GameChange Solar
Bankable Quality at Value Pricing
How GameChange Came About

Our Parent Company Invested $480,000,000 primarily in Clean-Tech Metal Fabricators

Our owner Barron Group Holdings 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 Parent Company Built 10 Solar Power Plants and Learned the Solar Business

Starting in 2011, Barron invested over $50,000,000 to develop and built 10 solar power plants 18.9 MW.

Experiencing that Racking Systems were Overpriced, Overcomplicated and Slow to Install, GameChange was Founded to do it Better

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

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

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

Change the World by Making Solar Energy Affordable

• 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
Over 2GW Manufacturing Capacity

Ballasted Ground Systems for Poly and Thin Film
Pile Driven Systems for Poly and Thin Film
Roof Systems Ballasted, Ultralight and Standing Seam
Genius Tracker Single Axis Tracker System

Over 400 Commercial and Utility Scale Projects Installed in 24 States

Nationwide Leadership

150+ MW Installed 2015 YTD in North Carolina

GameChange Solar
Repowering the Planet
Bankability

GameChange Solar has industry leading quality & the backing of Barron Group Holdings, giving us a world class level of bankability to give you the peace of mind you need.

- Financial strength: backed by Barron Group Holdings with assets substantially in excess of $100,000,000
- 20 year warranty
- Strict adherence to required engineering standards
- Projects utilizing GameChange Racking financed by Key Bank, M&T Bank, Bridge Bank, US Bancorp, Duke Energy, True Green, PJM Utility, Laurel Capital Partners, and many others
- All systems wind tunnel tested by industry leader CPP
- 2703 and 467 ETL/UL tested
- Independent assessment by industry leader Black & Veatch
Excellence in Customer Service

Delivery time:
2-4 wks Roof, 5-7 wks Ground Systems

Responsiveness:
1-2 day for quotes, 2-8 days for layouts

Staged or completed deliveries scheduled as needed by GameChange in-house logistics team

In house structural, mechanical and electrical engineers

Stamped layouts and calculations in 50 states and internationally

Free on site field training and site supervision services

Industry’s most thorough and user friendly layout/permit drawings:
Max-Span™ Post Driven System

- Industry’s best quality, test & certification and bankability
- Industry’s longest spans and fewest foundations: as few as 240 per MW
- Patent pending articulating purlin connections to navigate up to 15% terrain slopes
- Supports all poly, glass and thin film modules including First Solar Series 4
- Post/beam/brace assembly has industry’s lowest part count and fastest assembly
- Rugged design enables 150mph wind and 90 psf snow loads
- Turnkey install, geotech services available
- 20 yr. warranty – Made in USA
- ETL / UL 2703 tested
- Independent assessment by Black & Veatch
- Wind tunnel tested by industry leader CPP

“GAMECHANGE’S INNOVATIVE (POST-DRIVEN) SOLUTION OFFERED A QUALITY PRODUCT AT THE BEST VALUE IN THE MARKET.”

CHRIS BULLINGER
CEO, Hecate Energy LLC
Industry’s Lowest Part Count for Pile Systems

- Assembles faster due to lower part count
- Three axes of adjustability demanded by installers for navigating real world site conditions where significant adjustability in the field is required
- The unmatched span capability of the Max-Span™ means there are fewer foundations than competing systems, which also means less piles and less pile installation cost.

Part Count Comparison for A Frames (Post, Brace, Beam)

<table>
<thead>
<tr>
<th>Components</th>
<th>Bolts</th>
<th>Total Parts</th>
<th>Piles/MW</th>
<th>Total Components Per MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC Max-Span™</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>240</td>
</tr>
<tr>
<td>Competitor S</td>
<td>5</td>
<td>8</td>
<td>13</td>
<td>280</td>
</tr>
<tr>
<td>Competitor D</td>
<td>5</td>
<td>14</td>
<td>19</td>
<td>280</td>
</tr>
<tr>
<td>Competitor R</td>
<td>8</td>
<td>14</td>
<td>22</td>
<td>280</td>
</tr>
</tbody>
</table>

Nesting components eliminate brackets, have long slots enabling 3 axes of adjustability.
Articulating purlins between tables enable installation on sites with complex slope issues including up to 15% east-west terrain slopes.

