ECT Environmental Consulting & Technology, Inc.

New York Looking to Transform Brownfields into Renewable Energy Resources

By Marc Florian, Vice President, Site Assessment and Remediation

To increase its state's renewable generation, the New York State Energy Research and Development Authority (NYSERA) recently released a comprehensive toolkit that provides guidance and resources for local units of government looking to develop solar projects on brownfield sites.[1]

The Municipal Solar Procurement Toolkit is the newest chapter in the New York Solar Guidebook, first published by NYSERA in 2016 to help local public officials understand the potential benefits, effects, and impact renewable energy projects can have on their communities.[1] Coupled with the guidebook, which covers a variety of solar energy topics, including the permitting process, property taxes, and model solar energy law, the toolkit provides an overview of municipal procurement processes as well as ready-to-use templates for land leases and requests for proposals.

Designed to help communities looking to develop solar projects on underutilized properties, the toolkit supports recent revisions to the NY-Sun Megawatt Block Program;[1] a $1 billion incentive program designed to increase statewide solar capacity, which includes higher incentives for projects on landfills and brownfields.[2]

According to *The Evening Tribune*, the toolkit is part of a statewide effort to support renewable energy project growth and compliments a rulemaking package adopted in June by the New York State Department of Environmental Conservation (DEC) to streamline the State Environmental Quality Review (SEQR) process and encourage sustainable development.[1]

The updates, among the first in more than two decades, took effect January 1, 2019,[1] and reduce the number of actions subject to review under SEQR, including the installation of solar arrays on closed landfills and cleaned-up brownfield sites, among others.[1] The change means contractors will no longer be required to make formal assessments of environmental impacts of solar projects on brownfields.

As New York looks to reach a nation-leading goal of 50 percent renewable energy by 2030,[1,2] these streamlined project reviews are expected to supplement existing solar development incentives and boost installations. Equally important, the financial opportunities for local units of government looking to re-purpose a brownfield/landfill site for solar development are many; ranging from lease revenue to increased accessibility

to power and lower consumer energy bills.

New York's effort to facilitate the development of solar arrays on brownfield sites reflects a growing nation-wide realization. Signed earlier this year by President Donald Trump, the Brownfields Utilization, Investment, and Local Development Act of 2018 emphasizes "clean energy" generation or "energy efficiency improvement,"[3] and places preferences on two categories of projects within the U.S. Environmental Protection Agency (EPA) Brownfield Assessment, Cleanup and Revolving Loan Fund program: "brightfields" (sites "that generate renewable electricity from… solar… energy") and "windfields" (sites "that generate renewable electricity from wind… energy").[3]

What the New York and federal initiatives have in common is that they provide funding for clean energy projects on lands where development projects might not otherwise occur because of uncertainties and preconceived assumptions of risk.

While preferences such as these may not provide the sole impetus required to achieve Governor Cuomo's 50 percent mandate in New York or the federal government's renewable energy consumption goals, they do call attention to a redevelopment opportunity thus far hidden from many participants in the renewable energy market.

According to land-use estimates in the National Renewable Energy Laboratory's Renewable Electricity Futures Study,[4] it would require approximately 52 square miles of solar arrays to meet New York's renewable generation goal by 2030.[5]

Clearly, with most of its undeveloped land being privately owned or preserved, and more than half being occupied by lands that are generally incompatible with large-scale solar development altogether, New York has concluded brownfields could help meet this demand. They are not alone.

The National Renewable Energy Laboratory (NREL) recently estimated landfills and other contaminated sites cover 15 million acres across the country.[6] According to NREL land use estimates, that is enough land to generate around three million MWs of solar energy alone – meaning solar brightfields can generate roughly as much electricity as the United States consumes in a year.[6,7] In New York the total available acreage is currently unknown. Utility Drive reported NYSERDA is conducting its own high-level study "to identify priority landfill and brownfield sites across the state."[2]

Since its inception in 2008, EPA's RE-Powering America's Land Initiative has promoted 213 renewable energy installations on contaminated lands, landfills, and mine sites across roughly 40 states and territories, with a cumulative installed capacity of just over 1,235 MWs.[8] Given the U.S. solar industry installed 10,600 MWs of new photovoltaic capacity in 2017 alone, it's understandable these small projects (1.9- to 34.5-MW) haven't garnered much attention thus far. Nevertheless, as states like New York continue to adopt progressive environmental policies, cities and towns throughout the nation will begin to realize the value of retrofitting otherwise undevelopable sites with solar arrays.

Building multi-million-dollar solar arrays across closed landfills, abandoned mine lands, and Superfund sites is a great example of one of renewable energy's most exciting applications – one that creates win-win-win options for local governments and property owners, utilities and energy developers, and residents alike.

References:

1. Staff reports. (2018, August 22). Tool Kit to aid municipalities in developing solar projects. The Evening Tribune. Retrieved from: http://www.eveningtribune.com/news/20180822/strongtoolkit-to-aid-municipalities-in-developing-solar-projectsstrong
2. Gheorghiu, L. (2018, August 24). New York unveils new toolkit to drive solar on brownfields. Utility Drive. Retrieved from: https://www.utilitydive.com/news/new-york-unveils-new-toolkit-to-drive-solar-on-brownfields/530856/
3. Brownfield, Sergeant. (2018, April 10). BUILD Act Puts Preferences for Brightfield and Bluefield Sites into Brownfield Grant Scoring. Brownfield Listings. Retrieved from: https://brownfieldlistings.com/blog/post/build-act-puts-preferences-for-brightfield-and-bluefield-sites-into-brownfield-grant-scoring
4. National Renewable Energy Laboratory (2012). Renewable Electricity Futures Study. Hand, M.M.; Baldwin, S.; DeMeo, E.; Reilly, J.M.; Mai, T.; Arent, D.; Porro, G.; Meshek M.; Sandor, D. (Eds.) 4 vols. Retrieved from: https://www.nrel.gov/docs/fy12osti/52409-1.pdf
5. Stein, Eleanor and Boyle, Mike. (2017, March). Siting Renewable Generation: The Northeast Perspective. Energy Innovation Policy & Technology, LLC. Retrieved from: https://americaspowerplan.com/wp-content/uploads/2017/03/NortheastSitingPerspective_SteinOBoyle.pdf
6. U.S. Environmental Protection Agency and the National Renewable Energy Laboratory. (2013, February). Best Practices for Siting Solar Photovoltaics on Municipal Solid Waste Landfills. Retrieved from: https://www.epa.gov/sites/production/files/2015-03/documents/best_practices_siting_solar_photovoltaic_final.pdf

7. Marcacci, Silvio. (2017, August 10). Solar Brightfields: Gigawatts of Clean Energy Potential on America's Landfills and Brownfields. Forbes. Retrieved from: https://www.forbes.com/sites/energyinnovation/2017/08/10/solar-brightfields-gigawatts-of-clean-energy-potential-on-americas-landfills-and-brownfields/#4c66ea616f54
8. U.S. Environmental Protection Agency. (2018). RE-Powering Accomplishment Highlights. Retrieved from: https://www.epa.gov/re-powering/re-powering-accomplishment-highlights

ABOUT ECT

It requires specialized technical skills and proven experience to site and permit a renewable energy project at a brownfield site. ECT has supported the domestic and international energy sectors for more than three decades, serving as an expert resource for power generation facilities that have delivered more than 55,000 MW of new power over the past 10 years alone. ECT services within the energy sector span five key practice areas, including: air quality, natural resource management and permitting, performance assurance and compliance, site assessment and remediation, and water resources.

Call 855-737-0444 for additional information or visit www.ectinc.com for an office location and contact near you.