

# GameChange Solar

Repowering the Planet by Repurposing Landfills



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# Industry Research

“The project uses a GameChange Solar round tub racking, which allows any drainage to have little to no impact. ...”

**EPA**

The U.S. Environmental Protection Agency



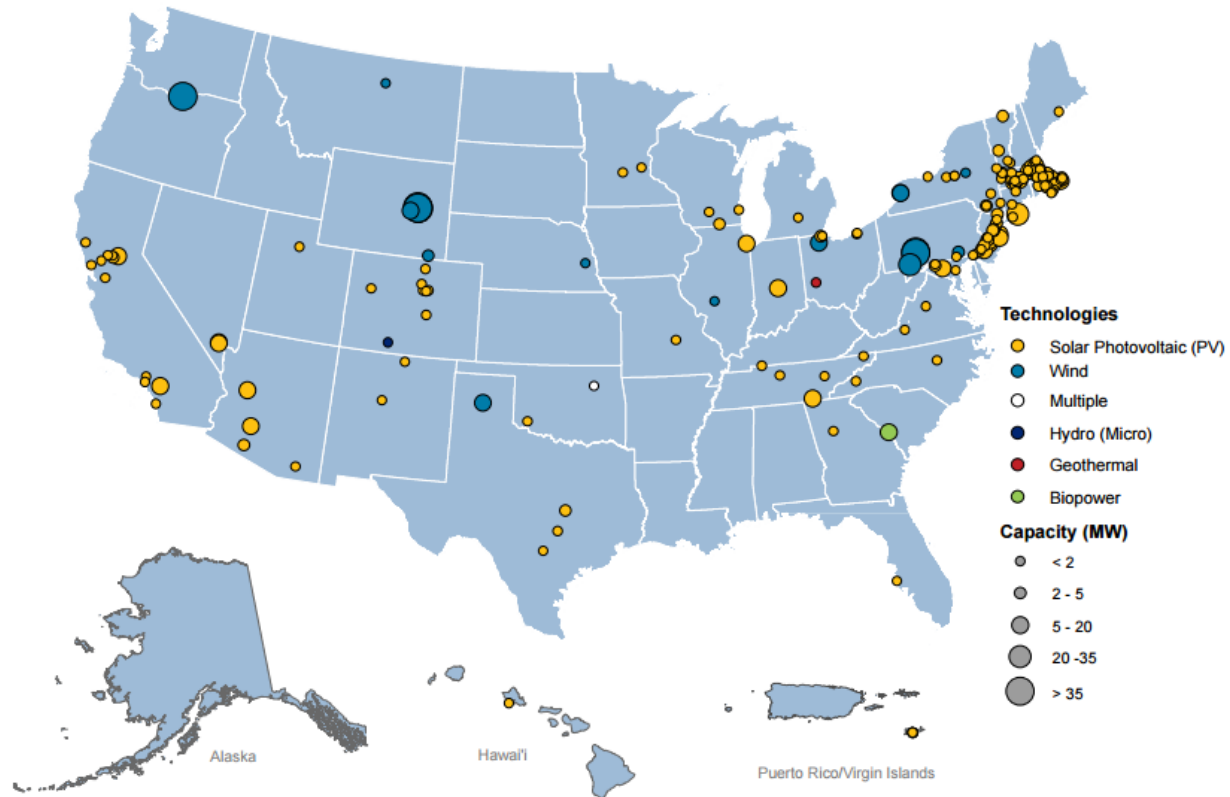
## EPA Whitepaper on Solar Landfill Development

The U.S. Environmental Protection Agency (EPA) recognizes the overall environmental benefit of siting renewable energy projects on contaminated properties. Through the RE-Powering America's Land Initiative, 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.

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# 190 Renewable Energy Projects, Over 1.1 Gigawatt Installed Capacity



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](mailto:cleanenergy@epa.gov).

