

Brownfields Success Story

Bringing Clean Energy to an Abandoned Waterfront *Woodbridge, New Jersey*

El Paso Energy Corporation (EPEC) Polymers, Inc. owns a 185-acre parcel of land along the Raritan River in Woodbridge Township, New Jersey, that has a history of industrial activity. In the late 1800s, clay mining on the property supported the region's brickmaking industry, and organic chemical manufacturers operated a plant there until the mid-1980s. Since then, state and federal environmental investigations have confirmed contamination of the groundwater beneath the plant with volatile organic compounds, including vinyl chloride, trichloroethylene, and methylene chloride.

A portion of the property also was contaminated by materials the U.S. Army Corps of Engineers dredged from the Raritan River in the 1940s and 1950s. Tidal marsh areas were bermed and isolated hydraulically from the river to allow for placement of the dredged material and to install a municipal sewer main along the riverfront. Berming and filling the tidal marshes destroyed the natural habitat and created a large monoculture of Phragmites, a rapidly growing reed that chokes waterways and displaces native wildlife.

After the EPEC Polymers plant closed in 1986, the property remained vacant and contaminated for decades, making it particularly unappealing to developers concerned with remediation costs. In 2009, the New Jersey Department of Environmental Protection (NJDEP) partnered with Woodbridge Township to help return the property to productive use. With support from public and private investment, the site soon will house the Woodbridge Energy Center and the Woodbridge Waterfront Park. Though remediation and redevelopment have taken a tremendous amount of work, project officials say the promise of new jobs, clean energy, green space, and public access to the riverfront has made all the effort worthwhile.



An aerial shot of the Heyden Newport Chemical Corp. manufacturing plant in Woodbridge Township, New Jersey, in 1957. Investigators later confirmed groundwater contamination at the site.



An artist's rendering of the Woodbridge Energy Center, planned as part of a major effort to return a previously vacant and contaminated property along the Raritan River to productive use.

EPA Grant Recipient:

New Jersey Department of Environmental Protection

Grant Types:

EPA CERCLA 128(a)

Former Uses:

EPEC Polymers, Inc.,
Chemical Manufacturing Plant

Current Uses:

Woodbridge Energy Center,
Woodbridge Waterfront Park

“ By developing cleanup strategies that work for all our stakeholders, we have been able to transform a highly contaminated site into a productive property with waterfront recreational access. ”

*Anthony Findley
Brownfields Project Manager
New Jersey Department of
Environmental Protection
Office of Brownfield Reuse*

The Opportunity

Fortunes changed for the EPEC Polymers property when NJDEP included the parcel in its designation of the 270-acre Keasbey Woodbridge Brownfield Development Area (BDA) in 2009. A municipality with a designated BDA is eligible for grants of up to \$5 million each year from NJDEP’s Hazardous Discharge Site Remediation Fund for investigation and remediation activities. In addition, a designated case manager is assigned to the site to assist the municipality in overseeing remediation, obtaining financial assistance, and coordinating revitalization efforts with other state agencies.

Since 2010, the U.S. Environmental Protection Agency (EPA) Region 2 has granted nearly \$4 million to NJDEP under Section 128(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to help revitalize brownfields in the state, including the EPEC Polymers site. With these support mechanisms in place, the BDA Steering Committee and the NJDEP Office of Brownfield Reuse set out to start remedial work and attract investment for redevelopment.

The Cleanup

In 2009, EPEC Polymers began cleaning up the former chemical manufacturing site to NJDEP standards suitable for industrial and business development, along with restoring wetland areas and creating a recreational area that will be open to the public. Crews first focused on remediating a 28-acre parcel that was of interest to Competitive Power Ventures (CPV), which, in July 2012, announced plans to construct the Woodbridge Energy Center, a 700-megawatt natural gas-fueled power generation facility, at the site.

“Once CPV had clearance to build, things moved quickly,” says Anthony Findley, brownfields project manager with NJDEP’s Office of Brownfield Reuse. “Remediation of the parcel began in 2012 and took about two years, and commercial operation is scheduled to launch in 2016, just 28 months after construction began.”

The Woodbridge Energy Center will produce enough electricity to power 700,000 homes. Restoration of the site included construction of a 7,000-foot hydraulic barrier wall, excavation and offsite disposal of impacted soil, construction of a soil cap over the former manufacturing areas within the barrier wall, and filling and capping of a contaminated pond.

Restoration of more than 100 acres of wetlands along the Raritan River and construction of the future Woodbridge Waterfront Park began in 2011. The project includes planting more than two million native plants. When completed, the park will include two miles of new hiking trails, boardwalks along the river and upland areas, bird blinds, scenic overlooks, ecological signage, and passive recreation areas. The project is scheduled for completion in 2016. EPEC Polymers plans to donate the parkland to the town or county once cleanup efforts are complete.



Workers lay foundation for the new 700-megawatt natural gas-fueled power generation facility constructed by Competitive Power Ventures.



An artist’s rendering of the overlook view of the tidal wetland and Raritan River.

The Challenges

To attract investment, the BDA Steering Committee and the NJDEP Office of Brownfield Reuse have worked with the various stakeholders, including EPEC Polymers, CPV, local government and residents, community groups, and engineering and environmental technical experts. The parties had to find an approach that balanced these stakeholders' priorities, including remediation, economic redevelopment, generation of taxes, environmental preservation, and green space for public benefit.

"We've promoted the redevelopment by stressing the partnership developers will have with NJDEP," says Findley. "We have a dedicated team assigned to help developers, work on strategies, conduct assessments, make cleanup plans, address issues, and so on. It's worked well. We meet with developers on a regular basis, and they've gained confidence and taken significant action."

The size and scope of the remediation and redevelopment have required significant and complex permitting and regulatory approvals at the state and federal levels. Discoveries made while the project has been underway have led to changes in permit conditions and the need for additional approvals. For example, when stakeholders identified environmental impacts associated with the dredged material during initial remediation work, they had to make adjustments to their overall remedy for the site.

The Benefits

When the project is complete, a new natural gas power plant will produce affordable, clean energy for New Jersey residents, replacing older, more polluting facilities fueled by coal and oil. Protected wetlands will help keep the local environment clean, safe, and available for recreational use. Plus, the remediation and redevelopment have incorporated more than one million tons of recycled fill material and 50,000 tons of alternative fill from nearby NJDEP remediation projects. Incorporating this fill material into the project saved costs as well as landfill space.

Economic conditions in the Woodbridge area have been improving since the designation of a BDA. Construction of the Woodbridge Energy Center created more than 675 construction jobs, including jobs filled by union carpenters from Local 254 in New Jersey, with a payroll of approximately \$45 million over 28 months. Once the power plant is in operation, it will employ 100 workers, including 25 highly skilled employees, with an annual payroll of \$3.5 million. The plant will initially generate approximately \$2.5 million in annual tax income for Woodbridge Township, 25 percent of which will go directly to projects supporting the local school system. In addition, the project has created approximately 50 jobs associated with the wetland remediation and mitigation.

Cleaning up the site also will encourage additional redevelopment, increase property values, and attract businesses to the area. Redevelopment efforts already have led to the expansion of a nearby shipping distribution center and a new Federal Distribution Center.

"This is a billion-dollar investment that will have a positive impact on everybody in Woodbridge Township," Findley says. "More than 100,000 people, 13,000 kids, all will see the benefit of this investment in Woodbridge."



The Woodbridge Waterfront Park will include two miles of new hiking trails and boardwalks along the river.