RE-Powering America's Land Initiative: Tracking Completed Projects on Contaminated Lands, Landfills, and Mine Sites

The U.S. Environmental Protection Agency (EPA) recognizes the overall environmental benefit of siting renewable energy projects on contaminated properties. Through the <u>RE-Powering America's Land Initiative</u>, EPA is encouraging the reuse of formerly contaminated lands, landfills, and mine sites for renewable energy development when such development is aligned with the community's vision for the site.

Using publicly available information, RE-Powering maintains a list of completed renewable energy installations on contaminated sites and landfills (referred to as RE on CL). To date, the RE-Powering Initiative has identified 311 renewable energy installations on 289 contaminated lands, landfills, and mine sites,¹ with a cumulative installed capacity of 1,561 megawatts (MW) and consistent growth in total installations since the inception of the RE-Powering Initiative. Approximately 72% of these installations are large-scale systems with a project capacity of 1 MW or more, either exporting energy onto the utility grid, offsetting onsite energy demands, or powering cleanup. This document provides summary statistics of known installations and discusses emerging trends.

This document provides summary statistics and analyses regarding the types of projects (e.g., system sizes, renewable energy technologies, energy uses, etc.) that have been completed on contaminated properties to date. In addition, this document also includes a project tracking matrix that lists basic information that

RE-Powering America's Land Initiative

To provide information on renewable energy on contaminated land projects not currently appearing in this document, email <u>cleanenergy@epa.gov</u>. To receive updates, newsletters, and other information about the RE-Powering program, click the banner below.



what is being done to protect and clean up our land. Follow @EPAland to join the conversation.

is publicly reported about each known, completed installation. Besides the completed sites listed in this document, EPA is also actively tracking more than 90 renewable energy projects that are in various stages of planning, approval, or construction on contaminated or disturbed properties. These include a community solar project on a 13-acre landfill in Laurens, NY; a second 2.7-MW solar project to add capacity to an existing installation at the Troy, NY landfill; and a 180-MW solar project on a former open-pit coal mine in Lewis County, WA. EPA is also aware of approximately 95 other potential renewable energy projects on contaminated sites, primarily landfill projects that have been suggested at town council or public meetings.



311 Renewable Energy Projects, Over 1.5 Gigawatts Installed Capacity

In this document, installation and project refer to a single renewable energy technology installation, while site and location refer to a single contaminated property. A site or location may have more than one installation or project. For example, the former Dave Johnston Mine (one site) has three separate wind installations. Multiple installation details can be seen in the tracking spreadsheet at the end of this document.



National Deployment

RE-Powering has identified installations of renewable energy on contaminated lands, landfills, and mine sites in 40 U.S. states and territories. The locations of these installations reflect evolving trends generally linked to available renewable energy resource as well as incentives or policies such as Renewable Portfolio Standards (RPSs), tax exemptions, net metering laws, and others. Policy data in this section are primarily from the <u>Database for State Incentives for Renewables and Efficiency</u> (DSIRE), a comprehensive database managed by the North Carolina Clean Energy Technology Center and originally funded by the U.S. Department of Energy. DSIRE compiles renewable energy and energy efficiency incentives and policies enacted by the federal government, state governments, U.S. territories, local governments, and large utilities. The DSIRE website allows users to search policies <u>by state</u> and provides quarterly <u>summary maps</u>. The policy chart now features a "RE-Powering Policy" column. This column identifies states that have enacted policies that specifically support or incentivize renewable energy projects on contaminated lands and brownfields. One example is Massachusetts' Solar Renewable Energy Certificates program, which assigns higher credits to solar projects sited on brownfields and landfills. Additional states are considering implementing such policies; for example, the Nevada State Environmental Commission <u>voted</u> recently to add "renewable energy development and storage" to the list of acceptable post-production uses for shuttered mining operations. The change is pending final adoption by the Nevada Legislative Commission.



40 States and Territories Have Renewable Energy Projects on Contaminated Lands



This map is for informational purposes only. The information was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. This map may not be a comprehensive representation of all completed renewable energy projects on contaminated lands. To provide information on additional projects, please email cleanenergy@epa.gov.

January 2019



INSTALLATIONS BY STATE OR TERRITORY²

		Installed Conscitu	State Banawahla	Color Cot Asido	Color Multiplier	Distributed	
State	# Installations	(MW)	Portfolio Standard ³	Policy ⁴	Policy ⁵	Requirement ⁶	RE-Powering Policy
MA	108	285.4	\checkmark	\checkmark			\checkmark
NJ	40	177.3	\checkmark	\checkmark			\checkmark
NY	25	98.1	\checkmark			\checkmark	\checkmark
CA	17	144	\checkmark				
СТ	12	16.8	\checkmark				\checkmark
VT	9	19.3	\checkmark			\checkmark	\checkmark
CO	9	9.3	\checkmark		√7	\checkmark	
MD	7	46.1	\checkmark	\checkmark			\checkmark
ОН	7	15.7	\checkmark	\checkmark			
PA	6	178.5	\checkmark	\checkmark			
WY	5	295.8					
IN	5	24.9	√8				
AZ	4	30	\checkmark		\checkmark	\checkmark	
ТХ	4	14.6	√9		√10		
TN	4	10.1					
WI	4	3.9	\checkmark				
MN	4	0.5	\checkmark	√ 12		\checkmark	
VA	3	4.9	√ 13		√ 14		
ME	3	1.1	✓ ¹⁵		√16		
OR	2	100.1	\checkmark	\checkmark	\checkmark	√17	
NV	2	28.2	\checkmark	\checkmark	\checkmark		
IL	2	10.9	\checkmark	\checkmark		\checkmark	\checkmark
RI	2	6.3	\checkmark				
KY	2	5.0					
NM	2	3.0	\checkmark	\checkmark	√ 18	\checkmark	
FL	2	2.3					
MI	2	2.1	\checkmark		\checkmark		
DE	2	0.7	\checkmark	\checkmark	\checkmark		
NC	2	0.6	\checkmark	\checkmark			
OK	2	0.019	\checkmark				
RoUS ²⁰	13	25.5			1		
TOTAL	311	1,560.8					

Table includes states with multiple installations plus the state with the largest single installation. Policy information from DSIRE (www.dsireusa.org). Accessed November 28, 2018.

A renewable portfolio standard (RPS) requires utilities to use or procure a certain percentage of total generation from renewable sources. A solar set-aside requires a certain percentage of the state's electricity be generated from solar resources. Some states call them "solar carve-outs:

A solar multiplier gives additional credit for solar projects that contribute toward meeting RPS requirements.

A distributed generation requirement obliges a utility to procure a certain percentage of electricity from renewable, customer-sited sources. Colorado's RPS includes a 1.5x multiplier for "community-based" projects—i.e., projects not greater than 30 megawatts and owned by individual residents of a community or by an organization or cooperative that is controlled by 6 7 individual residents, or by a local government entity or tribal council. The multiplier is not specific to solar.

Texas has already achieved its 2025 RPS goal. The state also had a voluntary non-wind generation goal that expired in 2015 and has been exceeded. Texas has a non-wind multiplier policy that includes solar but is not specific to solar. The non-wind multiplier is active through 2019, when the state's REC trading program is set to expire.

10 Wisconsin's RPS required 10% of all electric energy consumed in the state to come from renewable energy sources by 2015. The Public Service Commission's most recent RPS report confirms all utilities were in compliance for 2016. 11 Minnesota's solar carve-out is divided by utility. The overall carve-out is 1.5% for solar for public utilities by the end of 2020, 10% of which must come from solar PV systems with capacity if 20 kW or more. Xcel Energy, however, is required to have at least 25% of retail electricity sales generated by wind energy or solar energy systems by 2020, with solar limited to *no more than* 1% of this additional requirement.

12 Indiana's Clean Energy Portfolio Standard sets a voluntary goal of 10% clean energy by 2025 for each utility, based on the amount of electricity supplied by the utility in 2010.

Virginia has a voluntary renewable portfolio goal that provides an <u>enhanced rate of return</u> for renewable generation from approved projects.
 Virginia's renewable portfolio goal includes a 200% credit for energy derived from sunlight, onshore wind, and animal waste.

15 Maine's renewable portfolio standard required that, by 2017, 30% of Maine load be satisfied by existing renewable electricity generation and 10% of Maine load be satisfied by new renewable resources. Compliance data for 2017 are not vet available.

16 Maine's renewable portfolio standard included a multiplier for community-based renewable energy projects.

17 Oregon's RPS includes a goal that, by 2025, at least 8% of the state's electrical load comes from small-scale, community renewable energy installations with capacities of 20 MW or less. The RPS also includes a multiplier for PV systems with a capacity of 500 kW to 5 MW installed prior to January 1, 2016.

18 New Mexico had a 3x multiplier for solar projects developed and operational before January 1, 2012, by a distribution cooperative or through the wholesale contract obligation of the wholesale supplier 19 Oklahoma's RPS is a goal, not a requirement. The goal called for 15% of the state's total installed generation capacity to be derived from renewable sources by 2015. In its 2016 report, the Oklahoma Corporation Commission calculated the 2015 total capacity of electricity from renewable energy at 26%.

20 For purposes of this report, RoUS (Rest of US) indicates 12 other states or territories with renewable energy on contaminated lands: Georgia, Hawaii, Iowa, Michigan, Missouri, Montana, Nebraska, New Hampshire, Rhode Island, South Carolina, U.S. Virgin Islands, and Utah.



RE-Powering America's Land Initiative: Tracking Completed Projects on Contaminated Lands, Landfills, and Mine Sites

Solar Installations on Rooftops at Contaminated Sites

At one time, references to "solar energy" often conjured images of a few panels on a rooftop—in the earliest days of the technology, these panels tended to be bulky solar thermal units. Today, "solar energy" can still bring to mind rooftop installations—but now with sleek, barely noticeable panels—as well as acres-wide fields comprising potentially thousands of ground-mounted units feeding power to the grid. While most of the RE on CL installations highlighted in the RE-Powering Tracking Matrix fall into the latter category of groundmounted projects, communities are also finding value in placing solar panels on buildings built on repurposed sites. Some such projects include:

- **NASA Jet Propulsion Laboratory** A 0.56-MW rooftop solar project on a federally owned Superfund site in Pasadena, CA
- Tech City A 0.05-MW solar installation on a former computer mainframe development and testing site and EPA-designated <u>Resource Conservation</u> <u>and Recovery Act</u> (RCRA) site in Ulster, NY
- **Belmar Mixed-Use Development** 1.7 MW of solar installed on parking structures on an EPA-designated Brownfield in Lakewood, CO
- FedEx Ground Distribution Hub A 2.4-MW solar project spanning 3.3. rooftop acres on a building sited on an EPA-designated Brownfield and former chemical plant in Woodbridge, NJ
- Salt Lake City Landfill A landfill site in Utah that includes a 1-MW solar array, a portion of which is rooftop
- **Campbell's Soup Facility** 2.6 MW of solar on the rooftop of a building located on state-designated brownfield in Camden, NJ

In particular, this publication includes the addition of 13 rooftop solar installations on buildings sited on contaminated land in the state of New Jersey. Most of the sites are either state-designated brownfields or deed notice areas. Brownfields are defined by NJ state law (N.J.S.A. 58:10B-23.d) as, "any former or current commercial or industrial site that is currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant." In New Jersey, brownfield sites are often regulated under the authority of the <u>State of New Jersey Department of Environmental</u> <u>Protection</u> and <u>managed</u> under the <u>Licensed Site Remediation Professional</u> Program. A Deed Notice is a notice to inform prospective property owners that contamination exists at a site in levels that could restrict certain uses or access to all or part of the property through institutional controls, engineering controls,

New EPA Training Available

RE-Powering has released a new training module that educates stakeholders about the various land use considerations for pursuing renewable energy projects on contaminated lands, landfills, and mine sites. Topics include: site control and ownership; liability concerns; site clean-up status and timeline, and environmental permitting requirements. The new land use considerations can be found on the <u>EPA website</u>.



or other similar restrictive covenants. Deed Notices require concurrence from the property owner and outline the location and concentration of all contaminants as well as requirements for controlling, maintaining, or monitoring them.

Rooftop projects on contaminated property in New Jersey include two separate projects totaling 4.8 MW atop the Jersey Gardens Mall, built on the site of the former Elizabeth Landfill, and a 1.65-MW installation at the Schering Corporation's pharmaceutical manufacturing facility, which is also an EPA-designated RCRA site.