October 2016

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# National Deployment

INSTALLATIONS BY STATE OR TERRITORY <sup>2</sup>						
State	# Installations	Installed Capacity (MW)	State Renewable Portfolio Standard <sup>3</sup>	Solar Set-Aside Policy <sup>4</sup>	Solar Multiplier Policy <sup>5</sup>	Distributed Generation Requirement <sup>6</sup>
MA	64	142.7	✓	✓		
NJ	15	82.9	✓	✓		
NY	14	76.1	✓			✓
CA	13	104.9	✓			
CO	8	7.1	✓		✓	✓
OH	6	11.7	✓	✓		
PA	6	178.5	✓	✓		
WY	5	295.8				
AZ	4	30.0	✓		✓	✓
MD	4	23.1	✓	✓		
TX	4	14.6	✓ <sup>7</sup>		✓ <sup>8</sup>	
TN	4	10.1				
VT	4	5.3	✓			✓
WI	3	2.9	✓			
NV	2	28.2	✓	✓	✓	
IL	2	10.9	✓	✓		✓
NM	2	3.0	✓	✓		✓
CT	2	1.7	✓			
VA	2	1.6	✓ <sup>9</sup>			
DE	2	0.7	✓	✓	✓	
NC	2	0.6	✓	✓		
OK	2	0.0	✓ <sup>10</sup>			
MN	2	0.5	✓	✓ <sup>11</sup>		✓
OR	1	100.0	✓	✓	✓	✓ <sup>12</sup>
ROUS <sup>13</sup>	17	39.9				
<b>TOTAL</b>	<b>190</b>	<b>1,172.9</b>				



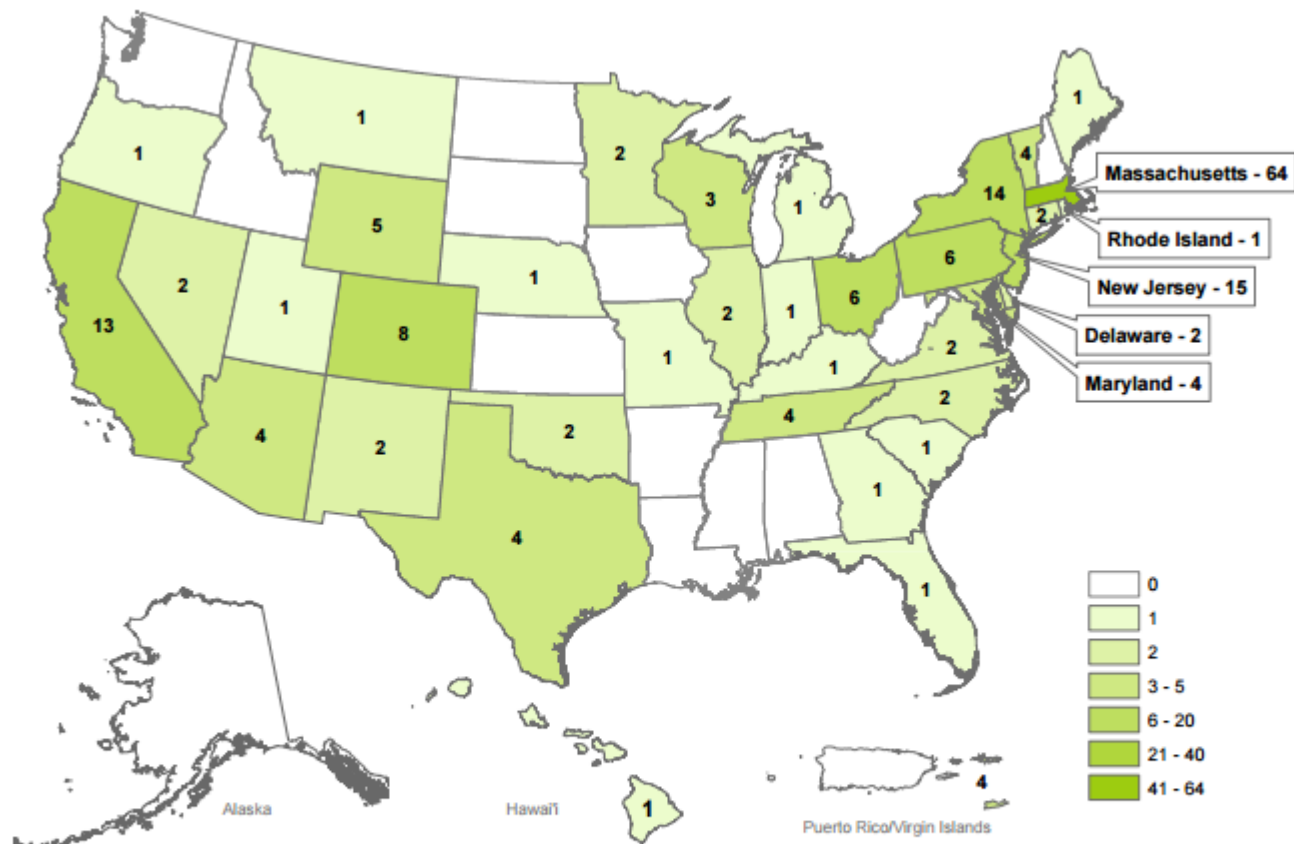
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## 38 States have Renewable Energy Projects on Contaminated Lands



