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. To date, the RE-Powering Initiative has identified 274 renewable energy installations on 261 contaminated lands, landfills, and mine sites¹, with a cumulative installed capacity of 1,450 megawatts (MW) and consistent growth in total installations since the inception of the RE-Powering Initiative. Approximately 70% 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.

#### 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>.

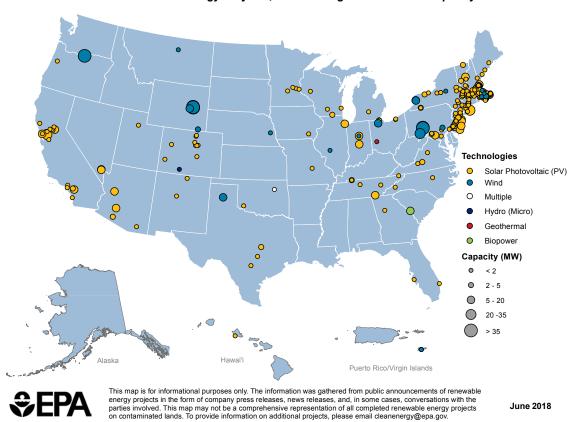
To receive updates, newsletters, and other information about the RE-Powering program:

Subscribe

EPA's RE-Powering Listserv

In addition to the completed sites in the Tracking Matrix, EPA is actively tracking more than 110 renewable energy projects that are in various stages of planning, approval, or construction on contaminated or disturbed properties. These include a 4-MW solar installation under construction in Brooklyn, OH; a nearly complete 0.948-MW solar installation on the Bethel, CT landfill; and three solar projects in the process of receiving permits at a former steel mill Superfund site in Lackawanna, PA. EPA is also aware of more than 80 other potential renewable energy projects on contaminated sites, primarily landfill projects that have been suggested at town council or public meetings.

#### 274 Renewable Energy Projects, Over 1.4 Gigawatt 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.



**Project Tracking Matrix** 

### **National Deployment**

RE-Powering has identified installations of renewable energy on contaminated lands, landfills, and mine sites in 40 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 from the Database for State Incentives for Renewables and Efficiency (DSIRE), a comprehensive database managed by the North Carolina Clean Energy Technology Center and 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 by state and provides quarterly summary maps.

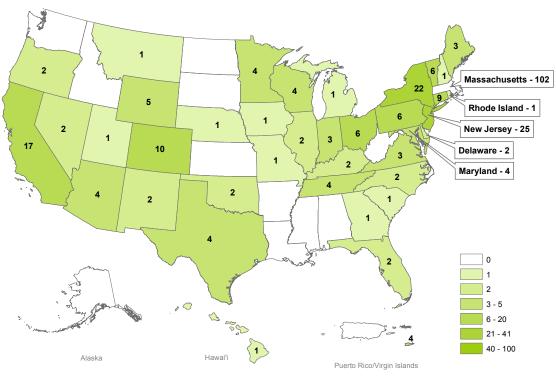
			ONS BY STATE OF			
State	# Installations	Installed Capacity (MW)	State Renewable Portfolio Standard <sup>3</sup>	Solar Set-Aside Policy⁴	Solar Multiplier Policy <sup>5</sup>	Distributed Generation Requirement <sup>6</sup>
MA	102	269.1	✓	✓		
NJ	25	137.8	✓	✓		
NY	22	93.6	✓			✓
CA	17	144.0	✓			
CO	10	9.3	✓		<b>√</b> 7	✓
CT	9	9.7	✓			
PA	6	178.5	✓	✓		
ОН	6	11.7	✓	✓		
WY	5	295.8				
VT	6	13.3	✓			✓
AZ	4	30.0	✓		✓	✓
MD	4	24.3	✓	✓		
TX	4	14.6	√8		√9	
TN	4	10.1				
WI	4	3.9	<b>√</b> 10			
MN	4	0.5	✓	<b>√</b> 11		✓
IN	3	17.8	<b>√</b> 12			
VA	3	4.9	<b>√</b> 13		<b>√</b> 14	
ME	3	1.1	<b>√</b> 15		<b>√</b> 16	
OR	2	100.1	✓	✓	✓	<b>√</b> 17
NV	2	28.2	✓	✓	✓	
IL	2	10.9	✓	✓		✓
KY	2	5.0				
NM	2	3.0	✓	✓	<b>√</b> 18	✓
FL	2	2.3				
DE	2	0.7	✓	✓	✓	
NC	2	0.6	✓	✓		
OK	2	0.0	<b>√</b> 19			
RoUS <sup>20</sup>	14	28.7				
TOTAL	274	1,450.5				