Tracking Completed Projects on Contaminated Lands, Landfills, and Mine Sites

RE on CL Offers a Range of Economic Benefits

RE-Powering America's Land Initiative:

RE on CL projects provide a number of <u>benefits</u> to their surrounding communities, from making productive use of degraded land to offering economic benefits to municipalities. Such economic benefits include lease payments, taxes or Payments in Lieu of Taxes (PILOT), jobs, and lower energy costs. Some examples include:

Northampton Landfill Solar – A 3.2-MW, 15-acre solar project on the city landfill in Northampton, MA, will provide enough energy to meet about 40% of the city's needs. The city is expected to <u>gain</u> <u>about \$9 million</u> over 20 years in cost savings and income. The system will produce enough clean electricity to power more than 600 Northampton households and help the city meet the goals of its Sustainable Northampton Plan.

Northport Industrial Center – The Northport Industrial Center in Elizabeth, NJ, features a 1.25-MW rooftop solar system that is expected <u>to save the building's corporate tenants</u> at least \$50,000 per year on their electricity bills. The solar project will also avoid more than 12,630 tons of carbon dioxide over a 25-year period, the equivalent of planting 122 acres of pine trees.

Annapolis Renewable Energy Park – The 16.8-MW solar project at the Annapolis Renewable Energy Park in Annapolis, MD is sited on 80 acres of a former municipal landfill, will use a net-metering system to provide electricity to Anne Arundel County, the city of Annapolis, and the Anne Arundel County Board of Education. The city of Annapolis is expected to earn \$4 million in revenue over the 20-year lease.

Lyndonville, VT Repurposes a Tool Manufacturing Site as a Solar Facility

After sitting idle for 25 years, the former Northeast Tool manufacturing site in Lyndonville, VT, is now home to two solar fields representing total generation capacity of 1 MW. The facility produced router bits, drills, and other tools from 1968 to 1993. The manufacturing activities led to chromium, polychlorinated biphenyl, total petroleum hydrocarbons, and other petroleum contamination in soil and concrete at the site. The property was remediated between 1991 and 2004, with the manufacturing facility being demolished in 2003. In 2017, a Vermont Department of Environmental Conservation assessment confirmed there were no longer contaminant concerns at the site.

Solar project developer VWSD purchased the site under Vermont's <u>Brownfields Reuse and Environmental Liability Limitation</u> <u>Program</u>, or BRELLA. The policy provides liability relief for parties who purchase a contaminated property and allows redevelopment to proceed without threat of legal or financial responsibility for contamination. Enrollment in BRELLA is also required in order for developers to be eligible for the state's revolving loan funds for corrective action.

The electricity from the Lyndonville solar projects will feed into the main electric grid and be allocated to state utilities. Over the 25-year life of the net metering contract, utility Lyndonville Electric Company is <u>expected to realize</u> \$150,000-\$200,000 in cost benefits from the generated electricity.

New York Policies Encourage RE on CL

The state of New York is finding ways to help encourage the development of renewable energy on brownfield and landfill sites. The New York State Energy Research and Development Authority (NYSERDA) recently revamped its <u>NY-Sun incentive program</u>, which is credited with supporting more than 652 MW of solar projects to date.

NY-Sun helps support New York's <u>Reforming the Energy Vision</u> strategy, which includes objectives to reduce energy burdens for low-income households and preserve the state's agricultural land. As such, the updated NY-Sun program includes a higher incentive for solar projects sited on brownfields and landfills, as well as at affordable housing locations. In addition, the state no longer requires an additional environmental assessment to construct solar projects in zones that have already been impacted by human presence, including landfills or brownfields.

The NY-Sun program has already supported a number of RE on CL projects, including the 0.59-MW Hoosick Farms Landfill community solar project in Hoosick Falls; the 2.5-MW Weibel Avenue Landfill project in Saratoga Springs; and two solar projects at a former landfill in Troy, where 0.6 MW have been completed and another 2.7 MW are in development.







7 states have policies that



RE-Powering America's Land Initiative: Tracking Completed Projects on Contaminated Lands, Landfills, and Mine Sites

RE-Powering Updates the Mapper Tool

This fall, EPA updated its <u>RE-Powering Mapper</u>, a webbased geographic information tool that provides location and renewable energy potential information for contaminated lands, landfills, and mine sites. As part of the update, more than 130,000 sites were screened for renewable energy potential. The site data were collected from state and federal sources. Federal sources included EPA's Superfund, Brownfields, RCRA Corrective Action, and the Landfill Methane Outreach Program databases. Data for state programs were collected from California, Colorado, Connecticut, Florida, Hawaii, Illinois, Maryland, Massachusetts, Minnesota Missouri, New Jersey, New York, Oregon, Pennsylvania, Texas, Virginia, and West Virginia.

Numerous attributes were screened for each contaminated land location, including renewable energy resource capacity potential and proximity to electric transmission lines. Within the RE-Powering Mapper, users can filter, query, and select sites that have pre-screened favorably for solar, wind, biomass/biofuel and geothermal energy potential.

The screened sites represent thousands of acres of land with renewable energy development potential. The reuse of these often under-utilized properties as renewable energy systems may represent an opportunity for cost savings, additional revenue, and job growth for local communities.

These projects can also help communities advance clean energy goals and reduce greenhouse gas emissions.

Based on resource availability, site size, and distance from existing infrastructure, the RE-Powering Mapper identified:

- 114,830 sites that screened positively for renewable energy in states that have a renewable portfolio standard.
- 8,445 sites that screened positively for small-scale utility solar or larger in states that encourage community solar or other shared renewables.
- 3,871 landfills that screened positively for solar.
- 2,261 sites that screened positively for biofuels.
- 520 sites that screened positively for large-scale utility wind in states with renewable energy tax incentives.

The updated Mapper and associated data are available on EPA's website.



Solar	olar State Policies													
Opti	Options 🔻 Filter by Map Extent 🔍 Zoam to 🔀 Clear Selection 📿 Refresh													
Site	Name	Program	Address	City	County	Zip	State	Acres	Site Status	Estimated Solar PV Capacity (MW)	Large Utility Scale			





Inside the Numbers

Based on current trends, 72% of the renewable energy systems identified in the tracking matrix sell power back to the grid as wholesale electricity, while another 25% provides energy via community solar projects or for onsite use. Systems range from utilityscale projects, like the 5.76-MW solar field on the former Mount Tom coal plant in Holyoke, MA, to smaller projects like the 0.1-MW solar installation on a Superfund site next to the Corvallis Airport in Oregon.

RE-Powering capitalizes on the opportunity to address contamination and support renewable energy implementation to achieve the associated economic and environmental benefits. Installations to date demonstrate the viability of projects across all EPA and state remediation programs, from powering industrial facilities at sites subject to RCRA corrective action to offsetting the energy demands at federal facilities with ongoing cleanup activities to repurposing brownfield and Superfund sites.

Overview	
Total # of sites	289
Total # of installations	311
Total installed capacity (MW)	1,561
Total # of states and territories represented	40
Max individual installation size (MW)	118.5
Min individual installation size (MW)	<.001

Number of Installations by Site Type ²¹	
Solar and wind projects on landfills/landfill buffer	192
Renewable energy projects on brownfield sites ²²	63
Renewable energy projects on Superfund sites ²³	40
Renewable energy projects on current/former federal facilities	22
and contaminated properties	
Renewable energy projects on RCRA corrective action sites	19
Renewable energy projects on mine sites	10

Installations	and Capacity by S	Site Ownership Type
	# Installations	Installed Capacity (MW)
Private	152	331.9
Municipal	117	912.4
Federal	20	148.3
Unknown	14	89.9
Public/Private ²⁴	2	76.7
State	2	0.9
Public	1	0.5
Federal/Municipal	1	0.2
Foundation	1	0.0
Non-Profit	1	0.0
Total	311	1,560.8

Installa	ations by Renewa	ble Technology
	# Installations	Installed Capacity (MW)
Solar PV	282	904.7
Wind	25	636.2
Biomass	1	20.0
Hydro	1	<0.1
Geothermal ²⁵	1	<0.1
Solar PV w/Wind	1	<0.1
Total	311	1,560.8

Installations by	y Energy Use	
	# Installations	Installed Capacity (MW)
Wholesale Electricity	220	1,395.7
Onsite Use - General	33	109.3
Onsite Use - Green Remediation ²⁶	25	9.3
Community Owned/ Subscription ²⁷	12	11.8
Rooftop ²⁸	17	29.8
Local Use	1	3.2
Unknown	2	1.2
Onsite Use – Training	1	0.5
Total	311	1,560.8

21 Some installations can be considered multiple "site types." For example, a Superfund site on a federal facility would be counted both as a Superfund site and as a federal facility for the purposes of this table; however, sites considered to be multiple site types are counted only once when calculating the total number of sites (311 for December 2018).

Community solar installations are wholesale electricity in that they typically send generated electricity directly to the grid. However, for the RE-Powering Tracking Matrix, community solar installations have been reclassified from the Wholesale Electricity category to the Community Owned/Subscription category to better represent the unique financing and ownership structure of community solar projects

28 Rooftop installations cited in the Tracking Matrix represent projects on buildings that are sited on land identified as contaminated (primarily brownfields).



²² Includes state brownfields 23 Includes sites subject to the National Priorities List (NPL), non-NPL sites, and sites subject to removal action under Superfund.

²⁴ The public/private sites are the Belmar Mixed-Use Development, which includes rooftop solar on parking structures with mixed ownership; and the Highland North Wind Project in the townships of Adams and Summerhill, PA, where the turbines are located on mixed-use land held by both public and private landowners.

One geothermal project, the Guthrie Green project in Tulsa, OK, uses a small solar array to power the geothermal heat pump.
 Green remediation is the practice of considering all environmental effects of remedy implementation and incorporating options to minimize the environmental footprints of cleanup actions. One such practice is using renewable energy systems to power remediation activities or offset the energy needs associated with cleanup efforts. Projects identified as On-site Green Remediation include all known projects which currently use or have previously used renewable energy for remediation purposes. This figure may include projects that have ceased operations since being added to the tracking matrix. Capacity includes a 4.5-MW system used to offset groundwater remediation systems at Massachusetts Military Reservation.

RE-Powering America's Land Initiative:

25

Geothermal

w/Solar PV 1 Biomass

Hydro



Continuing Growth

Geothermal

1

With the exception of one 100-MW wind installation on landfill buffer in Oregon (Columbia Ridge), only 19 projects with a total capacity of 143 MW were installed on contaminated sites through 2007. Of these, many were onsite or green remediation projects, and only four were individually larger than 1 MW. Beginning in 2008, RE-Powering has seen a marked upward trend in terms of the number of new renewable energy projects developed on contaminated lands, the amount of installed capacity produced by these projects, and the number connected to the wholesale electricity grid. These trends demonstrate that communities, developers, and site owners are embracing this sustainable land development strategy.

The range in project sizes reflects market conditions and trends, available acreage, electricity demands, and other variables. Medium- to large-scale installations (1-10 MW) make up 62% of the total number of installed projects to date, while larger systems (10+ MW) comprise 63% of total installed capacity on contaminated lands.

Of identified **projects**, 91% are solar PV projects developed on contaminated lands, landfills, and mine sites, representing about 58% of total installed **capacity**, which is a relatively new trend as tracked solar projects overtook wind projects in late 2017 to represent the majority of total **capacity**. While wind energy represents only 8% of RE on CL **projects**, a few very large wind installations maintain wind's measurable percentage of installed **capacity** (about 41%). These include the Casselman Wind Power Project in Somerset County, PA (35 MW); Steel Winds in Bethlehem, NY (35 MW); Highland Wind (62.5 MW) and Highland North Wind (75 MW) in Cambria County, PA; the wind farm at Columbia Ridge Landfill, OR (100 MW); and the three wind farms at the former Dave Johnston Mine in Glenrock, WY (276 MW). Wind tends to be used more often on vast tracts of contaminated land, such as mine sites, while solar PV is the dominant technology at smaller tracts such as municipal solid waste (MSW) landfills.

The RE-Powering strategy bolsters new markets for potentially contaminated lands, while supporting a sustainable land development strategy for renewable energy. One continuing trend is the reuse of former landfills as large solar PV developments. To date, EPA is aware of 186 solar projects making productive use of former landfills. Of these, at least 167 (95%) were completed between 2012 and 2018. Many more are being planned or permitted, or are under construction. For more information regarding considerations specific to solar projects on landfills, see RE-Powering's Best Practices for Siting Solar Photovoltaics on Municipal Solid Waste Landfills.



January 2019

Biomass

20 MW

Solar Project Trends²⁹

As noted in the **Continuing Growth** section, the RE-Powering Initiative has seen a marked and sustained trend in solar installations on contaminated lands. For instance, in the decade between 1997 and 2007, there were only 10 solar on contaminated land projects installed; in 2017 alone, 50 solar projects were installed on contaminated lands. While installations vary in size and are not marked by a particular trend, the predominant solar project size on contaminated sites is 1.01–5 MW. The chart below illustrates activity for solar projects tracked by RE-Powering on contaminated lands from 1997 to the present.