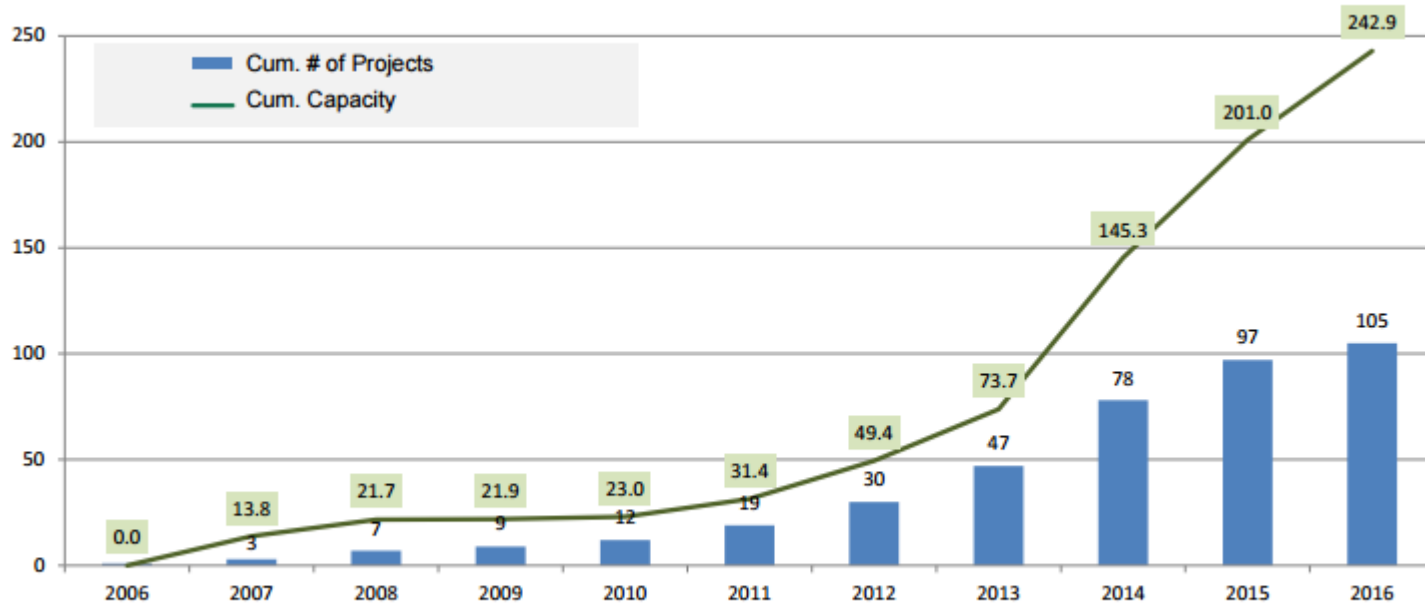
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## Annual Growth in Solar Installations on Landfill/Landfill Buffer



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# Landfill Racking Industry Leader

GameChange Solar is a leader in landfill solar PV racking with installations at numerous landfill and brownfield sites in multiple states nationwide

- In house structural, mechanical and civil engineers to support all aspects of complex landfill and brownfield sites
- Extensive experience working with landfill and brownfield regulatory entities and stakeholders in 12 states
- Ability to support projects in all states



GameChange Pour-in-Place™ System 12.9 MW – New Jersey Landfill Site - Largest Superfund Site in the United States

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# Landfill Racking Industry Leader



17 MW – MA Group of 5  
Massachusetts Landfill Sites



12.9 MW - NJ Largest Superfund  
Landfill Solar System in USA



6.5 MW – MA Three Closed Solid  
Waste Landfills in Western MA



4 MW – MA Falmouth Landfill  
Solar System in Massachusetts

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# How GameChange Came About



Our team leadership has invested over \$480,000,000, heavily in metal fabrication companies. This gives us a strong working knowledge of cost effective scale metal manufacturing processes.