- Table includes states with multiple installations plus the state with the largest single installation. Policy information from DSIRE (www.dsireusa.org). Accessed April 4, 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." and the state's electricity be generated from solar resources. Some states call them "solar carve-outs." and the state's electricity be generated from solar resources. Some states call them "solar carve-outs." and the state's electricity be generated from solar resources. Some states call them "solar carve-outs." and the state's electricity be generated from solar resources. Some states call them "solar carve-outs." and the state's electricity be generated from solar resources. Some states call them "solar carve-outs." and the state's electricity be generated from solar resources. Some states call them "solar carve-outs." and the state's electricity be generated from solar resources. The state is the state of theA 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 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.

  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.
- 13 Virginia has a voluntary renewable portfolio goal that provides an enhanced rate of return for renewable generation from approved projects.
  14 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 yet 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.



#### 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.

June 2018

### **Connecticut Using Contaminated Sites to Help Meet Energy and Environmental Goals**

The use of contaminated land for renewable energy is a growing trend in many states. This includes smaller states where open space and farmland are increasingly scarce, but interest in renewable energy is mounting and, in many cases, mandated. Installing renewable energy on contaminated sites creates the opportunity for growth in alternative sources of electricity while preserving open space and farmland and making use of otherwise unusable sites.

One state taking note of this opportunity is Connecticut. At 5,567 square miles, the densely populated state ranks 48th in terms of size in the United States and has limited open space remaining. Preserving this space has become a priority for the state, as the Connecticut Department of Energy and Environmental Protection has instituted an open space protection goal of 673,210 acres by the year 2023. At the same time, the state has a renewable portfolio standard (RPS) requiring 28% of electricity to come from renewable sources by 2020. Connecticut also has some of the highest electricity rates in the nation—\$0.1724 per kilowatt-hour vs. a national average of \$0.1027. Consumers and towns are increasingly interested in alternate sources of energy that may bring cost savings under the state's renewable energy credit, tax incentive, and net metering programs. In order to meet these multiple environmental and energy-related goals, environmental organizations and state agencies are examining the use of brownfields for renewable energy projects and offering resources that can help developers understand and plan for such projects.

RE-Powering has identified nine completed RE on CL projects in Connecticut, many of which have gone online over the past few years. Recently completed projects include the 1-MW installation on the Woodstock landfill that is expected to <u>save the town</u> \$2.4 million over the 20-year power purchase agreement, as well as a new 1-MW installation in Newtown that will save the town three cents per kilowatt-hour on its energy bills. RE-Powering is also tracking an additional 16 RE on CL projects in various stages of development in Connecticut, including requests for proposal and projects awarded to developers. Using its <u>RE-Powering Mapper</u> tool, the Initiative has also identified at least 225 contaminated sites in Connecticut that may be suitable for large or utility-scale solar projects based on available solar resource, available acreage, and proximity to existing infrastructure.



### **RE on CL Offers a Range of Economic Benefits**

RE on CL provides a number of <u>benefits</u> to the communities within which the sites are built, 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:

**MCE Solar One / Chevron Richmond Refinery** – This former oil refinery landfill in Contra Costa, CA, is now home to a 10.5-MW solar installation that supported 341 jobs. The <u>project developer</u> partnered with job-training program RichmondBUILD to train and hire local residents, and maximized local benefits by requiring a 50% local resident workforce and engaging Richmond-based contractors and suppliers.

**Simonds Rd. Landfill** – This 2-MW solar project on a landfill in Williamstown, MA is anticipated to <u>generate at least</u> \$5 million of savings for the town over 20 years and will displace 1,772 tons of CO<sub>2</sub> annually.

