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 renewable energy development on current and formerly contaminated lands, landfills, and mine sites when such development is aligned with the community's vision for the site.

Using publically 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 179 renewable energy installations on 171 contaminated lands, landfills, and mine sites¹, with a cumulative installed capacity of just over 1,124 megawatts (MW) and consistent growth in total installations since the inception of the RE-Powering Initiative. Approximately 60% of these installations are large-scale systems with a project capacity of 1 MW or more, either exporting energy onto the utility grid or offsetting onsite energy demands. 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>.

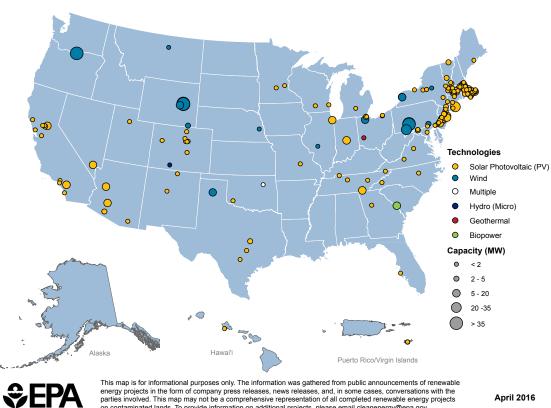
To receive updates, newsletters, and other information about the RE-Powering program, click the banner below.

Subscribe

EPA's RE-Powering Listserv

In addition to the completed sites listed here, EPA is tracking more than 50 renewable energy projects on contaminated or disturbed properties in various stages of planning, approval, or construction. These include a 1.1-MW solar project under construction on a Meriden, CT landfill; a 2.25-MW solar project under construction on a coal ash landfill in Beloit, WI; and an 18.6-MW solar installation underway at the U.S. Army's Fort Detrick in Maryland. In addition, EPA is aware of more than 40 other potential renewable energy projects on contaminated sites that have been suggested nationwide, primarily on landfills, at town council or public meetings.

179 Renewable Energy Projects, Over 1.1 Gigawatt Installed Capacity



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.

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 in 38 states and territories, including three new states: Kentucky, Maine, and Utah. 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 <u>Database for State Incentives for Renewables and Efficiency</u> (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, provides quarterly <u>summary maps</u>, and provides access to the <u>database files</u>.

		INSTALLATIO	NS BY STATE O	R TERRITORY ²		
State	# Installations	Installed Capacity (MW)	State Renewable Portfolio Standard ³	Solar Set-Aside Policy⁴	Solar Multiplier Policy ^s	Distributed Generation Requirement
MA	58	131.0	✓	✓		
NJ	15	82.9	✓	✓		
NY	13	74.1	✓			✓
CA	12	104.9	✓			
CO	8	7.1	✓		✓	✓
ОН	6	11.7	✓	✓		
PA	6	178.5	✓	✓		
WY	5	295.8				
TN	4	10.1				
AZ	4	30.0	✓		✓	✓
TX	4	14.6	✓		√ 7	
VT	4	5.3	✓			✓
MD	3	4.5	✓	\checkmark		
IL	2	10.9	✓	✓		✓
NM	2	3.0	✓	\checkmark		✓
CT	2	1.7	✓			
VA	2	1.6	√ 8			
DE	2	0.7	✓	✓	✓	
NC	2	0.6	✓	\checkmark		
OK	2	0.0	√ 9			
WI	2	0.6	✓			
MN	2	0.5	✓	√ 10		✓
OR	1	100.00	✓	\checkmark	✓	√ 11
RoUS ¹²	18	54.1				
TOTAL	179	1,124				

² Table includes states with multiple installations plus the state with the largest single installation. Policy information from DSIRE (<u>www.dsireusa.org</u>). Accessed April 11, 2016.

¹² For purposes of this report, RoUS (Rest of US) indicates other states or territories with renewable energy on contaminated lands: Florida, Georgia, Hawai'i, Indiana, Kentucky, Maine, Michigan, Missouri, Montana, Nebraska, Nevada, Rhode Island, South Carolina, Utah, and the U.S. Virgin Islands.



