

# RE-Powering America's Land: Siting Renewable Energy on Potentially Contaminated Land and Mine Sites Keystone Industrial Port Complex, Pennsylvania Success Story

*Solar and wind power equipment manufactured at former steel mill*



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*EPA is encouraging the development of renewable energy facilities on potentially contaminated land and mine sites. This series of stories highlights successful projects and the benefits of siting renewable energy facilities on potentially contaminated land and mine sites.*

## Site History

The Keystone Industrial Port Complex (KIPC) is located in Fairless Hills, Pennsylvania, on the Delaware River, 20 miles north of Philadelphia. The 2,200-acre brownfield is the former site of U.S. Steel Fairless Works. In operation since 1952, the Fairless Works complex formerly housed a coke production plant, steel making, finishing and forging operations, a powerhouse and chemical plant. The site is still home to a U.S. Steel sheet and tin facility employing 100 workers, but the remaining operations were closed by 1991 and demolished by 1995, leaving over 1,200 acres available for redevelopment.

In 1993, U.S. Environmental Protection Agency (EPA) and U.S. Steel entered into a Consent Order for cleanup of the entire Fairless Works site. The property was divided into parcels based on selling or leasing potential, each with its own timetable for cleanup of soil and ground water contamination. After the closure of most mill operations by 2001, primary site owner U.S. Steel demolished 5 million square feet of old buildings and began to market the parcels to investment with potential for job creation. The site's extensive physical infrastructure and access to road, rail and water transport make the KIPC an attractive location for industrial tenants. In 2005, the Commonwealth of Pennsylvania designated 1,289 acres of the site as one of 12 Keystone Opportunity Improvement Zones (KOIZ) in the state. The designation encourages the development of new industry in the area, which experienced the loss of over 5,000 jobs in the 1980s and 1990s. The KOIZ designation allows companies who move to the zone to apply for exemptions from certain state and local taxes for up to 10 years.

## Renewable Energy Manufacturing

Once a symbol of the steel industry's decline, the Fairless Hills site is now a renewable energy success story. Several companies with close ties to wind, solar or biofuel energy are located on the site. The Commonwealth of Pennsylvania designed an incentive package for each facility through the Governor's Action Team, a committee of economic development professionals that serves as a single point of contact for businesses considering locating or expanding in Pennsylvania. The team works with domestic and international businesses, site consultants and investors on projects possessing significant investment and job creation opportunities. The two largest renewable energy tenants on the site are Gamesa, a wind turbine manufacturer, and AE Polysilicon, producer of material for photovoltaic (PV) solar panels.



### ABOUT THE SITE:

<b>Location:</b>	EPA Region 3, Bucks County, PA
<b>Property Size:</b>	1,289 acres
<b>Available for Reuse:</b>	450 acres available for purchase
<b>Site Ownership:</b>	U.S. Steel, other private owners
<b>Former Use:</b>	Steel mill, coke production plant
<b>Contaminants:</b>	TCE, heavy metals
<b>Project Type:</b>	PA Act 2 Land Recycling Program
<b>Infrastructure:</b>	Port, extensive onsite rail, industrial water and sewer
<b>Supported Use:</b>	Materials processing and manufacturing

### RENEWABLE ENERGY MANUFACTURING:

<b>RE Activity:</b>	Manufacturing polysilicon for solar PV panels, wind turbines
<b>Incentives:</b>	\$11.92 million in loans, grants, tax incentives
<b>Dollars Leveraged:</b>	\$104 million
<b>Jobs Leveraged:</b>	390
<b>Key Partners:</b>	Colorado Department of Public Health and Environment; National Renewable Energy Laboratories, EPA Region 8
<b>Current Status:</b>	Wind turbine plant operational July 2008, Polysilicon plant construction began July 2009

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For more information, visit: [www.epa.gov/renewableenergyland](http://www.epa.gov/renewableenergyland) or contact [cleanenergy@epa.gov](mailto:cleanenergy@epa.gov)