**Osgood Landing Solar** – A 6-MW solar project on this state brownfield and former manufacturing site was installed under a PPA that <u>includes a 15% discount</u> on electricity for the town. Combined with revenue from payments in lieu of taxes, these energy savings will help the town accumulate more than \$6M over the life of the agreement.

### **Community Solar Brings New Life to Contaminated Lands**

One prominent trend in renewable energy installations nationwide is the development of community solar projects. These installations are placed in a single location and accessed by numerous members of the community, often through a subscription model that provides utility bill credits for the power generated. The approach provides solar energy access for residents who might otherwise be limited by location or the physical attributes of their home or business, including roof space or orientation, shading, or property ownership (e.g., renters). Models are also evolving to provide solar energy opportunities for low-income households that can benefit from reduced energy costs.

The <u>Solar Energy Industries Association</u> notes that 101 community solar projects with a total capacity of 108 MW were installed across 26 states as of early 2017. A total of 17 U.S. states plus the District of Columbia <u>have recognized</u> the value and opportunity created by these installations by enacting community-solar-focused policies and programs (Table 1), while two other states – New Mexico and Virginia – have proposed such policies as of this publication.

While many community solar sites are installed on greenfield sites or buildings, a growing number are being installed on contaminated land. Installing community solar projects on such sites can help communities realize multiple benefits, from making use of otherwise unproductive land to providing solar access to residents throughout the community. Table 1 includes RE-Powering Mapper data on the number of CL sites that screened positively for large or utility-scale solar projects in states that have community solar policies. These sites could potentially be used for community solar projects.

Examples of recently completed RE on CL community solar sites include:

## hmond Refinery – This former oil refinery landfill in

Another small state taking advantage of opportunities offered by RE on CL is New Jersey. At 8,723 square miles, New Jersey ranks 47th in size in the United States, and—like Connecticut—New Jersey is among the top 10 most densely populated states in the country and has high electricity prices (\$0.1338/kWh). New Jersey also has an RPS, requiring each electricity supplier or provider serving retail customers to procure 20.38% of electricity sold in New Jersey from qualifying renewables by energy year 2021 (June 2020–May 2021).

**New Jersey Conserving Space,** 

Realizing Benefits of RE on CL

In April 2018, the state passed new legislation that establishes a Community Solar Energy Pilot Program. The bill includes a provision gives the NJ Board of Public Utilities discretion to restrict qualified community solar projects to those located "on brownfields, landfills, areas designated in need of redevelopment, in underserved communities, or on commercial rooftops."

To date, RE-Powering has identified 25 completed RE on CL projects in New Jersey and another 13 in various stages of development. Completed sites include a 2.7-MW landfill solar installation in Princeton that is expected to bring \$2.4 million in energy savings for Stony Brook Regional Sewerage Authority and \$455,000 in lease payments to the town, and a 3-MW installation on a former industrial landfill that will bring \$830,000 in revenue for Gloucester Township via land lease payments.

**Norwood Community Solar** – In Colorado, rural electric cooperative San Miguel Power Association partnered with GRID Alternatives to develop this 0.2-MW community solar array that will <u>reduce energy costs</u> for 30–40 income-qualified households. Subscriptions of up to 2 kW of generation per household are free of charge to qualified applicants and allow access for five years, after which residents may reapply.



**Sky Park Landfill Solar** – This 1-MW solar installation on 7.5 acres of a former landfill in Eau Claire, WI, resulted in part from a solar PV feasibility study prepared by EPA and the U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory. The installation is the first community solar project in under utility Xcel Energy's Solar Connect Community. Subscribers will receive energy bill credits for 25 years.

**Bolton Orchards II** – This 2.8-MW community solar project is the second renewable energy installation on this former sand and gravel pit in Bolton, MA. Under the project partnership with utility National Grid, 50% of the net metering credits for the system <u>will be delivered</u> to nearly 100 residential customers, and the remaining 50% will be sold to two private entities: Berkshire School and Bolton Orchards.

**Coyote Ridge Solar** – Located on nine acres of landfill buffer in Fort Collins, CO, this 1.96-MW community solar partnership was planned developed by electric cooperative Poudre Valley Rural



Sky Park Landfill Solar project in Eau Claire, WI.

Electric Association and GRID Alternatives. The subscriber model <u>includes 70% of output</u> earmarked for nonprofit and low-income customers. The project also provided more than 1,000 hours of hands-on solar job training during construction.