³ A renewable portfolio standard (RPS) requires utilities to use or procure a certain percentage of total generation from renewable sources.

⁴ 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."

⁵ A solar multiplier gives additional credit for solar projects that contribute toward meeting RPS requirements.

⁶ A distributed generation requirement obliges a utility to procure a certain percentage of electricity from renewable, customer-sited sources.

⁷ Texas has a non-wind multiplier policy, which includes solar, but is not specific to solar.

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

⁹ Oklahoma's RPS is a goal, not a requirement.

¹⁰ 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

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 fir PV systems with a capacity of 500 kW to 5 MW installed prior to January 1, 2016.

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 defunct 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:

Palmer Metropolitan Airfield Solar (6 MW). Multiple parties benefit from this installation on a former airfield in Palmer, MA. The town will receive real and personal property tax revenue of approximately \$2 million over the 20-year project term; three public entities—the Town of Leicester, the Town of Spencer, and Worcester State University, are together receiving all of the net metering credits from the energy generated by the project, resulting in millions of dollars in energy savings over the 20-year term of the energy agreements; and land owner, JenJill LLC of Wilbraham, MA will benefit from the long-term ground lease.

Dreher Pickle Plant (0.62-MW solar). This community solar project on a Colorado state brownfield is <u>expected to provide</u> customers with a 6.9% payback on their solar panels in the first year, and an average annual payback of 9.5% over the solar array's lifetime.

Stafford Hill Solar Farm (2.3-MW solar with storage). <u>Green Mountain Power (GMP)</u> will lease the landfill space for this installation from the City of Rutland, VT, for \$30,600 annually for 25 years, with a 25-year option, and will make tax payments to the State of Vermont for a period of at least 25 years. GMP will also gain benefits by being able to test the impact of solar variability and to provide ancillary services associated with the battery systems.

Warren Air Force Base (3.32-MW wind). This installation on a federally owned RCRA site in Cheyenne, WY, is <u>expected to save</u> the U.S. Air Force more than \$11.4 million in energy costs over the 20 years. The annual estimated energy production is approximately \$575,000, with a simple payback period of 14 years.

Williamson Landfill (1.5-MW solar). This landfill solar installation in New York is expected to generate enough power for <u>all town facilities</u>. The town anticipates <u>up to \$1.5 million</u> in savings over the course of 25 years.



Stafford Hill Solar Farm. Photo credit: Green Mountain Power



The Star of the North Shines with RE on CL

The state of Minnesota welcomed its first landfill cap-mounted solar PV installation in November 2015 with a 400-kilowatt (kW) solar PV installation on a landfill in Hutchinson. The project is connected directly to the adjacent wastewater treatment plant and provides about 15% of total electricity needs for the plant. In addition, the installation is intended to be a demonstration project to help the state and utilities understand the potential for developing brownfield solar projects in Minnesota.

The Hutchinson landfill operated from the 1950s until the 1980s; the capped site has been dormant since that time. The long time span between closure and the solar panel installation reduced concerns about differential settlement. Still, the PV system is designed with shims to be placed under the supporting rails if the concrete bases settle too much. The installation does not penetrate the cap or underlying waste materials, and the system is ballasted using 410 concrete piers.

Developer Ameresco engaged <u>local companies</u> for the installation, including tenKSolar, a solar company that supplied the hardware and 975 solar panels, as well as Hunt Electric, the contractor that installed the panels. Zero waste was landfilled from the packaging and shipping materials for the solar project; all materials were either recycled or composted. The project was awarded a \$958,360 grant from Xcel Energy's <u>Renewable Development Fund</u> program, which is intended to increase deployment of renewable energy technologies at reasonable costs. The city funded the remainder of the \$1.47 million solar installation. The system payback to Hutchinson is 18 years—fewer if energy production is higher than the guarantee—and Ameresco has warranteed system performance until the project is cost-neutral for the city.