29 There are four installations in the 10 kW and less category for which the actual capacity is unknown. These installations are used for on-site or green remediation purposes and are assumed to be small.



Trends in Project Size^{30, 31}

As renewable energy installations on contaminated land have grown in total number, the range of system sizes has continued to become more diverse. Through about 2010, very small projects of 10 kW or less were more common and usually supported green remediation. Although the distribution of project sizes continues to vary from year to year, project size has generally trended upward since 2011. In particular, the percentage of total projects represented by the 501 kW–1 MW and 1.01 MW–5 MW ranges has remained relatively constant since 2014.



³¹ There are eight installations in the 10 kW and less category for which the actual capacity is unknown. These installations are used for on-site or green remediation purposes and are assumed to be small.



³⁰ Chart includes solar PV, wind, and biomass projects on contaminated sites. Not included in the chart are a 0.03-MW hydropower project powering green remediation at Summitville Mine, a solar panel that powers a geothermal system at Guthrie Green (capacity unknown), and an on-site geothermal system at Dayton Tech Town.

Annual Growth in Solar Installations on Landfill/Landfill Buffer



Annual Growth of Completed Installations and Installed Capacity^{32, 33}



³² Note that the growth curve for both the number of sites and cumulative installed capacity may differ from previous versions of the Tracking Matrix, as the RE-Powering team learns about additional renewable energy projects installed on contaminated lands in previous years.

³³ There are two installations for which the completion date or capacity is unknown. These installations are included in this chart in the years in which they were added to the Tracking Matrix, as follows: Included in 2016 is one 1.5-MW solar project installed by Honeywell Corporation as part of the Onondaga Lake cleanup project in Onondaga, NY, and included in 2017 is one wind installation of unknown capacity that supports green remediation at Continental Steel (Kokomo Wind Farm).



Range of System Sizes of Completed Installations^{34, 35}



Annual Growth in Installations on Landfill/Landfill Buffer Compared to All RE on CL Projects³⁶



The <10 kW category includes 10 installations for which actual capacity is unknown. These are primarily small systems installed for onsite green remediation or to power leachate and landfill gas collection systems. The exception is the Guthrie Green installation, which uses solar photovoltaic panels to power geothermal ground source heat pumps, which in turn feed direct power to Tulsa Paper Co. and Hardesty Visual Arts Center for heating and cooling.
 Counts represent cumulative number of projects, not number of sites (locations). Count includes landfill projects that may also be designated in the Tracking Matrix as Superfund, Superfund Removal, RCRA, and Brownfields.



³⁴ There are 10 1-MW installations in the 501 kW-1 MW capacity range that are included in the percentage of installations at 1 MW or greater (72%) noted on page 1 of this document.

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description	ite Description									2. Renewable Energy Information				3. Project Implementation	
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type	
Ajo Solar Project	9	AZ	Ajo	Mine Lands	Freeport-McMoRan Copper & Gold Inc.	Private	38	Adjacent to mining	Solar PV	5.00	38.0	Recurrent Energy	2011	Wholesale Electricity	
Apache Powder	9	AZ	Benson	Superfund	Apache Nitrogen Products, Inc.	Private	1,100	Dynamite manufacturing facility	Solar PV and Wind	0.00	-	Unknown	1997	Onsite Use - Green Remediation	
Bagdad Mine Solar	9	AZ	Bagdad (census- designated)	Mine Lands	Freeport-McMoRan	Private	21,750	Open-pit copper and molybdenum mine	Solar PV	15.00	24.0	Recurrent Energy	2011	Wholesale Electricity	
Desert Star Solar Plant	9	AZ	Buckeye	Landfill	City of Phoenix	Municipal	2,560	MSW Landfill	Solar PV	10.00	118.0	Arizona Public Service	2015	Wholesale Electricity	
Aerojet General Corporation Superfund Site	9	CA	Sacramento	Superfund	Aerojet	Private	5,900	Rocket propulsion development and testing facility	Solar PV	6.00	40.0	Solar Power, Inc.	2010	Wholesale Electricity	
Camp Pendleton Landfill	9	CA	Camp Pendleton	Superfund	U.S. Marine Corps	Federal	28	MSW and Light Industrial Waste Landfill	Solar PV	1.50	5.0	Kyocera Solar	2011	Onsite Use - General	
Cloverdale Solar	9	CA	Cloverdale	Landfill	Unknown	Unknown	-	Wood Landfill	Solar PV	1.80	-	Greenleaf-TNX	2014	Wholesale Electricity	
Fischer Properties: Depot Park	9	CA	Sacramento	Brownfield	Fischer Properties	Private	-	Former U.S. Army Depot	Solar PV	3.00	15.0	SPG Solar	2010	Onsite Use - General	
Frontier Fertilizer	9	CA	Davis	Superfund	Frontier Fertilizer	Private	18	Fertilizer and pesticide storage, sales and application	Solar PV	0.07	0.5	Unknown	2011	Onsite Use - Green Remediation	
Lawrence Livermore National Laboratory	9	CA	Livermore	Superfund	U.S. DOE	Federal	7,000	Ranchland, weapons testing range	Solar PV	0.00	-	Unknown	2009	Onsite Use - Green Remediation	
MCE Solar One (Chevron Richmond Refinery)	9	CA	Richmond	Landfill	Chevron Corporation	Private	-	Oil Refinery Landfill	Solar PV	10.50	60.0	Stion	2018	Wholesale Electricity	
Milliken Landfill	9	CA	Ontario	Landfill	County of San Bernardino	Municipal	196	MSW Landfill	Solar PV	3.10	15.0	PV Navigator	2017	Wholesale Electricity	
NASA Jet Propulsion Laboratory (JPL)	9	CA	Pasadena	Superfund	NASA	Federal	-		Solar PV	0.56	-	Unknown	2011	Rooftop	

January 2019

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites are systems as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical

values. This information is sorted by state and then by site/project name. Installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description	Description										2. Renewable Energy Information			
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Pemaco Superfund Site	9	CA	Maywood	Superfund	City of Maywood	Municipal	1	Custom Chemical Blender	Solar PV	0.01	1.4	Unknown	2007	Onsite Use - Green Remediation
PSEG Pittsburg Solar Energy Center	9	CA	Pittsburg	RCRA	USS - Posco Industries	Private	115	Steel Mill Landfill	Solar PV	25.40	115.0	PSEG Solar Source	2015	Wholesale Electricity
Regulus Solar Power Plant	9	CA	Bakersfield	Brownfield	Unknown	Unknown	-	Former gas and oil field	Solar PV	82.00	737.0	SunEdison	2015	Wholesale Electricity
Sutter's Landing Landfill Solar	9	CA	Sacramento	Landfill	George Kaiser Family Foundation	Municipal	-	MSW Landfill	Solar PV	1.50	-	SMUD/Conergy	2014	Wholesale Electricity
Tequesquite Landfill	9	CA	Riverside	Landfill	City of Riverside	Municipal	120	MSW Landfill	Solar PV	7.50	20.0	Sunpower/RBI Solar	2015	Wholesale Electricity
Travis AFB	9	CA	Near Fairfield	Federal Facility	U.S. Air Force	Federal	6,368	Battery shop / Air Force operations	Solar PV	-	-	CH2M	2008	Onsite Use - Green Remediation
West County Wastewater District	9	CA	Richmond	Brownfield	West County Wastewater District	Municipal	-	Sludge-drying pond	Solar PV	1.00	10.0	Solar Power Partners, Inc.	2008	Onsite Use - General
Western Regional Sanitary Landfill	9	CA	Lincoln	Landfill	Western Placer Waste Management Authority	Private	-	MSW Landfill	Solar PV	0.01	-	Energy 2011	2017	Onsite Use - General
Aurora/Arapahoe Solar Array	8	CO	Aurora	Brownfield	City of Aurora	Public	5	Adjacent to Buckley AFB	Solar PV	0.50	4.5	Clean Energy Collective	2013	Community Owned / Subscription
Belmar Mixed-Use Development	8	СО	Lakewood	Brownfield	Mixed Private/ Public	Public/ Private	48	Shopping mall	Solar PV	1.70	47.5	SunPower Corporation	2008	Rooftop
Boulder Cowdery Meadows Solar Array	8	СО	Boulder	Superfund	Cowdery Company	Private	4	Landfill buffer to Marshall Landfill Superfund Site	Solar PV	0.50	3.5	Clean Energy Collective	2013	Community Owned / Subscription
Coyote Ridge Solar	8	CO	Fort Collins	Landfill Buffer	Larimer County	Municipal	-	MSW Landfill (buffer)	Solar PV	1.95	9.0	Poudre Valley Rural Electric Association	2017	Community Owned / Subscription

14

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects

where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description	Site Description 2.									2. Renewable Energy Information				3. Project Implementation	
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type	
Dreher Pickle Plant	8	со	Fort Collins	Brownfield	City of Fort Collins	Municipal	-	Pickling plant	Solar PV	0.60	-	Clean Energy Collective	2015	Community Owned / Subscription	
Fort Carson	8	СО	Fort Carson	RCRA	U.S. Army	Federal	15	Construction Landfill	Solar PV	2.00	12.0	Colorado Springs Utilities	2008	Wholesale Electricity	
New Rifle Mill	8	СО	Rifle	Other	City of Rifle	Municipal	130	Former DOE uranium processing mill	Solar PV	1.70	12.0	SunEdison	2009	Onsite Use - General	
Norwood Landfill Community Solar	8	CO	Norwood	Landfill	Unknown	Unknown	-	MSW Landfill	Solar PV	0.20	-	GRID Alternatives	2016	Community Owned / Subscription	
Place Bridge Academy	8	СО	Denver	Landfill	Denver Public Schools	Municipal	10	Landfill	Solar PV	0.10	1.5	Namaste Solar	2013	Onsite Use - General	
Bethel Town Landfill Solar	1	СТ	Bethel	Landfill	Town of Bethel	Municipal	-	MSW Landfill	Solar PV	0.95	4.0	Ameresco	2018	Wholesale Electricity	
Bozrah Landfill Solar	1	СТ	Bozrah	Landfill	Town of Bozrah	Municipal	-	MSW Landfill	Solar PV	3.10	-	Brightfields	2016	Wholesale Electricity	
Bridgeport Landfill	1	СТ	Bridgeport	Landfill	City of Bridgeport	Municipal	46	MSW Landfill (1938-91); Construction Landfill (1996-2000)	Solar PV	2.20	22.0	American Capital Energy	2016	Wholesale Electricity	
Derby Landfill Solar	1	СТ	Derby	Landfill	City of Derby	Municipal	23	MSW Landfill	Solar PV	0.74	6.0	Jordan Energy and BQ Energy	2015	Wholesale Electricity	
Evansville Avenue Landfill	1	СТ	Meriden	Landfill	City of Meriden	Municipal	-	MSW Landfill	Solar PV	1.10	3.0	Greenskies Renewable Energy LLC	2017	Wholesale Electricity	
Fairfield Landfill	1	СТ	Fairfield	Landfill	City of Fairfield	Municipal	-	MSW Landfill	Solar PV	1.30	-	Greenskies Renewable Energy, LLC	2017	Wholesale Electricity	
Hartford CT Landfill (solar)	1	СТ	Hartford	Landfill	City of Hartford	Municipal	96	MSW Landfill	Solar PV	1.00	6.0	Tecta Solar	2014	Wholesale Electricity	
Newtown Landfill Solar	1	СТ	Newtown	Landfill	Town of Newtown	Municipal	-	MSW Landfill	Solar PV	1.00	4.0	Solar City	2018	Wholesale Electricity	