Table 1. Renewable Energy on Contaminated Land Opportunities in States with Community-Solar Policies<sup>21</sup>

	••	•
State or Territory	Number of CL Sites that Screened Positive for Large or Utility-Scale Solar <sup>22</sup>	Number of Current RE on CL Sites
	Community-Solar Policies <b>Enacted</b>	
California	2,158	17
Illinois	2,000	2
New York	1,286	22
Oregon	851	2
Massachusetts	849	102
Hawaii	432	1
Minnesota	333	4
North Carolina	256	2
Connecticut	225	9
Maryland	165	4
Colorado	163	10
Delaware	116	2
Vermont	93	5
Maine	80	3
Washington	68	0
New Hampshire	65	2
Washington, DC	17	0
	Community-Solar Policies <b>Proposed</b>	
Virginia	949	3
New Mexico	95	2

<sup>21</sup> Data from Shared Renewables website, Vote Solar: http://www.sharedrenewables.org/community-energy-projects/. Accessed June 11, 2018.

<sup>22</sup> In the RE-Powering Mapper, large-scale solar is defined as projects that screened favorably for 300 kW or more of installed capacity, and utility-scale is defined as those projects screening favorably for 6.5 MW or more.



## **Project Tracking Matrix**

#### **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 utility-scale 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 <u>RCRA corrective action</u> to offsetting the energy demands at <u>federal facilities</u> with ongoing cleanup activities to repurposing <u>brownfield</u> and <u>Superfund</u> sites.

Overview	
Total # of sites	261
Total # of installations	274
Total installed capacity (MW)	1,450
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 <sup>23</sup>	
Solar and wind projects on landfills/landfill buffer	171
Renewable energy projects on brownfield sites <sup>24</sup>	48
Renewable energy projects on Superfund sites <sup>25</sup>	40
Renewable energy projects on current/former federal facilities	22
and contaminated properties	
Renewable energy projects on RCRA corrective action sites	17
Renewable energy projects on mine sites	10

Installations	and Capacity by S	Site Ownership Type
	# Installations	Installed Capacity (MW)
Private	101	869.9
Municipal	132	268.6
Federal	21	148.3
Unknown	12	85.3
Public/Private <sup>26</sup>	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	274	1,450.4

Install	ations by Renewa	able Technology
	# Installations	Installed Capacity (MW)
Solar PV	244	794.3
Wind	25	636.2
Biomass	1	20.0
Hydro	1	<0.1
Geothermal 27	2	<0.1
Solar PV w/Wind	1	<0.1
Total	274	1,450.4

Installations by	y Energy Use	
	# Installations	Installed Capacity (MW)
Wholesale Electricity	196	1,311.8
Onsite Use - General	32	107.9
Onsite Use - Green Remediation <sup>28</sup>	25	7.8
Community Owned/ Subscription <sup>29</sup>	12	11.8
Rooftop <sup>30</sup>	4	4.7
Local Use	1	3.2
Unknown	3	2.7
Onsite Use – Training	1	0.5
Total	274	1,450.4

<sup>30</sup> Most RE projects tracked by RE-Powering are ground-mounted installations. The limited rooftop installations cited in the matrix represent projects on buildings that are sited on land identified as contaminated (primarily brownfields). This includes a new project added for June 2018 at the Campbell's Soup property in Camden, NJ.



<sup>23</sup> 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.

<sup>24</sup> Includes state brownfields.

<sup>25</sup> Includes sites subject to the National Priorities List (NPL), non-NPL sites, and sites subject to removal action under Superfund.

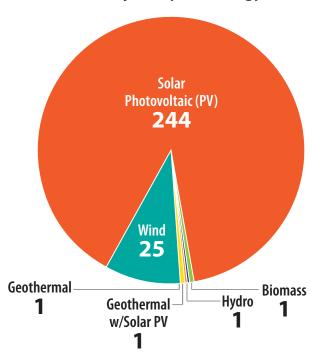
<sup>26</sup> This is the Highland North Wind Project in the townships of Adams and Summerhill, PA. The turbines are located on mixed use land, which Everpower notes is held by both public and private landowners.