The city website includes a time lapse video of the solar installation as well as real-time energy production tracking. Although the Hutchinson Landfill is not a Minnesota Pollution Control Agency (MPCA) location, the solar project aligns with efforts under the MPCA's Closed Landfill Program (CLP). The CLP includes a Solar Initiative, through which MPCA will continue to, "evaluate solar generation at sites where remediation systems are in operation to develop renewable energy where its use is economically attractive."



Hutchinson Landfill Solar. Photo credit: City of Hutchinson

A Superfund Site Transformed to a Solar Powerhouse

Burlington County, NJ, is now home to a solar facility on the former Landfill and Development (L&D) landfill site, which traverses Eastampton, Lumberton, and Mount Holly Townships. The 200-acre <u>Superfund</u> site—a former mining pit—was converted to an unlined Industrial and municipal solid waste landfill that accepted debris, municipal garbage, industrial and commercial solid waste, and treated sewage sludge. The Waste Management-owned site stopped accepting trash in 1985, leaving behind groundwater contamination of numerous chemical substances, including acetone, arsenic, benzene, vinyl chloride, methyl chloride, and others. EPA added L&D to the <u>National Priorities List</u> in 1984. Thanks to site clean-up efforts, the contamination is now considered under control and the state of New Jersey approved the official site closure in 1995.

Today, the L&D site houses a 12.93-MW grid-connected solar PV installation comprising 41,720 solar panels over 53 acres. The solar is expected to produce average annual generation of 16,804 megawatt-hours. The installation is part of the Solar4All program, which is administered by the utility Public Service Electric and Gas (PSE&G), and has provided 190 construction jobs to the local economy. To expedite the project, the cement was poured into the ballast shapes on-site and then the racking system for the panels was attached. The solar array was commissioned in February 2016 and provides enough electricity to power 2,000 average-size New Jersey homes annually.



Inside the Numbers

Based on current trends, just over two-thirds of the identified renewable energy systems sell power back to the grid as wholesale electricity, while a subset provides energy for onsite use. Systems range from utility-scale systems, like the 2.7-MW solar installation at the Coventry Landfill in Vermont, to smaller projects like the Boulder Cowdery Meadows Solar Array, a 500-kilowatt system constructed on a Superfund site in Boulder, CO.

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	171
Total # of installations	179
Total installed capacity (MW)	1,124
Total # of states represented	3813
Max individual installation size (MW)	118.5
Min individual installation size (MW)	<.001

Installations by Site Type ¹⁴	
Solar and wind projects on landfills/landfill buffer	102
Renewable energy projects on brownfield sites	36
Renewable energy projects on Superfund sites 15	26
Renewable energy projects on current/former federal facilities and contaminated properties	18
Renewable energy projects on RCRA corrective action sites	14
Renewable energy projects on mine sites	10

Instal	lation by Site Ow	nership Type
	# Installations	Installed Capacity (MW)
Private	56	686.3
Municipal	80	163.0
Federal	15	96.1
Unknown	11	85.1
Other	11	17.2
State	2	0.9
Public/Private ¹⁶	1	75.0
Public	1	0.5
Federal/Municipal	1	0.2
Foundation	1	0.0
Total	179	1,124,3

Installations by	y Energy Use	
	# Installations	Installed Capacity (MW)
Wholesale Electricity	121	1036.8
Onsite Use - General	24	67.6
Onsite Use - Green Remediation ¹⁸	23	7.8
Rooftop	4	4.7
Local Use	1	3.2
Unknown	3	2.7
Community Owned/Subscription	2	1.0
Onsite Use – Training	1	0.5
Total	179	1.124.3

Install	ations by Renew	able Technology
	# Installations	Installed Capacity (MW)
Wind	23	634.2
Solar PV	152	470.1
Biomass	1	20.0
Hydro	1	<0.1
Geothermal ¹⁷	2	<0.1
Total	179	1,124.3

¹³ Includes U.S. Virgin Islands.

⁸ 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 off-set the energy needs associated with cleanup efforts. Projects identified as <u>On-site 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.