This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description									2. Renewable Energy Information				3. Project Implementation	
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
North Haven Landfill	1	СТ	North Haven	Landfill	City of North Haven	Municipal	-	MSW Landfill	Solar PV	0.38	1.0	Greenskies Renewable Energy	2017	Onsite Use - General
Rogers Road Landfill	1	СТ	Norwich	Landfill	City of Norwich	Municipal	98	MSW Landfill	Solar PV	3.00	5.0	SolarCity with Brightfields	2017	Wholesale Electricity
Wintergreen Ave. Landfill	1	СТ	Hamden	Landfill	City of Hamden	Municipal	-	MSW Landfill	Solar PV	1.00	5.0	True Green Capital Solar Generation IV	2016	Wholesale Electricity
Woodstock (CT) Landfill Solar	1	СТ	Woodstock	Landfill	Town of Woodstock	Municipal	-	MSW Landfill	Solar PV	1.00	-	BeFree Solar	2016	Wholesale Electricity
Dupont Newport	3	DE	Newport	Superfund	DuPont	Private	-	Landfill	Solar PV	0.50	5.0	Greenwood Energy	2013	Wholesale Electricity
McKees Solar Park	3	DE	Newark	Landfill	City of Newark	Municipal	-	MSW Landfill	Solar PV	0.23	3.9	Unknown	2014	Community Owned / Subscription
Bee Ridge Landfill / Rothenbach Park	4	FL	Sarasota	Landfill	Sarasota County	Municipal	450	MSW Landfill	Solar PV	0.25	0.6	Florida Power & Light	2008	Wholesale Electricity
Lake Worth Landfill	4	FL	Lake Worth	Landfill	City of Lake Worth	Municipal	63	Landfill	Solar PV	2.00	5.0	Siemens	2017	Wholesale Electricity
Hickory Ridge Landfill	4	GA	Atlanta	Landfill	Republic Services, Inc	Private	48	MSW Landfill	Solar PV	1.00	10.0	Republic Services	2011	Wholesale Electricity
Kapolei Sustainable Energy Park	9	н	Kapolei	RCRA	James Campbell Company LLC	Private	12	Former Industrial Waste Site	Solar PV	1.20	4.0	Forest City Hawaii	2011	Wholesale Electricity
Schaus-Vorhies Solar	7	IA	Fairfield	Brownfield	Schaus-Vorhies Manufacturing	Private	11	Foundry	Solar PV	0.50	-	Ideal Energy	2016	Wholesale Electricity
Exelon City Solar	5	IL	Chicago	Brownfield	City of Chicago	Municipal	21	Foundry and casting operation/fastener, hydraulic system components, and ball bearing manufacturer	Solar PV	10.00	41.0	Exelon and SunPower Corporation	2010	Wholesale Electricity
Gobnob Wind Turbine Project	5	IL	Farmersville	Brownfield	Illinois DNR	State	14	Freeman United Crown 1 Mine	Wind	0.90	-	Rural Electric Convenience Cooperative of Central IL	2009	Wholesale Electricity



January 2019

1. Site Description									2. Renewa	2. Renewable Energy Information				3. Project Implementation	
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type	
Kokomo Solar Park	5	IN	Kokomo	Superfund	Continental Steel	Private	183	Steel operations (nails, wire, and wire fence)	Solar PV	7.00	26.0	Inovateus Solar LLC	2016	Wholesale Electricity	
Kokomo Wind Farm (Continental Steel)	5	IN	Kokomo	Superfund	Continental Steel	Private	183	Steel operations (nails, wire, and wire fence)	Wind	-	-	Unknown	2017	Onsite Use - Green Remediation	
Marion County Solar #1	5	IN	Indianapolis	Landfill	Citizens Energy Group	Private		Monofill Landfill (Ash)	Solar PV	5.20		groSolar (now EDF Renewables)	2015	Wholesale Electricity	
Marion County Solar #2	5	IN	Indianapolis	Brownfield	Citizens Energy Group	Private		Natural gas facility	Solar PV	1.90		groSolar (now EDF Renewables)	2015	Wholesale Electricity	
Reilly Tar & Chemical (Indianapolis)	5	IN	Indianapolis	Superfund	Vertellus Specialities Inc.	Private	120	Chemical manufacturing facility	Solar PV	10.80	45.0	Hanhwa Q Cells	2014	Wholesale Electricity	
Fort Campbell Solar Phase One	4	KY	Fort Campbell	Landfill	U.S. Army	Federal	105,000	Landfill	Solar PV	1.90	5.0	BITHENERGY	2015	Onsite Use - General	
Fort Campbell Solar Phase Two	4	KY	Fort Campbell	Landfill	U.S. Army	Federal	105,000	Landfill	Solar PV	3.10	30.0	BITHENERGY	2017	Wholesale Electricity	
Acton Landfill	1	MA	Acton	Landfill	Town of Acton	Municipal	35	MSW and Light Industrial Waste Landfill	Solar PV	1.60	17.5	Ameresco	2013	Wholesale Electricity	
Adams Landfill	1	MA	Adams	Landfill	Town of Adams	Municipal	20	MSW Landfill	Solar PV	1.10	5.0	Apis Energy Group	2013	Wholesale Electricity	
Aquinnah Landfill	1	MA	Aquinnah	Landfill	Town of Aquinnah	Municipal	6	MSW Landfill	Solar PV	0.05	1.3	Vineyard Power Solar, LLC	2012	Onsite Use - General	
Barnstable Landfill	1	MA	Barnstable	Landfill	Town of Barnstable	Municipal	86	Landfill	Solar PV	4.20	17.0	American Capital Energy	2014	Wholesale Electricity	
Beech St. Landfill	1	MA	Rockland	Landfill	Town of Rockland	Municipal	98	MSW Landfill	Solar PV	3.20	7.5	NextSun Energy	2014	Wholesale Electricity	
Bellingham Landfill Solar	1	MA	Bellingham	Landfill	Town of Bellingham?	Municipal	-	MSW Landfill	Solar PV	2.70	-	Kearsarge Bellingham	2017	Wholesale Electricity	
Bent Mill Solar	1	MA	Gardner	State Brownfields	City of Gardner	Municipal	27	Manufacturing (furniture)	Solar PV	1.00	5.0	BCC Solar Energy Advantage/Borrego	2014	Wholesale Electricity	
Berkley Landfill Solar	1	MA	Berkley	Landfill	Waste Management	Private	23	Residential, commerical, and industrial landfill	Solar PV	3.60	18.0	Southern Sky Renewable Energy	2017	Wholesale Electricity	



Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially

contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description									2. Renewa	able Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Bird Machine Landfill	1	MA	Walpole	Landfill	Baker Hughes (a GE company)	Private	134	Industrial Landfill	Solar PV	4.75	25.0	Soltage	2017	Wholesale Electricity
Bolton Orchards	1	MA	Bolton	Brownfield	Davis Farms Trust	Private	105	Gravel pit	Solar PV	6.00	50.0	Syncarpha Solar	2013	Wholesale Electricity
Bolton Orchards Phase II	1	MA	Bolton	Brownfield	Davis Farms Trust	Private	105	Gravel pit	Solar PV	2.80	13.0	Syncarpha / Renewable Energy Massachusetts	2016	Community Owned / Subscription
Boxford Landfill	1	MA	Boxford	Landfill	Town of Boxford	Municipal	7	MSW Landfill	Solar PV	1.00	3.5	Borrego Solar	2017	Wholesale Electricity
Braintree Landfill	1	MA	Braintree	Landfill	Braintree Electric Light Department	Municipal	-	MSW Landfill	Solar PV	1.26	-	Ameresco/lvory Street Solar, LLC	2014	Wholesale Electricity
Brewster Landfill	1	MA	Brewster	Landfill	Town of Brewster	Municipal	16	MSW Landfill and Recycling Center	Solar PV	1.23	16.0	American Capital Energy	2014	Wholesale Electricity
Bridge Street Landfill	1	MA	Fairhaven	Landfill	Town of Fairhaven	Municipal	-	MSW Landfill	Solar PV	0.58	3.0	Dynamic Power/ Blue Sky/Heliosage	2013	Onsite Use - General
Brockton Brightfield	1	MA	Brockton	Brownfield	City of Brockton and Bay State Gas Company	Municipal	27	Former Gas Works Site	Solar PV	0.46	3.7	Global Solar	2006	Wholesale Electricity
Cedar Street Landfill	1	MA	Cohasset	Landfill	Town of Cohasset	Municipal	44	MSW Landfill	Solar PV	0.42	1.7	Palmer Capital/ CohSolar LLC	2017	Wholesale Electricity
Charles George Landfill	1	MA	Tyngsboro/ Dunstable	Superfund	Charles George Family	Private	71	MSW and Industrial Landfill	Solar PV	3.56	18.0	Tyngsborough Landfill Solar, LLC	2017	Wholesale Electricity
Chatham Landfill	1	MA	Chatham	Landfill	Town of Chatham	Municipal	30	MSW Landfill	Solar PV	1.80	16.5	American Capital Energy	2014	Wholesale Electricity
Chicopee Elks Landfill	1	MA	Chicopee	Landfill	Chicopee Lodge of Elks #1849	Private	-	Landfill (no food waste)	Solar PV	2.10	9.6	Citizens Enterprises Corp	2015	Wholesale Electricity
Chilmark Landfill	1	MA	Chilmark	Landfill	Town of Chilmark	Municipal	11	MSW landfill	Solar PV	0.10	6.0	Vineyard Power	2014	Wholesale Electricity
Concord Landfill Phase I	1	MA	Concord	Landfill	Town of Concord	Municipal	-	MSW Landfill	Solar PV	1.70	-	Kearsarge Energy	2014	Wholesale Electricity

January 2019

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description									2. Renewa	able Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Cottage Street Landfill	1	MA	Springfield	Landfill	Cottage Developers, LLP.	Municipal	62	MSW Landfill	Solar PV	3.90	40.0	Western MA Electric Co. (WMECO)	2014	Wholesale Electricity
Cowles Gravel Solar	1	MA	Westfield	Brownfield	Private trust	Private	35	Gravel Pit	Solar PV	2.60	10.0	Westfield Solar, Inc. (subsidiary of ConEdison Development)	2016	Wholesale Electricity
Delta Hills Landfill	1	MA	Chicopee	Landfill	WestMass Area Development Corp.	Private	-	MSW Landfill	Solar PV	2.69	8.0	CR Solar	2015	Wholesale Electricity
Dorchester Solar Power Project	1	MA	Dorchester	Brownfield	National Grid	Private	-	Former Manufactured Gas Plant	Solar PV	1.30	6.0	Unknown	2012	Wholesale Electricity
Dover Landfill Solar	1	MA	Dover	Landfill	Hale Reservation	Private	1,137	MSW Landfill	Solar PV	1.40	10.0	Blue Wave	2017	Community Owned / Subscription
Duxbury Landfill	1	MA	Duxbury	Landfill	Town of Duxbury	Municipal	19	MSW Landfill	Solar PV	0.59	3.0	American Capital Energy (as Duxbury Solar LLC) and Renewable Energy Development Partners, LLC	2014	Wholesale Electricity
East Bridgewater Landfill Solar	1	MA	East Bridgewater	Landfill	Republic Services	Private	233	MSW Landfill	Solar PV	3.20	-	Soltage	2017	Wholesale Electricity
Eastham Landfill	1	MA	Eastham	Landfill	Town of Eastham	Municipal	38	MSW Landfill	Solar PV	0.63	10.4	American Capital Energy	2014	Wholesale Electricity
Emery Street Landfill	1	MA	Palmer	Landfill	Town of Palmer	Municipal	10	Landfill	Solar PV	5.00	1.3	Borrego Solar	2017	Wholesale Electricity
Everett Solar Power Project	1	MA	Everett	Brownfield	National Grid	Private	-	Former Manufactured Gas Plant	Solar PV	0.61	2.5	Unknown	2010	Wholesale Electricity
Fairhaven Sanitary Landfill (Canton)	1	MA	Canton	Landfill	Town of Canton	Municipal	15	MSW Landfill	Solar PV	5.60	12.5	Southern Sky Renewable Energy / GZA	2012	Wholesale Electricity
Falmouth Landfill	1	MA	Falmouth	Landfill	Town of Falmouth	Municipal	48	MSW Landfill	Solar PV	4.00	16.0	Citizens Energy	2017	Wholesale Electricity



Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project solution is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location).