<sup>27</sup> One geothermal project, the Guthrie Green project in Tulsa, OK, uses a small solar array to power the geothermal heat pump.

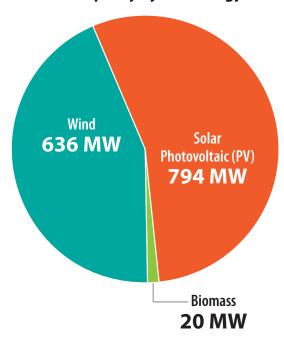
<sup>28</sup> Green remediation is the practice of considering all environmental effects of remedy implementation and incorporating options to minimize the environmental footprints of cleanup actions. One such practice is using renewable energy systems to power remediation activities or offset the energy needs associated with cleanup efforts. Projects identified as On-site <u>Green Remediation</u> 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.

<sup>29</sup> Community solar installations are wholesale electricity in that they typically send generated electricity directly to the grid. However, for the June 2018 RE-Powering Tracking Matrix, seven (7) 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. Three (3) installations new to the June 2018 Tracking Matrix are also included in this category.

### **Total Projects by Technology**



### **Total Capacity by Technology**



### **Continuing Growth**

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 54% of the total number of installed projects to date, while larger systems (10+ MW) comprise 66% of total installed capacity on contaminated lands.

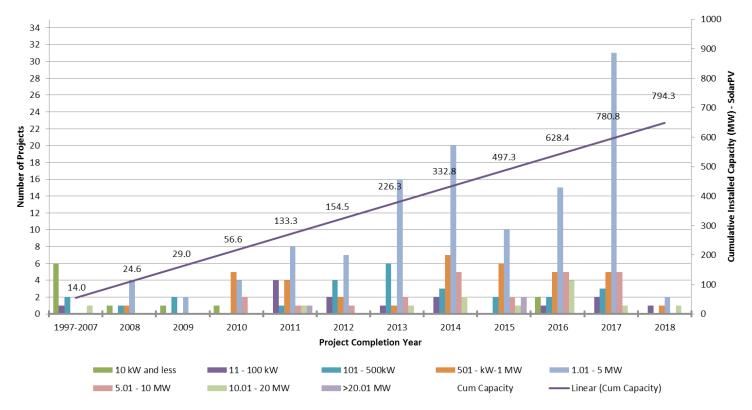
Of identified **projects**, 89% are solar PV projects developed on contaminated lands, landfills, and mine sites, representing about 55% of total installed **capacity**, which is a new trend as tracked solar projects overtook wind projects in late 2017 to represent the majority of total **capacity**. While wind energy represents only 9% of RE on CL projects, a few very large wind installations maintain wind's measurable percentage of installed **capacity** (about 44%). 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 165 former landfills that have been returned to productive use as solar projects. Of these, at least 146 (88%) 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.



### Solar Project Trends<sup>31</sup>

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, 46 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.

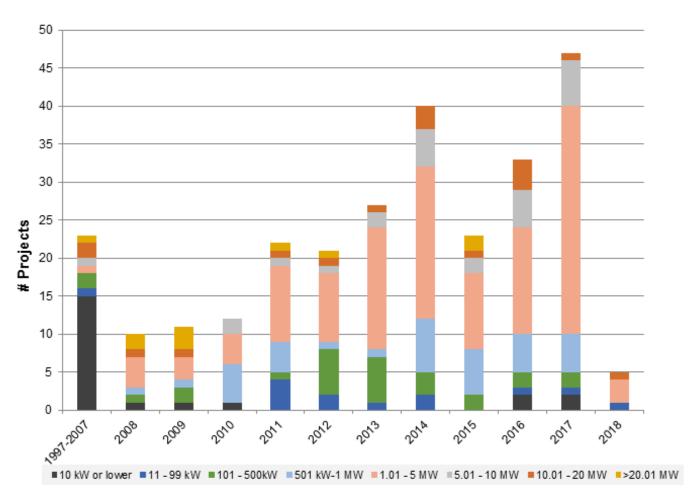


<sup>31</sup> There are four installations in the 10 kW and less category for which the actual capacity is unknown. These installations are used for on-site or green remediation purposes and are assumed to be small.