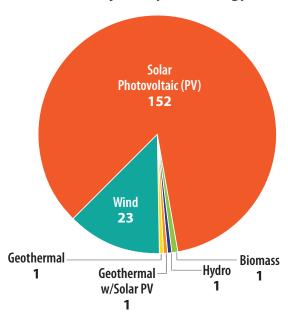
¹⁴ Some installations can be considered multiple "site types." For example, a Superfund site on a federal facility would be counted both as a Superfund site and as a federal facility for the purposes of this table; however, sites considered to be multiple site types are counted only once when calculating the total number of sites.

¹⁵ Includes sites subject to the National Priorities List (NPL), non-NPL sites, and sites subject to removal action under Superfund.

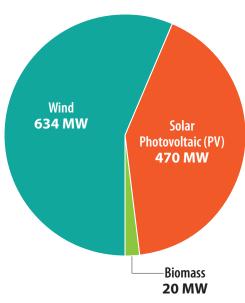
¹⁶ This is the Highland North Wind Project in the townships of Adams and Summerhill, PA. The turbines are located on mixed use land, which Everpower notes is held by both public and private landowners.

¹⁷ One geothermal project, the Guthrie Green project in Tulsa, OK, uses a small solar array to power the geothermal heat pump.

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 seven (7) projects with a total capacity of 7.5 MW were installed on contaminated sites through 2005. Of these, most were onsite or green remediation projects, and only two were individually larger than 1 MW. Beginning in 2006, 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. While medium- to large-scale installations (1-10 MW) make up approximately half of the total number of installed projects to date, larger systems (10+ MW) comprise about 75% of total installed capacity on contaminated lands.

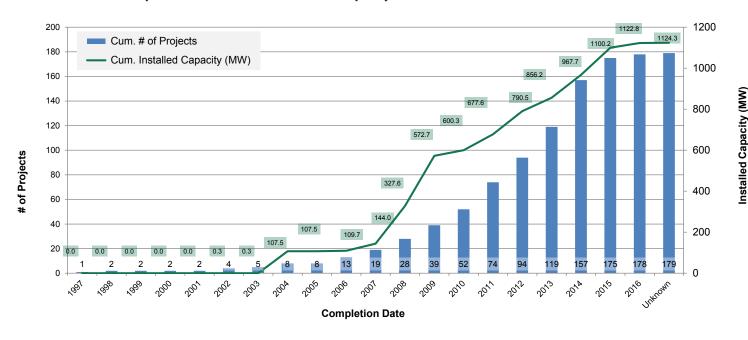
Of identified projects, 85% are solar PV projects developed on contaminated lands, landfills, and mine sites, while 56% of installed capacity is provided by wind systems. These data are explained in part by a few very large wind projects, notably the Casselman Wind Power Project in Somerset County, Pennsylvania (35 MW); Steel Winds in Bethlehem, New York, (35 MW); the wind farm at Columbia Ridge Landfill, Oregon (100 MW); Highland Wind (62.5 MW) and Highland North Wind (75 MW) in Cambria County, Pennsylvania; and the three wind farms at the former Dave Johnston Mine in Glenrock, Wyoming (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 creates 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 96 former landfills¹⁹ that have been returned to productive use as solar projects. Of these, at least 77 were completed between 2012 and 2016. Many more are currently 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.

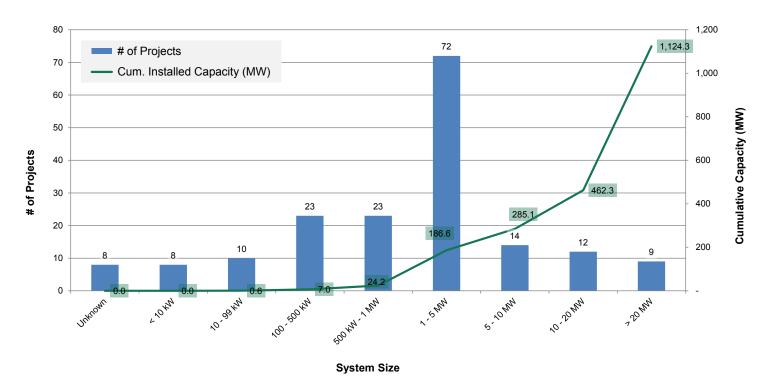
¹⁹ This includes landfills accepting MSW, construction waste, and industrial waste, as well as landfill buffer areas.