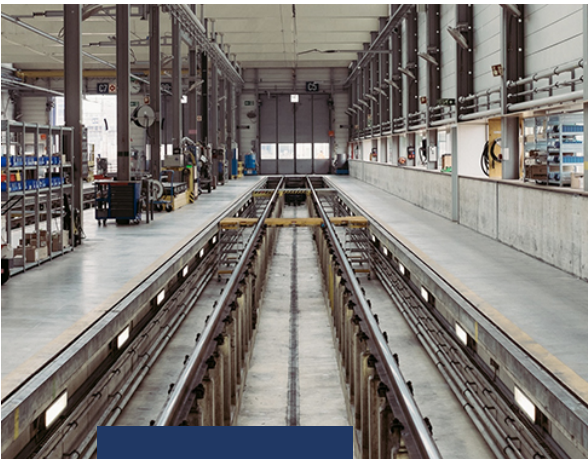
Our group companies built 10 solar power plants and learned the solar business

As these plants were built, we saw that PV mounting structures were too expensive, complicated slow to install, and needed better integrated wire management and grounding.

GameChange Racking was started in 2012 to provide the most cost-effective, high quality and fast-installing solar racking systems.

The company was renamed GameChange Solar in 2015 to better message the immediate expansion into trackers and long term expansion into storage.

We have built a superior engineering team, leveraged our legacy skillset in solar system installation, design and metal fabrication, and developed the best designed racking systems in the industry.



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# GameChange Unbeatable Quality Attracts World Class EPCs, Developers, and System Owners



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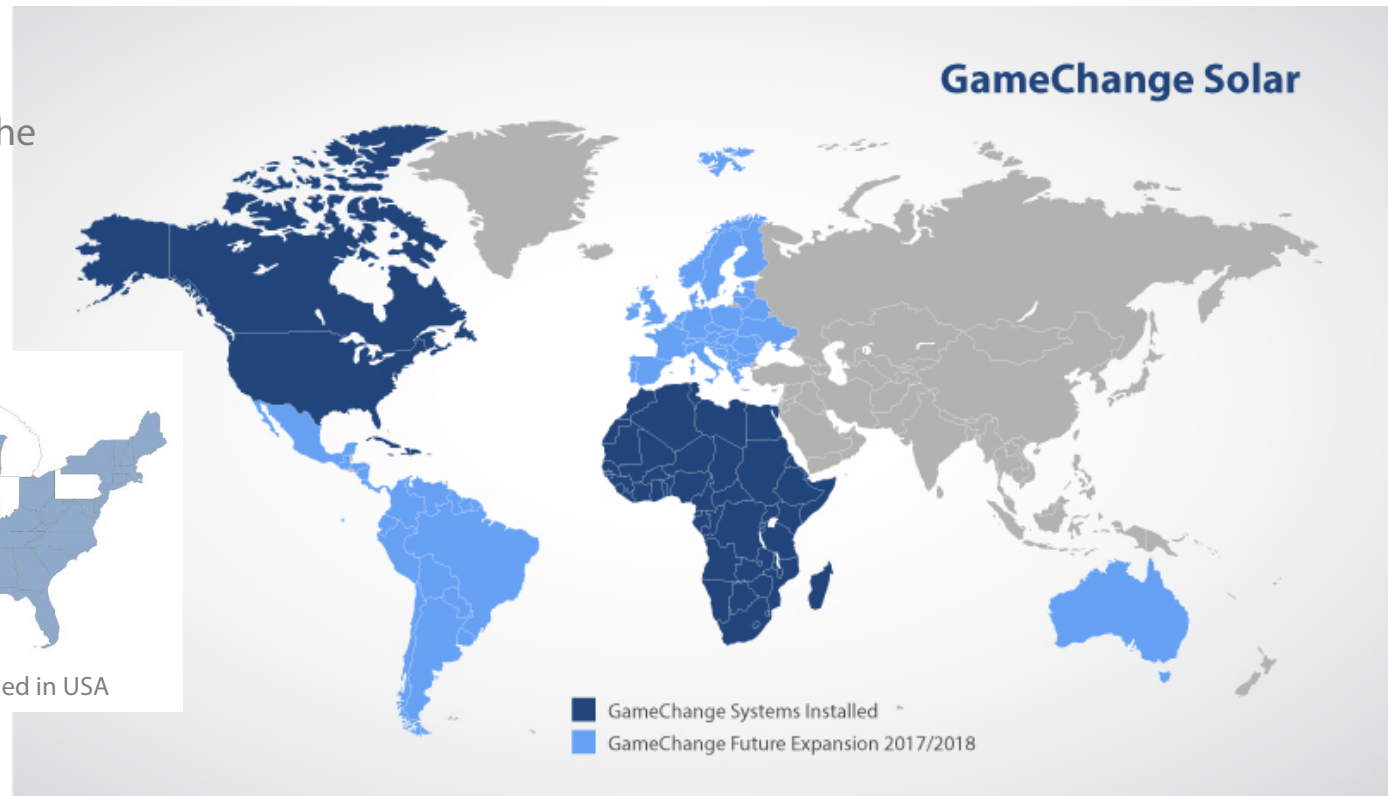
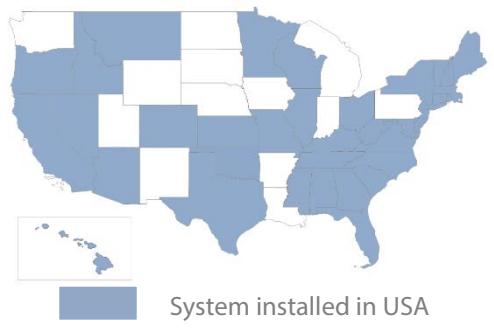
# Our Mission: **Change the World by Making Solar Energy Affordable**

