

Contributed by: AC Power

Case Study: Waste Not, Want Not: Transforming Landfills into Solar Powerhouses, Old Bridge Township, NJ



Solar Panels displayed at the AC Power ribbon cutting ceremony in Old Bridge Township, New Jersey.

Introduction

The story of the Global Sanitary Landfill in Old Bridge Township, New Jersey is a remarkable journey of transformation. Once a burdened site plagued by environmental challenges, it has been reimagined and revitalized as a source of sustainable energy and community pride.

Amid an urgent need for renewable solutions and a rapidly accelerating energy transition, the transformation of this site into a solar facility powering more than 400 nearby homes stands as a triumph of innovation and possibility. This case study aims to provide municipal leaders with insights into the successful redevelopment of a brownfield site

into a renewable energy resource, offering a replicable model for similar projects nationwide.

Background

The Global Sanitary Landfill, surrounded by the Cheesequake State Park, has a history that mirrors many industrial sites in the United States. Originally a solid waste municipal landfill in operation from the 1960s until 1984, it faced a catastrophic slope failure due to heavy rainfall in April 1984. This event exposed previously unregistered and illegally dumped hazardous waste, sparking concern that the runoff would go into the groundwater and contaminate the surrounding area. Considered a superfund site, it was subsequently placed on the [National Priorities List](#) in March of 1989, and it

remained on that list even after its remediation completion in 2012.



Aerial shot of the Old Bridge at the AC Power site.

This complex history posed significant challenges for any potential redevelopment, raising concerns about environmental safety, regulatory compliance, and community acceptance. AC Power LLC, specializing in solar development on previously disturbed properties, recognized an opportunity amidst these challenges in 2019, envisioning a project that would not impact the remedy and would provide renewable energy and tangible community benefits. Before development could begin, though, there were three key challenges to address.

Predevelopment Challenges and Solutions

1. Complicated Site Title

The first significant challenge was the murky ownership status of the landfill. After the previous owner's passing, the site had fallen into a legal gray area, with no clear responsible entity. This uncertainty had deterred other prospective developers, as any development plans necessitated a clear legal path to obtain site control.

AC Power embarked on a meticulous and time-intensive process to unravel the site's ownership status. This involved engaging in negotiations with multiple stakeholders, including Township's local

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government and the Potentially Responsible Party (PRP) group managing the site's cleanup. Through persistent efforts, AC Power gradually clarified the legal status by working with an affiliate who agreed to take the title to the underlying Superfund site.

2. Financial Liabilities

With site control secured, the second major hurdle was approximately \$3 million in liens accumulated in back taxes on the property. With no active management of the site for decades, these taxes had been accruing and remained owed to the Township of Old Bridge, which wanted to see its constituents compensated for these "losses," creating another wrinkle that required ironing out prior to the advancement of the project.

Recognizing that these back taxes were unlikely to be paid under the current circumstances, AC Power initiated negotiations with Old Bridge Township to find a mutually beneficial solution. The result was a Payment-in-Lieu-of-Taxes (PILOT) agreement, which would generate an estimated \$1.2 million in revenue for the Township over 30 years. This agreement not only resolved the issue of tax liens but also created a

new revenue stream from a once non-productive site.

3. Access and Legal Issues

The final obstacle was gaining legal access to the site. A road leading to the landfill existed but lacked legal access easements. AC Power met with the owners of the surrounding land and the local authorities to establish a legal mechanism for permanent access. This involved detailed negotiations to modify existing easements and secure new ones, ensuring uninterrupted access for the construction and operation of the solar facility. The resolution of this issue was a crucial step, as it not only provided the necessary physical access to the site but also symbolized the overcoming of one of the last major barriers to the project's realization.

Development Process

With these challenges addressed, the project's success required close communication with the PRP group to ensure that the solar project would not impact the remedy. Collaborating with environmental experts, AC Power conducted detailed studies to ensure the site's suitability for a solar installation. This involved assessing the integrity of the landfill cap, understanding the topographical nuances, and confirming the stability of the site. The feasibility studies revealed that despite the site's complex history, it was stable enough to support a solar PV facility, laying the groundwork for development.