Annual Growth of Completed Installations and Installed Capacity²⁰

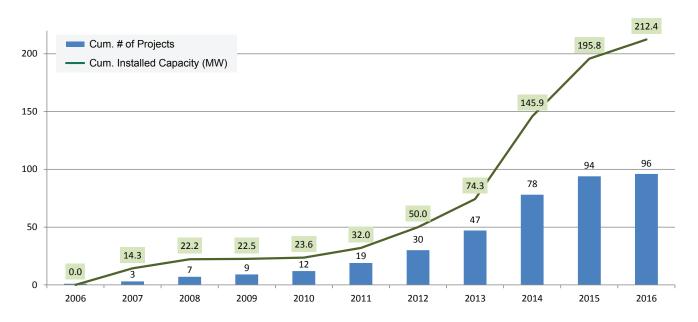


Range of System Sizes of Completed Installations



Note that the growth curve for both the number of sites and cumulative installed capacity differs from previous versions of the Project Tracking Matrix, as the RE-Powering team learns about additional renewable energy projects installed on contaminated lands in previous years. Of particular note, two large wind installations totaling 137.5 MW and located on strip mine in Cambria County, Pennsylvania, have been added to this edition of the Project Tracking Matrix (Highland Wind and Highland North Wind).

Annual Growth in Solar Installations on Landfill/Landfill Buffer



New for April 2016

A total of 21 RE on CL installations have been added to the matrix since the October 2015 publication, all of them solar PV. Of these, 16 are on landfills, while 3 are on brownfields, 1 is a Superfund landfill site, and 1 is a green remediation site for clean-up of Onondaga Lake in New York. Three of the sites were completed in 2016, and 9 were completed in 2015, including a 0.6-MW community solar garden at a former pickling plant in Fort Collins, CO. The remainder of the sites were completed prior to 2015.

Sites new for April 2016 are highlighted in orange in the matrix on pages 9-23.



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementatio
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	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
NASA Jet Propulsion Laboratory (JPL)	9	CA	Pasadena	Superfund	NASA	Federal	-		Solar PV	0.56	-	Unknown	2011	Rooftop
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



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	nplementatio
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
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
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
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	Other	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
Dreher Pickle Plant	8	СО	Fort Collins	Brownfield	City of Fort Collins	Municipal	-	Pickling plant	Solar PV	0.60	-	Clean Energy Collective	2015	Wholesale Electricity
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
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
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



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	nplementation
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
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
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	Wholesale Electricity
Bee Ridge Landfill / Rothenbach Park	4	FL	Sarasota	Landfill	Sarasota County	Other	450	MSW Landfill	Solar PV	0.25	0.6	Florida Power & Light	2008	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
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
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
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



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	nplementation
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
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
Bolton Orchards	1	MA	Bolton	Brownfield	Davis Farms Trust	Private	105	Gravel pit	Solar PV	6.00	50.0	Syncarpha Solar	2013	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
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
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



Project Tracking Matrix

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.

1. Site Description									2. Renewa	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
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
Eastham Landfill	1	MA	Eastham	Landfill	Town of Eastham	Municipal	38	MSW Landfill	Solar PV	0.59	10.4	American Capital Energy	2014	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
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
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
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
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
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	Other	-	Former foundry	Solar PV	2.30	12.0	Western Massachusetts Electric Company	2011	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



Project Tracking Matrix

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.