### Trends in Project Size<sup>32, 33</sup>

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 has continued 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.

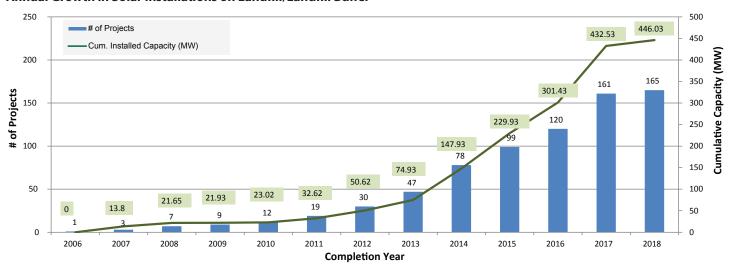


<sup>33</sup> There are eight installations in the 10 kW and less category for which the actual capacity is unknown. These installations are used for on-site or green remediation purposes and are assumed to be small.

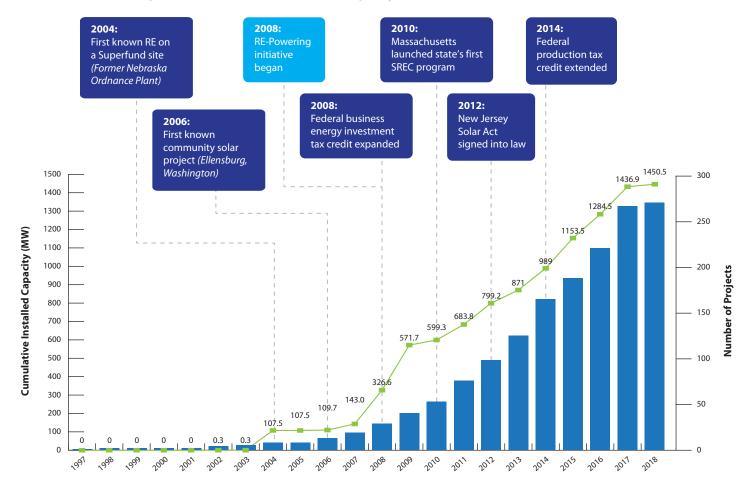


<sup>32</sup> Chart includes solar PV, wind, and biomass projects on contaminated sites. Not included in the chart are a 0.03-MW hydropower project powering green remediation at Summitville Mine, a solar panel that powers a geothermal system at Guthrie Green (capacity unknown), and an on-site geothermal system at Dayton Tech Town.

#### Annual Growth in Solar Installations on Landfill/Landfill Buffer



### Annual Growth of Completed Installations and Installed Capacity<sup>34,35</sup>

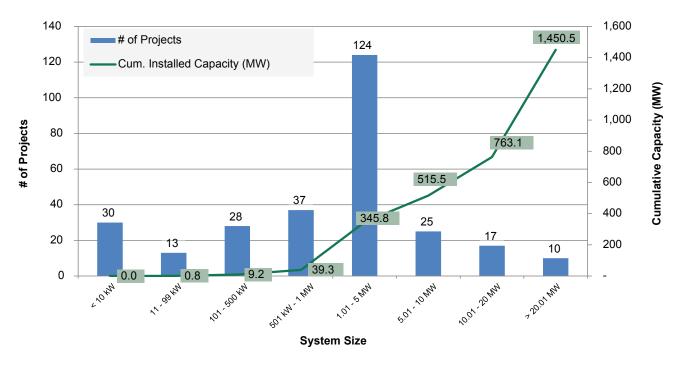


<sup>34</sup> Note that the growth curve for both the number of sites and cumulative installed capacity may differ from previous versions of the Tracking Matrix, as the RE-Powering team learns about additional renewable energy projects installed on contaminated lands in previous years.