Securing regulatory approvals was also a critical aspect of the project. AC Power meticulously navigated through CERCLA regulations, ensuring compliance with EPA and NJDEP requirements through close coordination with these agencies. Obtaining a Major Landfill Disruption Permit was a crucial milestone, reflecting AC Power's ability to align project goals with environmental safety standards.

Community Solar Incentives

In early 2021, AC Power was awarded 2.8-MWdc capacity by the New Jersey Board of Public Utilities in the state's highly competitive Community Solar Pilot Program, which enables residents, especially those unable to install solar panels on their own properties, to access clean energy while enjoying reduced electricity costs. This program, which has since been made permanent, played an integral role in the project's feasibility, given the ability to sell energy at a higher rate and the incentives for brownfield development.

New Jersey's comprehensive approach also aligns well with federal incentives offered by the Inflation Reduction Act to maximize solar investment tax credits, especially in repurposing previously disturbed sites. The success of this project paves the way for similar developments nationwide, contingent on state programs that support this kind of development.

Timeline and Operational Challenges

The guidelines of the Community Solar program required that the project be operational by November 2023. This timeline was particularly aggressive for Brownfield projects and was further complicated by market conditions and interconnection study delays.

Close collaboration with JCP&L, the local utility, was crucial. Any delay in obtaining operational permission risked losing the incentives associated with the program, potentially derailing the project's financial structure. AC Power's ability to secure the necessary contracts and JCP&L's timely operational permission ensured that the project's financial structure remained intact.

Community Engagement and Benefits

Solar projects can sometimes face significant local opposition, however solar projects on brownfields tend to garner greater support due to their revitalizing nature.

Paired with AC Power's transparent and consistent communication with residents and council members, strong community ties were forged. This relationship allowed for open discussion addressing concerns and showcasing the benefits of solar farms as quiet, low-maintenance neighbors. This inclusive approach was instrumental in securing unanimous approval from the Township Council and winning the community's support.

Once operational, the project ensured access to clean, renewable energy to more than 400 homes, offering a 20% discount on utility bills with an emphasis on Low and Moderate Income (LMI) subscribers.

Beyond immediate environmental and economic benefits, the project embraced a long-term vision for community enrichment. The project made funds available for AC Power to partner with County College of Morris and Solar One, to facilitate a workforce development program in renewable energy by providing scholarships to local students for NABCEP certification, fostering the development of local talent in the renewable energy sector.

Replicability and Lessons Learned

The Global Landfill project demonstrates several key lessons for similar redevelopment initiatives:

1. *The Role of Incentives*

State and federal incentives play an essential part of a project being built and require that a developer successfully apply for such incentives and often competitive awards. Programs such as Community Solar allow for electricity generated to be sold at a competitive rate and can play a critical role in making solar brownfield development financially viable. It may also provide the financial benefit of generating renewable energy credits for the project.

2. *Regulatory Compliance and Environmental Stewardship*

Navigating complex regulatory environments requires expertise and diligence. Compliance with environmental standards is not just a legal requirement but a commitment to responsible development.

3. *Legal and Economic Considerations*

Innovative financial solutions like PILOT agreements can address challenging economic contexts, while title transfers can help clear the path for development. These strategies ensure projects are not just environmentally viable but also economically beneficial.

4. *Partnerships and Collaboration*

The success of such projects relies on strong partnerships across various stakeholders, including local governments, environmental agencies, PRP groups, and the community.

5. *Creating Long-Term Community Value*

Beyond immediate economic and environmental benefits, projects should aim to provide lasting value to the community. Workforce development programs and educational partnerships are vital in fostering sustainable community growth.

Conclusion

The successful redevelopment of the Global Sanitary Landfill into a solar power facility is a story of resilience, innovation, and community partnership. AC Power's ability to navigate complex legal, financial, and logistical challenges serves as a blueprint for similar projects across the nation. As municipalities and developers look to replicate this model, the Global Sanitary Landfill project stands as a testament to the potential of transforming brownfield sites into sources of renewable energy.

About Solar@Scale



Solar@Scale is a partnership between the International City/County Management Association (ICMA) and the American Planning Association (APA) that aims to help cities, towns, counties, and special districts understand and realize the potential benefits of large-scale solar development.

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