1. Site Description									2. Renewa	ble Energy l	nformatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Former Grasso Landfill	1	MA	Agawam	Landfill	Town of Agawam	Municipal	10	MSW Landfill	Solar PV	1.98	9.5	Rivermoor-Citizens Agawam, LLC	2013	Wholesale Electricity
Genrad Solar	1	MA	Stow	RCRA	Teradyne Corp.	Private	85	Manufacturing/ Electroplating	Solar PV	2.50	12.0	REM LLC/Syncarpha Capitol/Gehrlicher	2013	Wholesale Electricity
Greenfield Solar Farm	1	MA	Greenfield	Landfill	Town of Greenfield	Municipal	23	MSW Landfill	Solar PV	2.00	23.0	Axio Power	2012	Wholesale Electricity
Greenwood St. Landfill	1	MA	Worcester	Landfill	City of Worcester	Municipal	52	MSW Landfill	Solar PV	8.10	25.0	Borrego Solar	2017	Wholesale Electricity
Groton Landfill	1	MA	Groton	Landfill	Town of Groton	Municipal	-	MSW Landfill	Solar PV	2.93	8.0	Groton Landfill Solar, LLC	2016	Wholesale Electricity
Groveland Wells Solar	1	MA	Groveland	Superfund	Groveland Municipal Light	Municipal	35	Manufacturing (metal and plastics)	Solar PV	3.60	19.0	Consolidated Edison Development, Inc.	2013	Wholesale Electricity
Hartford Turnpike/ Shrewsbury Landfill	1	MA	Shrewsbury	Landfill	Town of Shrewsbury	Municipal	270	Landfill	Solar PV	3.80	-	Exyte Energy	2018	Wholesale Electricity
Harwich Municipal Landfill	1	MA	Harwich	Landfill	Town of Harwich	Municipal	120	MSW Landfill	Solar PV	4.50	28.0	American Capital Energy	2014	Wholesale Electricity
Haverhill Solar Power Project	1	MA	Haverhill	Brownfield	National Grid	Private	-	Former Manufactured Gas Plant	Solar PV	1.00	5.0	Rivermoor Energy	2010	Wholesale Electricity
Hill Street Landfill	1	MA	Norton	Landfill	City of Norton	Municipal	38	Landfill	Solar PV	2.00	8.5	Norton Landfill Solar LLC	2016	Wholesale Electricity
Hudson/Stow Landfill Solar	1	MA	Hudson	Landfill	Waste Management	Private	-	MSW Landfill	Solar PV	5.00	28.0	Unknown	2017	Wholesale Electricity
Hull Wind II	1	MA	Hull	Landfill	Town of Hull	Municipal	13	MSW Landfill	Wind	1.80	10.0	Hull Municipal Light	2006	Wholesale Electricity
Hunt Road Landfill	1	MA	Amesbury	Landfill	Waste Management	Private	65	MSW Landfill	Solar PV	6.00	30.0	Citizens Energy	2016	Wholesale Electricity
Huntington Avenue Landfill	1	MA	Metheun	Landfill	Town of Methuen	Municipal	30	MSW Landfill	Solar PV	1.30	4.7	Borrego Solar	2013	Wholesale Electricity

January 2019

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description									2. Renewa	able Energy	Informatio	n	3. Project In	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Indian Orchard Solar Facility	1	MA	Springfield	Brownfield	Springfield Redevelopment Authority	Municipal	-	Former foundry	Solar PV	2.30	12.0	Western Massachusetts Electric Company	2011	Wholesale Electricity
Iron Horse Park / Shaffer Landfill	1	MA	Billerica	Superfund	Town of Billerica	Municipal	40	MSW Landfill	Solar PV	6.00	40.0	Urban Green Technologies	2014	Wholesale Electricity
Iron Horse Park Asbestos Landfill Solar	1	MA	Billerica	Superfund	B&M/PanAm	Private	174	Asbestos Landfill	Solar PV	6.00	30.0	Conti Solar	2017	Wholesale Electricity
Iron Horse Park/Dow Solar	1	MA	Billerica	Superfund	Dow Chemical Corp.	Private	174	Chemical manufacturing facility	Solar PV	3.68	20.0	Soltage	2016	Wholesale Electricity
Kingston Landfill (wind)	1	MA	Kingston	Landfill	Town of Kingston	Municipal	20	MSW Landfill	Wind	2.00	20.0	Kingston Wind Independence LLC	2012	Wholesale Electricity
Lancaster Landfill	1	MA	Lancaster	Landfill	Town of Lancaster	Municipal	7	Gravel Pit Adjacent to Landfill	Solar PV	0.50	2.8	Unknown	2013	Wholesale Electricity
Lee Landfill (Willow Hill Road)	1	MA	Lee	Landfill	Schweitzer-Mauduit International	Private	-	Paper sludge landfill	Solar PV	2.60	17.5	East Light Solar	2017	Wholesale Electricity
Lenox Landfill	1	MA	Lenox	Landfill	Town of Lenox	Municipal	-	MSW Landfill	Solar PV	0.75	-	Willow Creek Solar LLC (subsidiary of Ameresco)	2017	Wholesale Electricity
Ludlow Landfill	1	MA	Ludlow	Landfill	Town of Ludlow	Municipal	22	MSW Landfill	Solar PV	2.70	17.0	Borrego Solar	2013	Wholesale Electricity
Mashpee Landfill Solar	1	MA	Mashpee	Landfill	Town of Mashpee	Municipal	-	MSW Landfill	Solar PV	2.10	8.0	American Capital Energy/ Renewable Energy Development Partners, LLC	2014	Wholesale Electricity
Massachusetts Military Reservation (Otis)	1	MA	Sagamore	Superfund	U.S. Air Force	Federal	22,000	Military training and aircraft operation and maintenance	Wind	4.50	-	Unknown	2011	Onsite Use - Green Remediation
Montague Landfill Solar	1	MA	Montague	Landfill	Town of Montague	Municipal	-	MSW Landfill	Solar PV	5.90	40.0	Kearsarge Energy	2018	Wholesale Electricity

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Mount Tom Station	1	MA	Holyoke	Brownfield	ENGIE North America	Private	128	Coal plant	Solar PV	5.76	22.0	ENGIE North America	2017	Wholesale Electricity
MT Sullivan Landfill Solar	1	MA	Chicopee	Landfill	Waste Management	Private	-	MSW Landfill	Solar PV	2.50	6.0	Unknown	2017	Wholesale Electricity
Needham Landfill	1	MA	Needham	Landfill	City of Needham	Municipal	75	MSW Landfill	Solar PV	3.70	13.0	Brightfields	2016	Wholesale Electricity
New Bedford High School Solar	1	MA	New Bedford	Brownfield	City of New Bedford	Private	-		Solar PV	0.50	2.5	Beaumont Solar	2012	Wholesale Electricity
Norfolk Landfill Phase I	1	MA	Norfolk	Landfill	Town of Norfolk	Municipal	51	MSW Landfill and Adjacent Land	Solar PV	0.55	1.6	Constellation Solar Massachusetts, LLC	2012	Wholesale Electricity
Norfolk Landfill Phase II	1	MA	Norfolk	Landfill	Town of Norfolk	Municipal	51	MSW Landfill and Adjacent Land	Solar PV	1.05	3.5	Constellation Solar Massachusetts, LLC	2012	Wholesale Electricity
North Adams Landfill	1	MA	North Adams	Landfill	Town of North Adams	Municipal	-	MSW Landfill	Solar PV	3.50	15.0	Borrego Solar	2015	Wholesale Electricity
North Carver Landfill	1	MA	North Carver	Landfill	Town of North Carver	Municipal	22	MSW Landfill	Solar PV	1.70	8.0	Southern Sky Renewables	2016	Wholesale Electricity
Northampton Landfill Solar	1	MA	Northampton	Landfill	City of Northampton	Municipal	15	MSW Landfill	Solar PV	3.17	15.0	Ameresco	2017	Wholesale Electricity
Oliver Street Landfill	1	MA	Easthampton	Landfill	City of Easthampton	Municipal	40	MSW Landfill	Solar PV	2.30	12.0	Borrego Solar	2012	Wholesale Electricity
Orleans Landfill	1	MA	Orleans	Landfill	Town of Orleans	Municipal	21	MSW Landfill	Solar PV	0.57	1.7	"Broadway Renewable Strategies, LLC"	2015	Wholesale Electricity
Osgood Landing Solar	1	MA	North Andover	State Brownfields	Ozzy Properties	Private	-	Manufacturing	Solar PV	6.00	-	Osgood Solar	2016	Wholesale Electricity
Palmer Metropolitan Airfield Solar	1	MA	Palmer	Brownfield	JenJill LLC	Private	105	Airfield	Solar PV	6.00	30.0	Borrego Solar	2016	Wholesale Electricity
Philips Lightolier Wind	1	MA	Fall River	Brownfield	Philips	Private	32	Manufacturing/Industrial Park	Wind	2.00	-	Philips	2012	Wholesale Electricity

January 2019

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Pittsfield Municipal Landfill	1	MA	Pittsfield	Landfill	City of Pittsfield	Municipal	44	MSW Landfill	Solar PV	2.91	9.0	Ameresco	2017	Wholesale Electricity
Plainville Landfill	1	MA	Plainfille	Landfill	Republic Services (Allied Waste)	Private	138	MSW Landfill	Solar PV	6.00	-	Soltage LLC	2017	Wholesale Electricity
Prospect Street Landfill	1	MA	Easton	Landfill	Town of Easton	Municipal	8	MSW Landfill	Solar PV	1.90	8.0	Borrego Solar	2014	Wholesale Electricity
Quaboag Landfill Solar	1	MA	Brookfield	Landfill	Town of Brookfield	Municipal	16	MSW Landfill	Solar PV	0.43	3.0	Washington Gas Energy Systems, Inc.	2013	Wholesale Electricity
Raffaele Road Solar Project	1	MA	Plymouth	Brownfield	Plymouth Sand and Gravel LLC	Private	30	Sand and gravel pit	Solar PV	5.67	26.0	BlueWave Capital	2014	Wholesale Electricity
Randolph Landfill Solar	1	MA	Randolph	Landfill	Republic Services	Private	295	MSW Landfill	Solar PV	4.80	30.0	Soltage	2017	Wholesale Electricity
Ravenbrook Farms Landfill	1	MA	North Carver	Landfill	Ravenbrook Farms, Inc. (Willard Rhodes)	Private	31	MSW, CD&D Landfill	Solar PV	6.00	14.0	Southern Sky Renewable Energy	2014	Wholesale Electricity
Rehoboth Landfill (MA)	1	MA	Rehoboth	Landfill	Town of Rehobeth	Municipal	21	MSW Landfill	Solar PV	2.49	18.3	NRG Renew LLC	2015	Wholesale Electricity
Re-Solve Superfund Solar	1	MA	Dartmouth	Superfund	Unknown	Unknown	6	Waste Chemical Reclamation	Solar PV	0.15	-	Unknown	2012	Onsite Use - Green Remediation
Revere Solar Power Project	1	MA	Revere	Brownfield	National Grid	Private	-	Former Manufactured Gas Plant	Solar PV	0.75	3.0	Unknown	2010	Wholesale Electricity
Rising Paper Solar	1	MA	Great Barrington	Landfill	Rising Paper, LLC	Private	67	Paper Landfill	Solar PV	3.20	12.0	Altus Power America Management, LLC	2016	Wholesale Electricity
Rumford Ave. Landfill Solar	1	MA	Newtown	Landfill	City of Newtown	Municipal	-	MSW and DPW materials landfill	Solar PV	2.14	9.0	Ameresco / Rumford Ave. Solar, LLC	2017	Wholesale Electricity
Russells Mills Road Landfill	1	MA	Dartmouth	Landfill	Town of Dartmouth	Municipal	115	MSW Landfill	Solar PV	1.45	6.3	Borrego Solar	2013	Wholesale Electricity



1. Site Description									2. Renewa	ble Energy	nformatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Saugus Landfill Solar	1	MA	Saugus	Landfill	Town of Saugus	Municipal	16	MSW Landfill	Solar PV	1.66	4.0	Ameresco	2017	Wholesale Electricity
Scituate Landfill	1	MA	Scituate	Landfill	Town of Scituate	Municipal	29	Landfill: MSW, construction debris, and wastewater treatment residuals	Solar PV	3.00	12.5	Scituate Solar - JV between Brightfields Development LLC and Syncarpha Capital	2013	Wholesale Electricity
Silver Lake Solar Photovoltaic Facility	1	MA	Pittsfield	Brownfield	Western Massachusetts Electric Company	Private	8	Former GE site and former steam generating site	Solar PV	1.80	8.0	Western Massachusetts Electric Company (WMECO)	2010	Wholesale Electricity
Simonds Rd. Landfill	1	MA	Williamstown	Landfill	Town of Williamstown	Municipal	18	MSW Landfill	Solar PV	2.00	7.0	Brightfields	2018	Wholesale Electricity
South Hadley Landfill	1	MA	South Hadley	Landfill	Town of South Hadley	Municipal	-	MSW Landfill	Solar PV	0.08	-	Tensar/ARM Group	2012	Onsite Use - General
Stockbridge Landfill	1	MA	Stockbridge	Landfill	Town of Stockbridge	Municipal	-	MSW Landfill	Solar PV	0.90	2.6	Ameresco	2018	Wholesale Electricity
Stow Brownfield Solar	1	MA	Stow	Brownfield	Unknown	Private	12	Unknown	Solar PV	2.50	12.0	Syncarpha Solar and Renewable Energy Massachusetts	2013	Wholesale Electricity
Sudbury Landfill	1	MA	Sudbury	Landfill	Town of Sudbury	Municipal	18	MSW Landfill	Solar PV	1.50	5.3	Ameresco/Solar Sudbury One, LLC	2013	Wholesale Electricity
Sullivan's Ledge	1	MA	New Bedford	Superfund	City of New Bedford	Municipal	27	Quarry / hazardous waste disposal	Solar PV	1.80	10.0	SunEdison	2014	Wholesale Electricity
Sylvester Ray Construction & Demolition Debris Landfill	1	MA	Marshfield	Landfill	Sylvester Ray, Inc.	Private	27	Demolition Landfill	Solar PV	3.87	13.0	No Fossil Fuel, LLC	2013	Wholesale Electricity
Theophilus Smith Road Landfill	1	MA	Dennis	Landfill	Town of Dennis	Municipal	148	MSW Landfill	Solar PV	6.00	34.0	American Capital Energy	2014	Wholesale Electricity
Tisbury Landfill	1	MA	Tisbury	Landfill	Town of Tisbury	Municipal	22	MSW Landfill	Solar PV	1.20	4.0	American Capital Energy	2014	Wholesale Electricity



Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects

where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
W.R. Grace Solar	1	MA	Acton/Concord	Superfund	Town of Concord	Municipal	240	Manufacturing (sealants, concrete)	Solar PV	5.60	30.0	Kearsarge	2016	Wholesale Electricity
Waltham Street Landfill	1	MA	Maynard	Landfill	Town of Maynard	Municipal	14	MSW Landfill	Solar PV	1.20	5.0	EPG Solar	2013	Wholesale Electricity
West Boylston Landfill	1	MA	West Boylston	Landfill	West Boylston Municipal Lighting Plant	Municipal	-	MSW Landfill	Solar PV	1.50	5.0	Greenskies Renewable Energy	2017	Community Owned / Subscription
West Tisbury Landfill	1	MA	West Tisbury	Landfill	Town of West Tisbury	Municipal	9	MSW Landfill	Solar PV	0.88	6.0	Broadway Renewable Strategies, LLC	2015	Wholesale Electricity
Westfield Landfill	1	MA	Westfield	Landfill	City of Westfield	Municipal	10	MSW landfill	Solar PV	2.50	7.5	Citizens Energy	2015	Wholesale Electricity
Westford St. Landfill	1	MA	Lowell	Landfill	City of Lowell	Municipal	42	Landfill - MSW, ash, oxide box waste	Solar PV	1.50	6.0	Ameresco	2014	Wholesale Electricity
Weston Landfill	1	MA	Weston	Landfill	Town of Weston	Municipal	-	MSW Landfill	Solar PV	2.27	9.0	Ameresco (d/b/a/ Church Street Solar)	2016	Wholesale Electricity
Wilbraham Landfill	1	MA	Wilbraham	Landfill	Town of Wilbraham	Municipal	-	MSW Landfill	Solar PV	0.75	3.0	Renewable Energy Development Partners	2016	Wholesale Electricity
Woburn Landfill	1	MA	Woburn	Landfill	City of North Woburn	Municipal	50	MSW Landfill	Solar PV	3.40	-	Greenwood Energy	2017	Wholesale Electricity
Annapolis Renewable Energy Park	3	MD	Annapolis	Landfill	City of Annapolis	Municipal	500	MSW Landfill	Solar PV	16.80	80.0	Annapolis Solar Park LLC (jointly owned by BQ Energy LLC and Building Energy Development US LLC)	2018	Wholesale Electricity
Former Ellicott City Landfill	3	MD	Ellicott City	Landfill	Howard County	Municipal	83	MSW Landfill	Solar PV	1.20	2.0	SunEdison	2011	Onsite Use - General
Fort Detrick	3	MD	Frederick	Superfund	U.S. Army	Federal	1,200	Army Medical Command installation	Solar PV	18.60	67.0	Ameresco Inc.	2016	Onsite Use - General

Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project solution is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location).

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project In	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Forty West Landfill	3	MD	Hagerstown	Landfill	Washington County	Municipal	-	MSW Landfill	Solar PV	2.00	10.0	EPG Solar/Spear Point Energy	2015	Wholesale Electricity
Resh Road Landfill (Resh S1)	3	MD	Hagerstown	Landfill	Washington County	Municipal	-	MSW Landfill	Solar PV	2.50	75?	EPG Solar/Spear Point Energy	2016	Wholesale Electricity
Washington County Rubble Landfill #1	3	MD	Williamsport	Landfill	Washington County	Municipal	-	Building materials and construction debris landfill	Solar PV	2.50	-	EPG Solar/Spear Point Energy	2015	Wholesale Electricity
Washington County Rubble Landfill #2	3	MD	Williamsport	Landfill	Washington County	Municipal		Building materials and construction debris landfill	Solar PV	2.50		EPG Solar/Spear Point Energy	2015	Wholesale Electricity
Belfast Landfill	1	ME	Belfast	Landfill	City of Belfast	Municipal	-	MSW Landfill	Solar PV	0.12	-	ReVision Energy	2015	Wholesale Electricity
Highland Ave. Landfill	1	ME	South Portland	Landfill	City of South Portland	Municipal	34	MSW Landfill	Solar PV	1.00	2.0	ReVision	2017	Wholesale Electricity
Woolwich Landfill	1	ME	Woolwich	Landfill	Town of Woolwich	Municipal	-	MSW Landfill	Solar PV	0.02	-	ReVision	2018	Wholesale Electricity
Coldwater Board of Public Utilities Solar Field Park	5	MI	Coldwater	Brownfield	City of Coldwater	Municipal	-	Foundry	Solar PV	1.60	-	NextEra Energy Resources LLC	2018	Wholesale Electricity
Eaton Rapids Landfill	5	MI	Hamlin Township	Landfill	Town of Eaton Rapids	Municipal	30	MSW Landfill	Solar PV	0.54	-	Helios Solar LLC	2014	Wholesale Electricity
Fridley Plant Solar	5	MN	N/A	Superfund	FMC Corp. (PRP)	Private	18	Industrial Landfill	Solar PV	0.15	-	Unknown	2009	Onsite Use - Green Remediation
Hutchinson Landfill	5	MN	Hutchinson	Landfill	City of Hutchinson	Municipal	-	MSW Landfill	Solar PV	0.40	1.0	Ameresco	2015	Onsite Use - General
Lindenfelser Landfill	5	MN	St. Michael	Landfill	Minnesota Pollution Control Agency	Municipal	-	MSW Landfill	Solar PV	-	-	Unknown	2016	Onsite Use - General
Washington County Landfill (MN)	5	MN	Lake Elmo	Superfund	Minnesota Pollution Control Agency	Municipal	25	Residential, commercial, industrial, demolition landfill	Solar PV	-	-	Unknown	2016	Onsite Use - General
Busy Bee's Laundry	7	МО	Rolla	Brownfield	Unknown	Private	-	Dry Cleaner	Solar PV	0.56	-	Unknown	2011	Onsite Use - Green Remediation

€

January 2019

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Zortman-Landusky Mine	8	MT	N/A	Mine Lands	BLM and MT DEQ	Federal/ Municipal	1,200	Ore mining and gold mining	Wind	0.23	-	Montana DEQ and U.S. BLM	2012	Onsite Use - Green Remediation
Evergreen Packaging Landfill	4	NC	Haywood County	Landfill	Evergreen Packaging	Private	-	Industrial Landfill	Solar PV	0.55	3.0	FLS Energy	2010	Wholesale Electricity
NC State University - Agricultural Pesticide Landfill	4	NC	Raleigh	Brownfield	NC State University	Private	-	Agricultural Pesticide Landfill	Solar PV	0.08	-	Carolina Solar Energy	2007	Wholesale Electricity
Former Nebraska Ordnance Plant	7	NE	Mead	Superfund	University of Nebraska	Private	-	Former Army Ordnance Plant	Wind	0.01	-	Unknown	2004	Onsite Use - Green Remediation
Milton Landfill Solar Garden	1	NH	Milton	Landfill	Town of Milton	Municipal	5	MSW Landfill	Solar PV	1.00	4.5	NH Solar Gardens	2016	Community Owned / Subscription
Bed Bath and Beyond Solar (Port Reading NJ)	2	NJ	Port Reading	State Brownfields	Bed Bath and Beyond Inc.	Private	29	Retail fulfillment center (current)	Solar PV	2.10	Rooftop	Sunpower	2011	Rooftop
Bernards Township Landfill	2	NJ	Bernards Twp	Unknown	Bernards Twp	Municipal	-	MSW Landfill	Solar PV	3.68	-	Syncarpha/The Conti Group	2016	Wholesale Electricity
Brick Township Landfill	2	NJ	Brick Township	Superfund	Brick Township	Municipal	42	MSW landfill	Solar PV	7.00	20.0	Brick Standard	2014	Wholesale Electricity
Campbell's Soup #1	2	NJ	Camden	Brownfield	Campbell Soup Company	Private	38		Solar PV	1.74	4.5	BNB Renewable Energy Holdings	2017	Wholesale Electricity
Campbell's Soup #2	2	NJ	Camden	Brownfield	Campbell Soup Company	Private	38		Solar PV	2.66	-	BNB Renewable Energy Holdings	2017	Wholesale Electricity
Clean Harbors	2	ΓN	Bridgeport	Landfill	Clean Harbors Development	Private	200	Hazardous waste treatment, storage, and disposal facility	Solar PV	1.50	82.0	Clean Harbors	2011	Onsite Use - Green Remediation
Diamond Chemical Co. Solar	2	NJ	East Rutherford	State Brownfields	Diamond Chemical Company	Private	-	Chemical manufacturing (current)	Solar PV	1.47	-	Solar Nation New Jersey LLC	2013	Onsite Use - General
Edgeboro Landfill	2	NJ	East Brunswick	Landfill	Middlesex County	Municipal	-	MSW Landfill	Solar PV	4.30	27.0	NERC Solar	2011	Wholesale Electricity



Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. For ject capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location).

1. Site Description									2. Renewa	ble Energy I	nformatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
FedEx Ground Distribution Hub	2	NJ	Woodbridge	Brownfield	FedEx	Private	200	Former chemical facility	Solar PV	2.42	3.3	BP Solar	2009	Rooftop
Fort Dix Landfill Solar	2	NJ	Pemberton Township	Superfund	U.S. Department of Defense (joint base operations)	Federal	42,000	Landfill	Solar PV	16.50	98.0	Affiliates of Starwood Energy Group and Energy Management, Inc.	2017	Wholesale Electricity
Goya Foods Inc.	2	NJ	Jersey City	State Brownfields	Unknown	Unknown	40	Corporate headquarters	Solar PV	3.45	Rooftop	Vanguard Energy Partners	2015	Rooftop
Hackensack Solar Farm	2	NJ	Hackensack	Brownfield	PSE&G	Private	40	Former manufactured gas plant/storage	Solar PV	1.06	6.0	PSE&G	2012	Wholesale Electricity
Handson Avenue Landfill	2	NJ	Egg Harbor	Superfund	Delilah Road Associates	Private	40	Sand/Gravel Pit; MSW and Construction Landfill	Solar PV	10.70	32.0	KDC Solar RTC, LLC	2016	Wholesale Electricity
Industrial Land Reclaiming Landfill	2	IJ	Edison	Landfill	Industrial Land Reclaiming Inc.	Private	-	MSW Landfill	Solar PV	7.75	21.0	PSE&G/Vanguard Energy Partners, LLC	2017	Wholesale Electricity
Jersey Gardens Mall Solar #1	2	NJ	Elizabeth	Landfill	Simon Property Group	Private	110	MSW Landfill	Solar PV	2.00	Rooftop	Sunpower	2012	Rooftop
Jersey Gardens Mall Solar #2	2	NJ	Elizabeth	Landfill	Simon Property Group	Private	110	MSW Landfill	Solar PV	2.80	Rooftop	Sunpower	2012	Rooftop
Kearny Landfill	2	IJ	Kearny	Landfill	New Jersey Meadowlands Commission	Municipal	35	MSW Landfill	Solar PV	3.00	13.0	SunDurance Energy LLC	2012	Wholesale Electricity
Kessler Industries Solar	2	NJ	Woodbridge	State Brownfields	Kessler Industries	Private	21	Copper and steel pipe manufacturing	Solar PV	0.64	4 (Rooftop)	SPG Solar	2012	Rooftop
Kinsley Landfill	2	NJ	Deptford Township	Landfill	Kinsley's Landfill, Inc. (subsidiary of TransTech)	Private	140	MSW Landfill	Solar PV	11.18	35.0	PSE&G	2014	Wholesale Electricity
L&D Landfill	2	NJ	Eastampton, Lumberton, and Mount Holly	Superfund	Waste Management	Private	200	Industrial/MSW landfill	Solar PV	12.93	53.0	PSE&G	2016	Wholesale Electricity

Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project solution is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location).