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
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
Needham Landfill	1	MA	Needham	Landfill	City of Needham	Municipal	75	MSW Landfill	Solar PV	3.70	13.0	Brightfields	2016	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
Palmer Metropolitan Airfield Solar	1	MA	Palmer	Brownfield	JenJill LLC	Private	105	Airfield	Solar PV	6.00	22.0	Borrego Solar	2016	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



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project In	plementatio
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
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
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
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
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
Shaffer Landfill (Iron Horse Park)	1	MA	Billerica	Superfund	Town of Billerica	Municipal	40	MSW Landfill	Solar PV	6.00	40.0	Urban Green Technologies	2014	Wholesale Electricity
Silver Lake Solar Photovoltaic Facility	1	MA	Pittsfield	Brownfield	Western Massachusetts Electric Company	Other	8	Former GE site and former steam generating site	Solar PV	1.80	8.0	Western Massachusetts Electric Company (WMECO)	2010	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	12	Quarry / hazardous waste disposal	Solar PV	1.80	10.0	SunEdison	2014	Wholesale Electricity



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	nformatio	n	3. Project In	nplementation
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
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
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
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
Former Ellicott City Landfill	3	MD	Ellicott City	Landfill	Howard County	Municipal	83	MSW Landfill	Solar PV	-	2.0	Unknown	2011	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
Eaton Rapids Landfill	5	МІ	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



Project Tracking Matrix

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.

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
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, et al	Other	-	Former Army Ordnance Plant	Wind	0.01	-	Unknown	2004	Onsite Use - Green Remediation
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
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
Hackensack Solar Farm	2	NJ	Hackensack	Brownfield	PSE&G	Other	40	Former manufactured gas plant/storage	Solar PV	1.06	6.0	PSE&G	2012	Wholesale Electricity
Kearny Landfill	2	NJ	Kearny	Landfill	New Jersey Meadowlands Commission	Other	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



Project Tracking Matrix

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.

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
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	Other	-	Synthetic natural gas facility	Solar PV	3.20	10.0	Advanced Solar Products	2011	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	BP	Private	17	Former refined petroleum and specialty chemical bulk storage and distribution facility	Solar PV	0.28	5.0	BP	2002	Onsite Use - Green Remediation
Pennsauken Landfill Renewable Energy Park- Solar	2	NJ	Pennsauken	Landfill	Pollution Control Financing Authority of Camden County	Other	39	MSW, commercial, and non-hazardous industrial landfill	Solar PV	2.60	10.0	PPL Renewable Energy	2008	Onsite Use - General
Silver Lake Solar Farm	2	ŊJ	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
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	Other	-	Gas manufacturing	Solar PV	1.30	5.5	PSE&G	2010	Wholesale Electricity
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 Facility Site	9	NV	Las Vegas	RCRA	U.S. Air Force	Federal	14,000	Landfill/landfill buffer	Solar PV	14.20	140.0	MMA Renewable Ventures LLC	2007	Onsite Use - General



Project Tracking Matrix

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.

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
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
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
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
PatterSun NY #1	2	NY	Patterson	Landfill	Town of Patterson	Municipal	10	MSW Landfill	Solar PV	0.94	-	BQ Energy	2015	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
West Nyack Landfill	2	NY	Clarkstown	Landfill	Town of Clarkstown	Municipal	-	MSW landfill	Solar PV	2.36	13.0	OnForce Solar	2014	Wholesale Electricity
Williamson Landfill	2	NY	Williamson	Landfill	Town of Williamson	Municipal	-	MSW Landfill	Solar PV	1.50	-	Sustainable Energy Developments	2014	Wholesale Electricity



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project In	plementatio
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
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
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		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
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



Project Tracking Matrix

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.

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
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	RCRA	City of East Providence	Municipal	229	MSW landfill	Solar PV	2.25	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	On-site Use - General
Grove Landfill	6	TX	Austin	Landfill	Rhizome Collective, Inc	Other	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



Project Tracking Matrix

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.

1. Site Description									2. Renewa	ble Energy	Informatio	n	3. Project Im	plementatio
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
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
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
Crozet Orchard	3	VA	Crozet	Superfund Removal	Unknown	Private	-	Apple Orchard	Solar PV	-	-	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
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	Wholesale Electricity



Project Tracking Matrix

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.

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
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
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