**Over 2 GW** Sold

**Over 4GW** Manufacturing Capacity

- Uncompromising, Bankable Quality Racking at Value Pricing
- Superior Engineering with Highest Steel Strength in the Industry
- Optimized Design with Less Parts, Less Cost, Fastest Install

Projects in  
Over 35 States in the  
USA plus Africa,  
Canada and the  
Caribbean

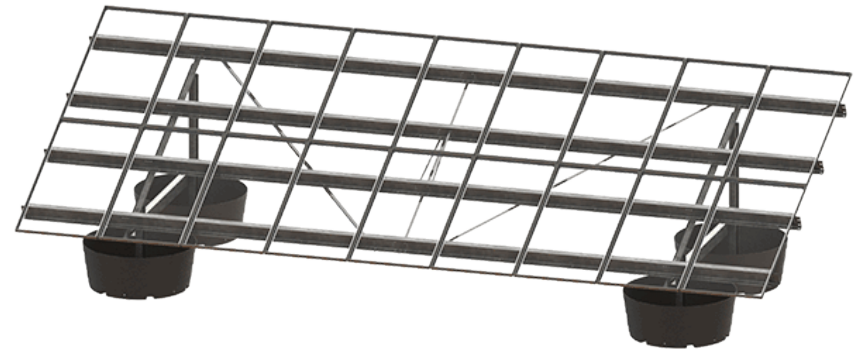


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# Pour-in-Place™ Ballasted Ground System

Revolutionary Innovation that Pushed GameChange to Landfill Leadership

- Patent pending protected system with self-leveling technology: 68% faster install than precast
- Substantial labor savings by eliminating moving and shimming heavy, precast blocks
- Integrated grounding and wire management
- Supports all poly, glass and thin film modules including First Solar Series 4
- Available in both 1 & 2 panels up in portrait
- 20 year warranty
- ETL / UL 2703 tested
- Independent assessment by Black & Veatch
- Wind tunnel tested by industry leader CPP



“Fastest ballasted ground system I've installed:  
We just drop the racks into the forms and then pour the  
concrete. Very few parts, very simple to deploy.”

