



September 9, 2019

Via Electronic Mail

dalthoff@pa.gov

David Althoff

Director

PA Dept. of Environmental Protection

Rachel Carson State Office Building

400 Market Street

Harrisburg, PA 17105-8772

Re: Elizabethtown Solar - PEDAs Grant – Document #4100070207

Dear Mr. Althoff,

The following is an update on the closeout of the Elizabethtown Solar project and comments for the PEDAs Board.

Status of Elizabethtown Solar

Elizabethtown Solar is a 2 MW solar photovoltaic fixed tilt project on 11 acres located adjacent to the Elizabethtown College campus. The project achieved commercial operation on February 1, 2016 and has operated continuously ever since, delivering clean, renewable energy to the Elizabethtown College campus. At full output, this 2 MW solar project is capable of powering nearly the entire campus and supplies approximately 30% of the College's electricity on an annual basis.

In early 2016 the racking system was damaged due to a heavy snow load. This has not interfered with production but did threaten module warranty and structural integrity. The snow load was heavy but within expected design capacity. As in all such construction failures, it has taken until recently to sort responsibilities amongst contractors, subcontractors, design engineers, equipment suppliers, insurance and others. This has now been completed.

As we have reported, we have signed with a new contractor to remove and replace the racks and reassemble the project. Equipment orders have been placed, and site work will begin mid-September. A contractual milestone requires 50% of the damaged racking to be removed by October 31, 2019 and the work is scheduled for completion by the end of the year. The overall project cost, including the work to rebuild the racking system to its expected design condition, will be closely in line with the project grant budget.

Societal Value of Elizabethtown Solar

In addition to the clean power produced, the project continues to act as a demonstration of solar energy to students and the greater community. At the time, it was the largest academic project in the Commonwealth. Others followed and built on this success.

There is a nationwide threat to bees and other pollinators. They are critical to some 70% of our food supply. One of the principle causes is habitat loss and degradation. We see our solar projects as a means to help address the pollinator crisis by improving the underlying habitat and increasing biodiversity. Much of our project lands are suitable for conversion from low maintenance grass monoculture to diverse pollinator friendly habitat, but we must understand costs and learn how to best construct and maintain such conditions. This project is our pilot from which we will apply the lessons learned to future solar projects.

In support of these goals, in the spring of this year, and with advice and seed from Ernst Conservation Seeds out of western Pennsylvania, we seeded the entire 11-acre Elizabethtown site with a mix of native flowering plant species, bolstering the existing meadow conditions. We also brought in honeybee hives managed by a local professional beekeeper. The new flowering plants will provide a source of nectar and pollen for the honeybees and other wild insects.

It will take through 2020 to fully gather operational information that will be applied to other projects. Meanwhile, we harvested 130 pounds of honey this year and pollinated not only our project but up to 15 square miles of adjacent lands. We have already begun to incorporate this learning into projects under development.

Recognizing PEDA Success

It is important that we recognize the significant contributions of PEDA to the solar industry in PA and beyond. PEDA funding was intended as a bridge from early adoption of renewable energy to commercial acceptance.

Our experience argues that PEDA has been greatly successful. In 2011/12 we developed the award winning 5 MW Keystone Project in Lancaster County, then the largest in Pennsylvania and much of the East. It required \$2.7M in state grants of which PEDA was \$1M. In 2015/16, the 2 MW Elizabethtown project required \$500,000 in grant support, all from PEDA. Now, in 2019/20 we are developing the 80 MW Adams County project, which will supply all of its power to the City of Philadelphia. It has required no grant funding.

The Keystone project was successful beyond the clean energy produced. Some 10 colleges and universities voluntarily purchased RECs that together with the grant funding, supported the viability of the project. The fact that the solar employment sector is one of the strongest in the economy is in part connected to the exposure of faculty and students at Elizabethtown and the colleges that supported the Keystone project.

Near to our company headquarters, Keystone was the breakthrough project for Community Energy. It established a foundation that allowed us to operate at that scale and beyond. It helped establish credibility to then develop 100 MW sized projects in Virginia, Minnesota, Colorado, and Georgia. In each case, these were pioneering projects of that scale and helped lead the way for others.

We have now developed over 1000 MW of projects in over 15 states and have many more in the development pipeline. We are the largest supplier of solar energy to Amazon and are frequently acknowledged as one of the top 10 solar developers in the country. We employ 55 full time staff in our

headquarters in Radnor, PA and offices in North Carolina and Colorado. We have many more specialty contractors employed and are responsible for 1000s of construction jobs.

Over these many years since the Keystone project, solar equipment costs have declined by 70%. PEDA assistance was essential to bridge the financial gap while costs declined over time. The PEDA program has performed as intended, as well as any such program we are aware of throughout the country. PEDA was created to help stimulate this type of progress and has succeeded in doing so. Thank you.

PEDA Into the Future

As for future funds, there will likely be more leverage in financial vehicles that de-risk projects than in grants. In the current fiscal environment, lowering the interest rate is not meaningful, but a construction loan may be. Should more funding become available, grants for battery storage for renewable energy projects would be strategic.

Lastly, we encourage the PEDA Board to support an expansion of the AEPS solar standard. The early leadership of Pennsylvania was key, but in order to further participate in the world wide solar expansion, the Commonwealth needs to modernize its AEPS goals. Pending legislation would do so. We encourage PEDA support for that legislation.

PEDA support and encouragement over the years has been so very critical to the success of our Pennsylvania projects and the early growth of our business. Thank you.

Sincerely,



Thomas J. Tuffey
Principal
Community Energy Solar, LLC



Ryan Irwin
Project Developer
Community Energy Solar, LLC