consumers is to use competitive bidding for long-term solar energy purchases to drive down the price of solar and begin building in Pennsylvania now and over the next five-years, while federal tax credits and favorable interest rates are still available.

Farm and Ag-Benefits Probably the biggest misunderstanding is that solar uses farmland, when in fact solar is the best farmland preservation tool available. Here are the numbers. To get to 5% PA solar by 2025, solar projects will lease about 30,000 acres of land by 2030 to produce electricity. That is less than 1/2 % of the 7 million acres of farmland in the state. By comparison there is about 7 times that amount, 200,000 acres in abandoned mine land in PA.

A solar project pays farmers annual income at 3 to 5 times the income from farming, guaranteed for twenty-five years, and the land stays in the family. We install the posts and racking without grading or removing topsoil and without concrete foundations, and cover crops like deep-rooted fescue grass or more recently pollinator friendly cover crops improve the organic content and richness of the soil year by year as the farmland lies fallow while the solar panels deliver power to the electric grid. At the end of the 25-year lease, backed by a

decommissioning bond, the farm family can count on removal of the solar equipment, right down to pulling the posts out of the ground, and return of improved farmland to the next generation.

A comparison of other farmland preservation tools shows the advantages of solar. About \$1.4 billion in federal, state and local tax dollars have been spent to preserve about 600,000 acres of farmland in the state. The USDA under the conservation reserve program pays farmers annual market rent recently set at \$82 per acre to take about 200,000 acres of farmland out of production in PA. Solar pays the farmer 10 times that amount per acre from private investment as the solar project delivers energy for consumers around the state.

Taxes PA clean-and-green program abates local taxes for farmland to improve the economics of farm ownership and preserve farmland. It also reduces local tax revenues. A recent analysis estimated the loss of tax revenues for just two counties to be \$30.2 million annually. Solar investment turns those numbers completely around. In addition to increased payments to farmers, solar investment in PA, rather than abating local tax revenues, increases local tax revenues by \$ 228 million.

In summary, private solar investment is a strong PA jobs and farm bill.

Thank you for the opportunity to update the economics and current numbers on solar generation.

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