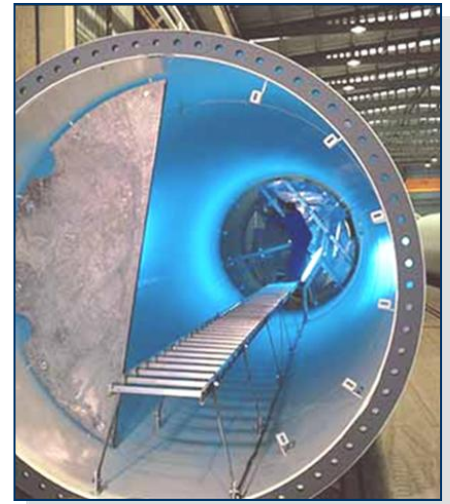
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**Gamesa:** In June 2008, Spanish wind energy corporation Gamesa, whose North American headquarters are in Philadelphia, invested \$34 million to open three new manufacturing centers on over 20 acres at the KIPC. Gamesa's blade-manufacturing plant will produce parts for the company's 2 megawatt (MW) wind turbines, which incorporate technologically advanced materials such as carbon fiber construction. A second plant will manufacture towers for the wind turbine platforms, and the third will produce the turbines' nacelles. The wind turbines produced by the plant each year will have a generation capacity of 1,000 MW, enough to power more than 300,000 homes. The company currently employs over 100 primarily technical workers, and expects to create another 250 jobs by the time all three plants are at full capacity. Along with the Bucks County Economic Development Corporation, the state Department of Community and Economic Development (PA DCED) offered Gamesa a financial package totaling approximately \$10 million in loans, grants and tax credits for the three manufacturing centers.



**AE Polysilicon:** Start-up solar material manufacturer AE Polysilicon Corporation will turn 20 acres of land and a vacant 39,000-square-foot building within the KIPC into a corporate headquarters and facility for manufacturing polysilicon, the raw material used to produce the solar cells and modules that convert solar energy into electricity. The company began construction on the \$70 million manufacturing facility in July 2009, creating over 140 permanent and 60 construction jobs. PA DCED and Bucks County worked with AE Polysilicon to secure a \$1.92 million financial package, including a \$1.76 million loan, a \$100,000 opportunity grant and \$65,000 in customized job training funds. The company is also eligible to apply for a \$5.8 million loan through the Citizens Job Bank Program, which offers low-interest loans to companies creating or expanding jobs in Pennsylvania.

## Economic Development Strategies

The redevelopment of the KIPC site as a green industrial complex is the result of targeted policies and programs aimed at energy independence and economic development. The Commonwealth of Pennsylvania attributes more than \$1 billion in economic growth and the creation of 3,000 jobs since 2004 to the rapid growth in wind and solar power, biofuels manufacturing, and other areas supporting these sectors. Development of renewable energy supports Pennsylvania's Alternative Energy Portfolio Standard, which requires 18% renewable power production by 2020, and is expected to further drive wind and solar development in the state. Gamesa and AE Polysilicon are important parts of the supply chain required to reduce the costs of renewable energy and boost generation capacity.

Pennsylvania's 2006 Energy Independence Strategy also played a key role in the development of renewable energy manufacturing at the site. The strategy accelerates the production of renewable energy components and systems with over \$100 million available (and an additional \$500 million proposed) in the form of venture capital, loans and grants to attract private investment in renewable energy and energy efficiency-related economic development projects. One of the strategy's key components, the Pennsylvania Sunshine Solar Initiative, offers specific benefits to manufacturers through production grants and rebates.

KIPC continues to market these incentives to potential tenants in renewable energy manufacturing and other advanced manufacturing industries identified by the Commonwealth as key areas of future economic growth.

### PROJECT HIGHLIGHTS:

- Steel mill site attracts new manufacturing facilities through Keystone Opportunity Improvement Zone status
- Gamesa USA and AE Polysilicon will invest \$104 million in renewable energy facilities, creating 450 green jobs.
- Solar and wind power equipment will supply renewable energy generation projects in the region and beyond
- The wind turbines produced at the site each year will produce enough electricity to power 300,000 homes.

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For more information, visit: [www.epa.gov/renewableenergyland](http://www.epa.gov/renewableenergyland) or contact [cleanenergy@epa.gov](mailto:cleanenergy@epa.gov)

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