

Pennsylvania Energy Development Authority (PEDA) - Grant

Energy Success Story: Estes Express Lines

West Middlesex, PA



Is it possible to replace over 75% of the utility-supplied electric with a roof-mount solar array? Estes Express Lines is on the way to accomplishing that.

The Company, In Their Words

Estes Express Lines, Inc. (Estes) has provided top-quality transportation solutions since 1931. Estes offers a full spectrum of shipping and supply chain management services for virtually any destination in the world and is one of the top 25 carriers in the industry. Customers benefit from a comprehensive terminal network, reliable fleet, a dedicated single point of contact, experienced personnel and our state-of-the-art shipping tools.

Estes' mission is to provide a quality of service that is unsurpassed in the transportation industry. And to that end, show their commitment to their customers, the environment, sustainability, and the people of the Commonwealth by installing one of the largest rooftop photovoltaic (PV) solar arrays in Western PA.

The Project, In Summary

Motivated to reduce energy costs, improve efficiency, and reduce environmental impacts associated with their trucking terminal in West Middlesex, Mercer County, PA, Estes Express Lines embarked on a project to design and install a grid-tied solar photovoltaic (PV) project on their approximate 55,000-square-foot roof. Estes selected PA-based Dynamic Energy Solutions, LLC for design and installation of a 688kW grid-tied and net-metered PV array that covers virtually the entire usable roof space of the terminal building. The array consists of 2,150 roof-mounted solar modules of 320W each, and is expected to produce over 787,000 kilowatt hours of electricity annually, while significantly reducing carbon footprint. Pending full completion of a complementary facility-wide lighting efficiency upgrade, the PV project is anticipated to replace around 80% of the total utility-supplied electric consumption at the facility. Estes has experience with solar at three of their sites outside of Pennsylvania. This is their first here in the Commonwealth.



Project at a Glance

Name:

Estes Express Lines Solar PV Project

Location:

64 Stefanak Dr,
West Middlesex, PA 16159
Mercer County

Project Size:

688 kW Solar PV Roof Mount

Principal Use:

Clean Electricity Production over
787,000 kWh in the first year

Total Project Cost:

\$1,436,459

Grant Share:

\$400,000

Solar Consultant:

Dynamic Energy Solutions of
Wayne, PA

Project Period:

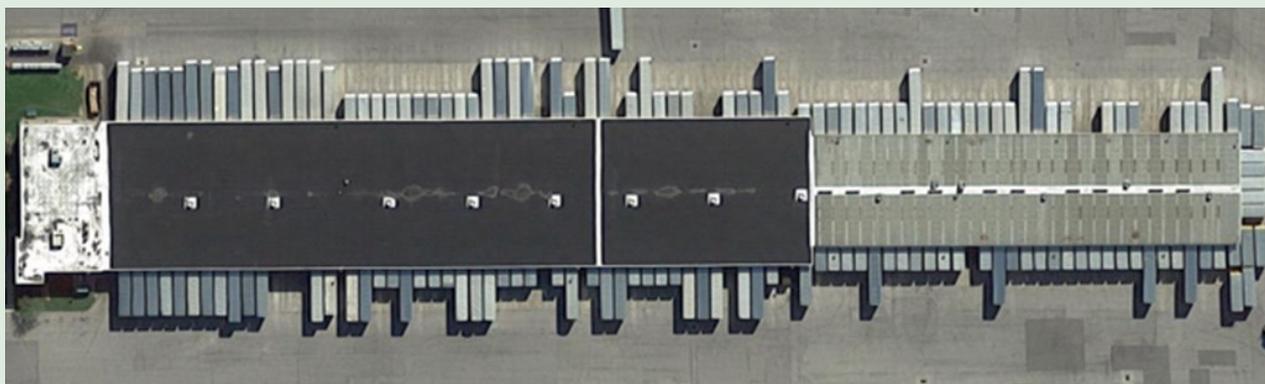
Six months from final design to final
utility inspection

Grant Project End Date:

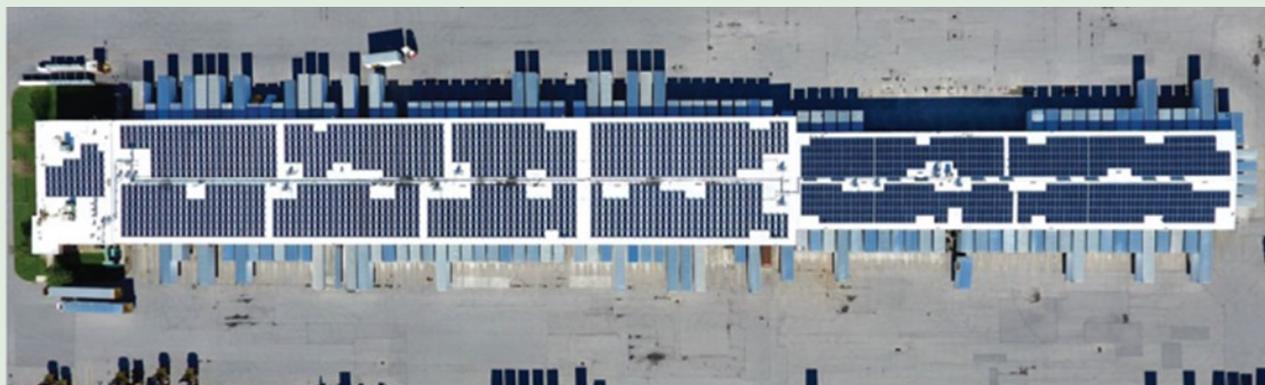
April 2017



Aerial view of the project - before and after



These images show the Estes distribution center with trucks lined up around the building. In the top photo, before the project, there are dark grey and lighter grey roofs available for the solar. The lower photo shows the new roofing membrane in white, outlining the blue silicon of the solar panels.



“Selecting clean solar power for our West Middlesex terminal further demonstrates Estes’ good stewardship of the environment.”

Joe Ziadeh, Project Manager of Estes Express Lines

(Source: Wiegler, Laurie. "Estes Express Lines and Dynamic Energy Complete Rooftop Solar Project." Transport Topics. Transport Topics, 26 June 2017. Web. 10 July 2017.)

Benefits:

Annual Savings:

- Energy Costs \$66,418

Lifetime Savings:

- Energy Costs \$1,660,446

Environmental Equivalent:

- Cars Removed from Road* 117
- CO2 Emissions (tons)* 553

*Annually

Results: Energy, Economy, Environment

When pricing their PV system, Estes was willing to make an investment in their future, knowing that these systems have a long life expectancy and therefore a longer return on investment was acceptable. The total project cost – everything from design and permitting to installation – was \$2.05 per watt, or about \$1.4 million. The Pennsylvania Energy Development Authority Grant was available to offset \$400,000 of their investment, and combined with federal tax incentives and modest Solar Renewable Energy Credits value Estes anticipates a simple payback of about 8.5 years.

Avoiding \$66,418 in electric costs also avoids 553 metric tons of carbon emissions. This savings to the environment is equivalent to removing 117 cars from Pennsylvania roads each year. It also reduces the impacts on the electric grid during peak demand, which reduces emissions from less-efficient generation sources.

Pennsylvania Energy Development Authority is an independent public financing authority created in 1982 by the Pennsylvania Energy Development Authority and Emergency Powers Act and revitalized through an April 8, 2004 Executive Order. The Authority's mission is to finance clean, advanced energy projects in Pennsylvania. The Authority can award grants, loans, and loan guarantees.