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementation
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Linden Solar Farm	2	NJ	Linden	Brownfield	Public Service Electric and Gas Company	Private	-	Synthetic natural gas facility	Solar PV	3.20	10.0	Advanced Solar Products	2011	Wholesale Electricity
Macy's Corporate Services Solar	2	IJ	Edison	State Brownfields	Federated Department Stores	Private	-	Retail distribution center (current)	Solar PV	1.06	Rooftop	Ray Angelini, Inc.	2012	Rooftop
Matrix Industrial Site Solar	2	NJ	Perth Amboy	State Brownfields	Chevron	Private	10	Asphalt refinery	Solar PV	1.17	4.5	Enxco Development Corporation	2011	Rooftop
Northport Industrial Center Solar	2	NJ	Elizabeth	State Brownfields	Industrial Developments International, Inc.	Private	-	Industrial distribution center (current)	Solar PV	1.25	3.9 (rooftop)	Catamount	2012	Rooftop
Owens Corning Landfill	2	NJ	Gloucester Township	Landfill	Owens Corning	Private	-	Landfill	Solar PV	3.00	14.4	PV Navigator	2017	Wholesale Electricity
Park Elementary School Solar	2	NJ	Newark	State Brownfields	Newark Public Schools	Municipal	5	School Public K-12 (current)	Solar PV	0.51	1.6	Mercury Solar Systems	2011	Rooftop
Parklands Solar Farm	2	NJ	Bordentown Township	Landfill	Waste Management	Private	95	MSW Landfill	Solar PV	10.14	40.0	PSE&G	2015	Wholesale Electricity
Paulsboro Terminal Landfill	2	NJ	Paulsboro	Brownfield	BP	Private	17	Former refined petroleum and specialty chemical bulk storage and distribution facility	Solar PV	0.28	5.0	ВР	2002	Onsite Use - Green Remediation
Pennsauken Landfill Renewable Energy Park- Solar	2	NJ	Pennsauken	Landfill	Pollution Control Financing Authority of Camden County	Municipal	39	MSW, commercial, and non-hazardous industrial landfill	Solar PV	2.60	10.0	PPL Renewable Energy	2008	Onsite Use - General
Picatinny Burning Grounds Solar	2	NJ	Jefferson and Rockaway Townships	Superfund	U.S. Army	Federal	6,400	Burning waste of combused munitions	Solar PV	0.08	2 or 3	Unknown	2016	Onsite Use - General
Princeton Landfill Solar	2	NJ	Princeton	Landfill	Town of Princeton	Municipal	-		Solar PV	2.70	8.0	GeoPeak	2017	Wholesale Electricity
Royal Wine Corporation Solar	2	NJ	Bayonne	State Brownfields	Unknown	Unknown	-	Winery (current)	Solar PV	1.15	Rooftop	HES Energy Services, LLC	2012	Rooftop

29

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites are contaminated lands, landfills, or mine sites. Project capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical

values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.
This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases,

conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description 2											2. Renewable Energy Information				
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type	
Schering Corporation Solar	2	IJ	Summit	RCRA	Schering Corporation	Private	60	Pharmaceutical manufacturing (current)	Solar PV	1.65	Rooftop	PPL Energy Services Holdings, LLC	2009	Rooftop	
Silver Lake Solar Farm	2	NJ	Edison	Brownfield	Public Service Electric and Gas Company	Private	6	Gas manufacturing	Solar PV	2.02	5.7	J. Fletcher Creamer & Sons	2010	Wholesale Electricity	
South Brunswick Landfill Solar	2	IJ	South Brunswick	Superfund	Republic Services	Private	68	MSW Landfill	Solar PV	13.00	-	NJR Clean Energy Ventures	2018	Wholesale Electricity	
Stafford Park Solar Farm	2	NJ	Stafford Twp	Other	Walters Group	Private	370	Landfill	Solar PV	6.00	30.0	Walters Group	2011	Onsite Use - General	
Tinton Falls Solar	2	NJ	Tinton Falls	Mine Lands	Tinton Falls Solar Farm, LLC / Zongyi Solar America Co.	Private	97	Sand and gravel mining	Solar PV	20.00	97.0	Zongyi Solar America	2013	Wholesale Electricity	
Trenton Solar Farm	2	NJ	Trenton	Brownfield	PSE&G	Private	-	Gas manufacturing	Solar PV	1.30	5.5	PSE&G	2010	Wholesale Electricity	
Wakefern Food Corporation Solar	2	NJ	Keasbey	State Brownfields	Wakefern Food Corporation	Private	-	Food distribution center (current)	Solar PV	2.38	Rooftop	Advanced Solar Products Flemington	2012	Rooftop	
White Rose Foods Solar	2	NJ	Carteret	State Brownfields	Middlesex Avenue Carteret LLC	Private	57	Smelter, lead manufacturing, and metal refining	Solar PV	4.90	Rooftop	Solar Power	2012	Rooftop	
Chevron Questa Project	6	NM	Questa	Superfund	Chevron Mining	Private	-	Mining Site	Solar PV	1.00	20.0	Chevron Technology Venture	2011	Wholesale Electricity	
Emcore Eubank Landfill	6	NM	Albuquerque	Brownfield	New Mexico State Land Office	Municipal	40	MSW Landfill	Solar PV	2.00	17.0	Emcore/Suncore	2013	Onsite Use - General	
Nellis AFB Solar Array II Generating Station	9	NV	Las Vegas	RCRA	U.S. Department of Defense	Federal	14,000	Landfill	Solar PV	15.00	102.0	SunPower	2016	Onsite Use - General	
Nellis AFB Solar Facility Site I	9	NV	Las Vegas	RCRA	U.S. Air Force	Federal	14,000	Landfill/landfill buffer	Solar PV	13.20	140.0	MMA Renewable Ventures LLC	2007	Onsite Use - General	
Bethlehem Steel Sun	2	NY	Lackawanna	RCRA	Tecumseh Redevelopment Inc	Private	1,200	Steel Mill	Solar PV	4.00	25.0	BQ Energy	2014	Wholesale Electricity	

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects

where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. Project shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

1. Site Description 2											2. Renewable Energy Information				
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type	
Bethlehem Steel Winds I	2	NY	Hamburg / Lackawanna	RCRA	Tecumseh Redevelopment Inc	Private	1,600	Steel Mill	Wind	20.00	30.0	BQ Energy and First Wind	2007	Wholesale Electricity	
Bethlehem Steel Winds II	2	NY	Hamburg / Lackawanna	RCRA	Tecumseh Redevelopment Inc	Private	1,600	Steel Mill	Wind	15.00	30.0	BQ Energy and First Wind	2012	Wholesale Electricity	
Clifton Park Landfill	2	NY	Clifton Park	Landfill	Town of Clifton Park	Municipal	25	MSW landfill	Solar PV	1.00	9.0	Onyx Renewable Partners	2017	Wholesale Electricity	
Dennings Point Landfill Solar	2	NY	Beacon	Landfill	City of Beacon	Municipal	-	MSW Landfill	Solar PV	2.00	11.0	BQ Energy	2018	Wholesale Electricity	
Emerson Street Landfill	2	NY	Rochester	Landfill	City of Rochester	Municipal	250	MSW Ash and Construction/Debris Landfill	Solar PV	2.60	11.7	Solar Liberty	2017	Wholesale Electricity	
Former Ferdula Landfill	2	NY	Frankfurt	Landfill	Unknown	Unknown	2	MSW Landfill	Wind	-	-	Unknown	1998	Onsite Use - Green Remediation	
Honeywell Water Treatment Plant	2	NY	Camillus	Unknown	Honeywell Corporation	Private	-		Solar PV	1.50	-	O'Connell Electric	2016	Onsite Use - Green Remediation	
Hoosick Falls Solar Garden	2	NY	Village of Hoosick Falls	Landfill	Village of Hoosick Falls	Municipal	27	MSW Landfill	Solar PV	0.59	-	Monolith Solar	2015	Wholesale Electricity	
Islip Municipal Town Landfill	2	NY	Hauppauge	Landfill	Town of Islip	Municipal	55	MSW Landfill	Solar PV	0.05	-	Town of Islip	2011	Wholesale Electricity	
Long Island Solar Farm at Brookhaven National Laboratory	2	NY	Upton	Superfund	U.S. DOE	Federal	-	Previously disturbed land at DOE Nat'l Lab Facility	Solar PV	32.00	200.0	Long Island Solar Farm, LLC (BP Solar and MetLife)	2011	Wholesale Electricity	
Madison County Agriculture and Renewable Energy Park	2	NY	Lincoln	Landfill	Madison County	Municipal	600	MSW Landfill	Solar PV	0.05	1.0	Carlisle Energy Services, Inc.	2011	Onsite Use - General	
Madison County Landfill (Canastota)	2	NY	Canastota	Landfill	Madison County	Municipal	-	MSW landfill	Solar PV	0.05	-	Solar Liberty Electric	2014	Onsite Use - General	



This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description 2										ble Energy	3. Project Implementation			
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Olean Gateway "Solean"	2	NY	Olean	State Brownfields	Krog Corp.	Private	60	Oil refining, fertilizer manufacturing	Solar PV	4.00	24.0	BQ Energy	2017	Wholesale Electricity
Olean Gateway "Solean" West	1	NY	Olean	State Brownfields	Krog Corp.	Private	24	Oil refining, fertilizer manufacturing	Solar PV	1.50	24.0	BQ Energy	2016	Wholesale Electricity
PatterSun NY #1	2	NY	Patterson	Landfill	Town of Patterson	Municipal	10	MSW Landfill	Solar PV	0.94	-	BQ Energy	2015	Wholesale Electricity
PatterSun NY #2	1	NY	Patterson	Landfill	Town of Patterson	Municipal	25	MSW Landfill	Solar PV	1.30	-	BQ Energy	2016	Wholesale Electricity
Tech City	2	NY	Ulster	RCRA	Tech City	Private	256	Computer mainframe development and testing facility	Solar PV	0.05	-	Solartech Renewables Inc.	2011	Rooftop
Troy Landfill Solar 1	2	NY	Troy	Landfill	City of Troy	Municipal	92	MSW Landfill	Solar PV	0.60	3.0	Monolith Solar	2018	Wholesale Electricity
Ulster County Landfill Solar	2	NY	Ulster	Landfill	Ulster County Resource Recovery Agency	Municipal	29	MSW Landfill	Solar PV	1.90	8.0	SolarCity	2018	Wholesale Electricity
Wallkill Landfill	1	NY	Wallkill	Landfill	Town of Wallkill	Municipal	68	MSW Landfill	Solar PV	2.00	8.0	GE Renewable Energy	2016	Wholesale Electricity
Weibel Avenue Landfill	2	NY	Saratoga Springs	Landfill	Town of Saratoga Springs	Municipal	-	MSW Landfill	Solar PV	2.50	14.6	Onyx Renewable Partners	2017	Wholesale Electricity
West Nyack Landfill	2	NY	Clarkstown	Landfill	Town of Clarkstown	Municipal	-	MSW landfill	Solar PV	2.36	13.0	OnForce Solar	2014	Wholesale Electricity
West Park Landfill (Floyd Ackert Rd.)	2	NY	Esopus	Landfill	Town of Esopus	Municipal	-	MSW Landfill	Solar PV	0.60	-	BQ Energy	2017	Wholesale Electricity
Williamson Landfill	2	NY	Williamson	Landfill	Town of Williamson	Municipal	-	MSW Landfill	Solar PV	1.50	-	Sustainable Energy Developments	2014	Wholesale Electricity
Brooklyn Landfill Solar	5	ОН	Brooklyn	Landfill	City of Brooklyn	Municipal	75	MSW Landfill	Solar PV	4.00	17.0	IGS Solar	2018	Wholesale Electricity
Cuyahoga Metropolitan Housing Authority	5	ОН	Cleveland	Brownfield	Cuyahoga Metropolitan Housing Authority	Municipal	12	Industrial Use	Solar PV	1.10	6.0	Carbon Vision	2013	Wholesale Electricity