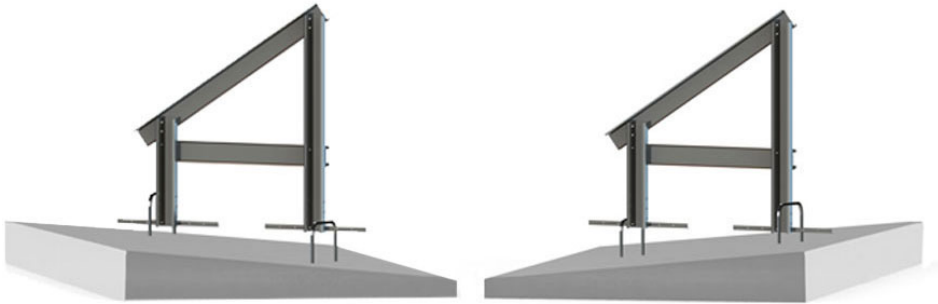
Ted Gadomski  
Operations Manager, Pro Star Electric Inc

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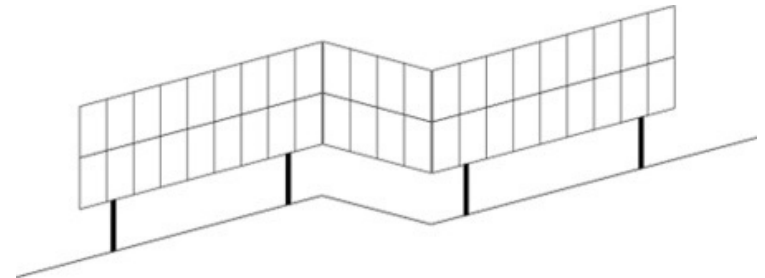
# Fastest Install of Any Ballasted Ground System



Self leveling technology with adjustable feet and slots allow fast install and more than 7" vertical adjustability to navigate sloping ground prior to concrete pouring



Patent pending articulating purlin connection to navigate sloping terrain



Articulating purlin connections to navigate up to 15% terrain slopes

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# Concrete and Combiner/Inverter Installation Methodologies



Utilizing concrete trucks to pour directly into tubs: 20 men install 1.64MW per week



Bobcats with pouring buckets allow fast concrete installation on weight sensitive landfill caps: 20 men install 1.54MW per week

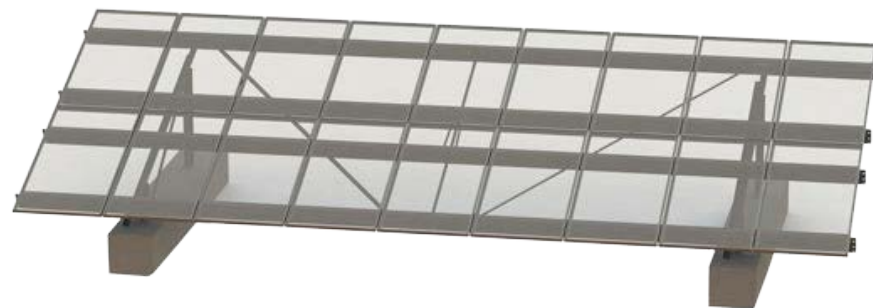


Standard pump truck enables even faster concrete installation: 20 men install 1.94MW per week

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# Precast Ballasted Ground System

- Industry's longest spans and fewest foundations: as few as 190 per MW
- Supports all poly and thin film panels for all vendors
- Foundations may be precast at site or nearest precast location
- Integrated grounding and wire management
- Full layout and engineering analysis for every project
- Fast install with up to 8 inches vertical adjustment with post extender option beyond 1.35 inch standard slots
- Available in both 1 & 2 panels up in portrait
- Landfill solar racking leader
- 20 year warranty
- ETL / UL 2703 tested
- Wind tunnel tested by industry leader CPP



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# Pour-in-Place™ Ballasted Ground Systems Across the USA

12.9 MW, NJ

Largest Superfund Site in USA



4 MW, Rocky Site, MA



2.6 MW, CT



6.5 MW, MA



3.5 MW, CT



2.5 MW, NY



6.24 MW, Central MA



3.4 MW, NJ



3 MW, CA







**Repower the Planet**  
with Clean Renewable Solar Energy