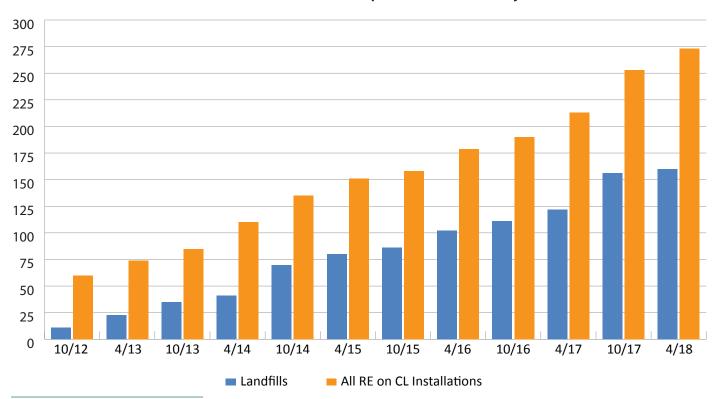
<sup>35</sup> There are two installations for which the completion date or capacity is unknown. These installations are included in this chart in the years in which they were added to the Tracking Matrix, as follows: Included in 2016 is one 1.5-MW solar project installed by Honeywell Corporation as part 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<sup>36, 37</sup>



#### Annual Growth in Installations on Landfill/Landfill Buffer Compared to All RE on CL Projects<sup>38</sup>



 $<sup>36\ \ \, \</sup>text{There are 10 1-MW installations in the 501 kW-1 MW capacity range that are included in the percentage of installations at 1 MW or greater (70%) noted on page 1 of this document.}$ 

<sup>37</sup> 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.

8 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.



**Project Tracking Matrix** 

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1. Site Description									2. Renewa	able Energy	Informatio	n	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



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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 Landfilll	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	City of Sacramento	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	СО	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	СО	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



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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	со	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
Summitville Mine Superfund Site	8	со	Del Norte	Superfund	U.S. Forest Service	Federal	1,400	Heap leach gold and silver mining	Hydro	0.03	-	Unknown	2011	Onsite Use - Green Remediation
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



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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
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



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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		Onsite Use - Green Remediation
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
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



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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/Ivory 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
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



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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
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



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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
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
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



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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
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
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



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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
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
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



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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
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



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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
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
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



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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
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
Forty West Landfill	3	MD	Hagerstown	Landfill	Washington County	Municipal	-	MSW Landfill	Solar PV	2.00	10.0	EPG Solar	2015	Wholesale Electricity
Washington County Rubble Landfill	3	MD	Williamsport	Landfill	Washington County	Municipal	-	Building materials and construction debris landfill	Solar PV	2.50	-	EPG Solar	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



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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
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
Bernards Township Landfill	2	NJ	Bernards Twp	Unknown	Bernards Twp	Municipal	-	MSW Landfill	Solar PV	3.68	-	Syncarpha/The Conti Group	2016	Wholesale Electricity



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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	NJ	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
Edgeboro Landfill	2	NJ	East Brunswick	Landfill	Middlesex County	Municipal	-	MSW Landfill	Solar PV	4.30	27.0	NERC Solar	2011	Wholesale Electricity
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
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	NJ	Edison	Landfill	Industrial Land Reclaiming Inc.	Private	-	MSW Landfill	Solar PV	7.75	21.0	PSE&G/Vanguard Energy Partners, LLC	2017	Wholesale Electricity
Kearny Landfill	2	NJ	Kearny	Landfill	New Jersey Meadowlands Commission	Municipal	35	MSW Landfill	Solar PV	3.00	13.0	SunDurance Energy LLC	2012	Wholesale Electricity
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



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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
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
Owens Corning Landfill	2	NJ	Gloucester Township	Landfill	Owens Corning	Private	-	Landfill	Solar PV	3.00	14.4	PV Navigator	2017	Wholesale Electricity
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	ВР	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
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
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



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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
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
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	-	Unknown
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



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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	
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	
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	
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	



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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	OK	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	ОК	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	



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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
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
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	TX	Temple	Landfill	Department of Veterans Affairs	Federal	-	Landfill	Solar PV	2.94	-	REC Solar	2012	Onsite Use - General
Grove Landfill	6	TX	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	TX	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	TX	San Antonio	Landfill	Republic Services, Inc	Private	680	MSW Landfill	Solar PV	0.13	5.6	CSP Energy	2009	Wholesale Electricity



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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
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 I	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
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



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Townshend Landfill	1	VT	Townshend	Landfill	Town of Townshend	Municipal	-	MSW Landfill	Solar PV	0.15	-	Soveren Solar	2014	Community Owned / Subscription
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



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