€

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially

contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

. Site Description 2.										ble Energy	3. Project Implementation			
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Dayton Tech Town	5	ОН	Dayton	Brownfield	Unknown	Unknown	-	Former Automotive Site	Geothermal	-	-	Heapy Engineering	2010	Onsite Use - General
Medical Center Company Solar	5	ОН	Cleveland	Brownfield	Unknown	Unknown	6	Unknown	Solar PV	1.00	-	Medical Center Company	2014	Wholesale Electricity
Pilkington North America	5	ОН	Northwood	Brownfield	Pilkington North America, Inc.	Private	11	Glass Manufacturing Facility	Solar PV	0.25	1.0	Hull & Associates	2011	Onsite Use - General
Toledo Zoo Solar	5	ОН	Toledo	Brownfield	Anthony Wayne Solar Number 1	Private	22	Elevator factory	Solar PV	2.10	-	Rudolph/Libbe and GEM Energy	2014	Onsite Use - General
Wood County Landfill	5	ОН	Bowling Green	Landfill	Wood County	Municipal	60	MSW Landfill	Wind	7.20	4.0	American Municipal Power	2004	Wholesale Electricity
Altus Air Force Base	6	ОК	Altus	RCRA	U.S. Air Force	Federal	-	Federal Facility, Flight Training Center	Solar PV	0.00	-	Unknown	2007	Onsite Use - Green Remediation
Guthrie Green	6	OK	Tulsa	Brownfield	George Kaiser Family Foundation	Foundation	-	Industrial	Geothermal w/ solar PV	-	-	Unknown	2012	Onsite Use - General
Columbia Ridge Landfill	10	OR	Arlington	Landfill Buffer	Waste Management	Private	12,000	MSW and Industrial Landfill - active	Wind	100.00	-	PacifiCorp	2004	Wholesale Electricity
Corvallis Municipal Airport	10	OR	Corvallis	Superfund	City of Corvallis	Municipal	-	Chrome-plating facility	Solar PV	0.10	1.8	Pacific Power	2017	Wholesale Electricity
Casselman Wind Power Project	3	PA	Traverses Summit, Black, and Addison	Mine Lands	Iberdrola Renewables, LLC	Private	2,000	Surface Coal Mine and adjacent land	Wind	34.50	165.0	Iberdrola Renewables LLC	2008	Wholesale Electricity
Exelon-Conergy Solar Energy Center	3	PA	Falls Township	Landfill Buffer	Waste Management of Pennsylvania	Private	17	Buffer to Geological Reclamation Operations and Waste Systems landfill	Solar PV	3.00	16.5	Conergy Company	2008	Wholesale Electricity
Frey Farm Landfill	3	PA	Conestoga	Landfill	Lancaster Cnty Solid Waste Mgmt Authority	Municipal	-	MSW Landfill - active	Wind	3.20	10.3	Energy Power Partners, LLC	2011	Local Use
Highland North Wind	3	PA	Cambria County	Mine Lands	Everpower, others	Public/ Private	3,500	Strip mine	Wind	75.00	3,500.0	Everpower	2012	Wholesale Electricity

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description 2										ble Energy	3. Project Implementation			
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Highland Wind	3	PA	Cambria County	Mine Lands	Everpower	Private	4,000	Strip mine	Wind	62.50	4,000.0	Everpower	2009	Wholesale Electricity
York County Landfill Solar	3	PA	Hopewell Township	Landfill	York County Solid Waste Authority	Municipal	-	MSW Landfill	Solar PV	0.30	2.0	Solar Renewable Energy, LLC	2014	Onsite Use - Green Remediation
East Providence Landfill Solar Farm	1	RI	East Providence	Landfill	City of East Providence	Municipal	229	MSW landfill	Solar PV	3.70	14.0	CME OCI Solar Power LLC / CME Energy	2014	Wholesale Electricity
North Providence Landfill	1	RI	North Providence	RCRA	North Providence	Municipal	13	MSW Landfill	Solar PV	2.60	TBD	Southern Sky Renewable Energy	2018	Wholesale Electricity
Savannah River's Biomass Steam Plant	4	SC	Aiken	Superfund	U.S. DOE	Federal	34	1950s vintage coal-fired steam plant	Biomass	20.00	34.0	Ameresco Inc	2008	Onsite Use - General
Binkley Solar Farm	4	TN	Hermitage	Landfill	Binkley family	Private	-	Construction and Demolition Landfill	Solar PV	0.20	-	Stansell Electric	2012	Wholesale Electricity
Bristol Demolition Landfill	4	TN	Bristol	Landfill	City of Bristol	Municipal	-	Demolition landfill	Solar PV	0.20	-	EcoLogical Energy Systems	2012	Wholesale Electricity
RSI Brightfields One	4	TN	Oak Ridge	Brownfield	Restoration Services, Inc. (RSI)	Private	1	Former DOE Gaseous Diffusion Plant	Solar PV	0.20	1.0	RSI	2012	Wholesale Electricity
Volkswagen Chattanooga	4	TN	Chattanooga	RCRA	Volkswagon	Private	33	Former Army Ammunition Plant	Solar PV	9.50	33.0	Silicon Ranch	2013	Wholesale Electricity
Central Texas Veterans Landfill Solar	6	ТХ	Temple	Landfill	Department of Veterans Affairs	Federal	-	Landfill	Solar PV	2.94	-	REC Solar	2012	Onsite Use - General
Grove Landfill	6	ТХ	Austin	Landfill	Rhizome Collective, Inc	Non-profit	10	Landfill (Illegal dumping)	Solar PV	-	-	Unknown	2006	Onsite Use - Green Remediation
Pantex Renewable Energy Project (PREP)	6	ТΧ	Amarillo	Superfund	U.S. Department of Energy NNSA and Texas Tech University	Federal	16,000	Nuclear weapon assembly and disassembly	Wind	11.50	1,500.0	Siemens USA	2014	Onsite Use - General
Tessman Road Municipal Solid Waste Landfill	6	ТХ	San Antonio	Landfill	Republic Services, Inc	Private	680	MSW Landfill	Solar PV	0.13	5.6	CSP Energy	2009	Wholesale Electricity
Salt Lake City Landfill	8	UT	Salt Lake City	Landfill	Salt Lake City	Municipal	4	MSW Landfill	Solar PV	1.00	4.0	Taylor Electric	2014	Unknown

€PA

January 2019

Lyndonville

Brownfield

VWSD LLC

Private

January 2019

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description 2										ble Energy	3. Project Implementation			
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type
Bedford Solar Farm	3	VA	Bedford	Landfill Buffer	Bedford County	Municipal	-	MSW Landfill (buffer)	Solar PV	3.30	20.0	O2 emc	2017	Wholesale Electricity
Crozet Orchard	3	VA	Crozet	Superfund Removal	Unknown	Private	-	Apple Orchard	Solar PV	0.00	-	Unknown	2007	Onsite Use - Green Remediation
Salem VA Medical Center Solar	3	VA	Salem	Landfill	U.S. Department of Veterans Affairs	Federal	6	Landfill	Solar PV	1.60	6.0	REC Solar	2013	Onsite Use - General
Former St. Croix Alumina Plant Solar I	2	VI	St Croix	RCRA	Unknown	Unknown	-	Alumina Plant	Solar PV	0.00	-	Unknown	2003	Onsite Use - Green Remediation
Former St. Croix Alumina Plant Solar II	2	VI	St Croix	RCRA	Unknown	Unknown	-	Alumina Plant	Solar PV	0.00	-	Unknown	2006	Onsite Use - Green Remediation
Former St. Croix Alumina Plant Wind l	2	VI	St Croix	RCRA	Unknown	Unknown	-	Alumina Plant	Wind	-	-	Unknown	2002	Onsite Use - Green Remediation
Former St. Croix Alumina Plant Wind II	2	VI	St Croix	RCRA	Unknown	Unknown	-	Alumina Plant	Wind	-	-	Unknown	2006	Onsite Use - Green Remediation
Basketville Site	1	VT	Putney	Brownfield	Unknown	Unknown	6	Manufacturing	Solar PV	0.16	-	Integrated Solar	2013	Unknown
Coventry Landfill	1	VT	Coventry	Landfill Buffer	Casella Waste Systems	Private	-	MSW Landfill Buffer	Solar PV	2.70	12.0	Coventry PV (subsidiary of Borrego Solar)	2015	Wholesale Electricity
Elizabeth Mine Superfund Site	1	VT	Strafford	Superfund	Private (five direct owners)	Private	1,400	Abandoned Copper Mine	Solar PV	7.00	28.0	Brightfields and Greenwood Energy	2017	Wholesale Electricity
Hartford VT Landfill Solar	1	VT	Hartford	Landfill	Town of Hartford	Municipal	-	MSW Landfill	Solar PV	1.00	4.0	GroSolar	2016	Wholesale Electricity
Lyndonville Solar East	1	VT	Lyndonville	Brownfield	VWSD LLC	Private		Tool manufacturing	Solar PV	0.49	3.5	Lyndonville Solar West, LLC	2018	Wholesale Electricity



Lyndonville Solar West

2018

Wholesale

Electricity

Lyndonville Solar

West, LLC

Tool manufacturing

Solar PV

0.50

Through the RE-Powering America's Land Initiative, the EPA encourages renewable energy development on potentially contaminated land when aligned with the community's vision for the site. This list tracks completed projects where renewable energy systems have been installed on potentially contaminated lands, landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands landfills, or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands landfills or mine sites. Project capacity data reflect total system capacity, which may be installed in whole or in part on potentially contaminated lands are 0.00. Where information was part found for a given cite it is installed on the site.

contaminated lands, landfills, or mine sites. For systems with an installed capacity less than 10 kW, the capacity is shown as 0.00. Where information was not found for a given site, it is noted as "Unknown" or with a "-" for numerical values. This information is sorted by state and then by site/project name. Installations newly added for January 2019 are highlighted in orange. Projects highlighted in blue represent multiple installations on a single site (location). Projects striped in orange and blue are new for January 2019 and represent an additional installation on an existing RE on CL site.

This resource is for informational purposes only. The information in this list was gathered from public announcements of renewable energy projects in the form of company press releases, news releases, and, in some cases, conversations with the parties involved. It may not be a comprehensive list of all projects completed on contaminated land. Projects on this list include ground-mounted utility-scale systems, rooftop systems, and systems used for onsite power, including to power cleanup activities. To provide information on additional projects, please email cleanenergy@epa.gov.

1. Site Description	1. Site Description 2.											2. Renewable Energy Information				
Site/Project Name	EPA Region	State	City	Type of Site	Site Owner	Site Ownership Type	Property Acreage	Former Use Description	RE Type	Project Capacity (MW)	Project Acreage	Primary RE Developer Name	Completion Date	Project Type		
Rutland Landfill (Stafford Hill)	1	VT	Rutland	Landfill	City of Rutland	Municipal	15	MSW Landfill	Solar PV	2.30	9.0	Green Mountain Power	2015	Wholesale Electricity		
Townshend Landfill	1	VT	Townshend	Landfill	Town of Townshend	Municipal	-	MSW Landfill	Solar PV	0.15	-	Soveren Solar	2014	Community Owned / Subscription		
Windham Solid Waste Management District	1	VT	Brattleboro	Landfill	Windham Solid Waste Management District	Municipal	30	MSW landfill	Solar PV	5.00	25.0	Sky Solar	2018	Wholesale Electricity		
Beloit Coal Ash Landfill	5	WI	Beloit	Landfill	Alliant Energy	Private	20	Coal Ash Landfill	Solar PV	2.30	17.0	Hanwha Q CELLS USA	2016	Wholesale Electricity		
MATC PV Evaluation Lab	5	WI	Milwaukee	Landfill	Milwaukee Area Technical College (MATC)	Private	32	MSW Landfill	Solar PV	0.54	32.0	MATC and Johnson Controls	2010	Onsite Use - Training		
Refuse Hideaway Landfill	5	WI	Middleton	Superfund	State of Wisconsin	State	23	Municipal, commercial, and industrial landfill	Solar PV	0.01	0.1	Full Spectrum Solar Company	2010	Onsite Use - Green Remediation		
Sky Park Solar	5	WI	Eau Claire	Landfill	City of Eau Claire	Private	26	MSW Landfill	Solar PV	1.00	7.5	Pristine Sun	2017	Community Owned / Subscription		
Chevron Casper Wind Farm	8	WY	Casper	RCRA	Chevron	Private	880	Refinery	Wind	16.50	880.0	Chevron Global Power Company	2009	Wholesale Electricity		
Dave Johnston Mine / Glenrock Wind I	8	WY	Glenrock	Mine Lands	PacificCorp	Private	14,000	Surface Coal Mine	Wind	118.50	300.0	PacificCorp	2008	Wholesale Electricity		
Dave Johnston Mine / Glenrock Wind III	8	WY	Glenrock	Mine Lands	PacificCorp	Private	14,000	Surface Coal Mine	Wind	39.00	300.0	PacificCorp	2009	Wholesale Electricity		
Dave Johnston Mine / Rolling Hills	8	WY	Glenrock	Mine Lands	PacificCorp	Private	14,000	Surface Coal Mine	Wind	118.50	300.0	PacificCorp	2009	Wholesale Electricity		
Warren AFB Wind	8	WY	Cheyenne	Superfund Non-NPL	U.S. Air Force	Federal	-	Former gunnery range	Wind	3.32	-	Unknown	2009	Wholesale Electricity		

€PA