Superior Terrain Navigation Adjustability

Patent pending articulating purlin connection to navigate sloping terrain

Fast installing direct mount purlin option has multiple mounting holes allowing 6” east-west adjustability

Articulating purlins between tables enable installation on sites with complex slope issues including up to 15% east-west terrain slopes

Nesting components eliminate brackets, have long slots enabling three axes of adjustability
Max-Span™ Post Systems Across the USA

- 32 MW, NC
- 43 MW, NC – Group of 8 Systems
- 39 MW, NC – Group of 6 Systems
- 41 MW, NC – Group of 7 Systems
- 3.7 MW, MA
- 12 MW, NJ, Frameless Modules
- 7.3 MW, MD
- 4 MW, Coastal MA
- 3.5 MW, Central MA
- 3.5 MW, NJ

Made in USA
GAMECHANGERSOLAR
REPOWERING THE PLANET
Max-Twin™ Post Driven System

- Industry’s best quality, test & certification and bankability
- Rugged design enables 135mph wind and 50 psf snow loads
- Industry’s longest spans and fewest foundations: as few as 240 per MW
- Patent pending articulating purlin connections to navigate up to 15% terrain slopes
- Supports all poly, glass and thin film modules including First Solar Series 4
- Turnkey install, geotech services available
- 20 yr. warranty – Made in USA
- ETL / UL 2703 tested
- Wind tunnel tested by industry leader CPP
Pour-in-Place™ Ballasted Ground System

- Patent pending protected system w/ 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
- Gen4 Pour-in-Place™ Ballasted Ground System with round forms now available – no supports while pouring, faster install, steeper slopes
- Available in both 1 & 2 panels up in portrait
- Landfill solar racking leader
- 20 year warranty – Made in USA
- 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.
Fastest Install of any Ballasted Ground System

Place supports, attach rails, then level rail supports quickly prior to pouring concrete

Slots combined with rail support self-leveling technology enable up to 10” vertical adjustability

Available with galvanized purlins with large wire management tray

North-south wire management trays for homerun wires mounted on Pour-in-Place™ system

String inverters and homerun wiring attach easily to Pour-in-Place™ System

East-west slopes up to 15% for continuous systems no ground prep required. North-south slopes up to 5% need no gravel buildup under forms, over 5% up to 15% need buildup
Concrete and Combiner/Inverter Installation Methodologies

- **Pouring bucket on bobcat for concrete pouring of Pour-in-Place™ forms on sensitive landfill caps**
- **Combiner boxes and string inverters mounted on to support structure in Pour-in-Place™ forms**
- **Gen4 Pour-in-Place™ Ballasted Ground System with round forms shipping Q4 2015: no temporary bracing, less concrete, faster install, steeper slopes up to 17% in all directions**
- **East-west slopes up to 15% for continuous systems no ground prep required. North-south slopes up to 5% need no gravel buildup under forms, over 5% up to 15% need buildup**
- **Filling Pour-in-Place™ forms using concrete pump**
- **Standard concrete pump truck has long range and fills up to 2.5 MW of Pour-in-Place™ forms per week**
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.
Pour-in-Place™ Ballasted Ground Systems Across the USA

12.9 MW, NJ – Largest Superfund Site in USA

6.5 MW, MA

6.24 MW, Central

4 MW, Rocky Site, MA

2.6 MW, CT

2.8 MW, MA

2.5 MW, NY

1.2 MW, NY

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12.9 MW – New Jersey Landfill Site - Largest Superfund Site in the United States

This 12.9 MW Solar Project was built in record time on a Landfill in New Jersey and powers 40,000 homes nearby.

The L&D Landfill 12.9 MW GameChange Racking Pour-in-Place™ System is the largest superfund landfill project in the United States.

The system installed quickly onto a challenging landfill with several difficult sloping areas. Stringent requirements were followed during the installation to make sure all local, state and other regulations were followed.

6.5 MW - Three Closed Solid Waste Landfills in Western MA

All three sites were built on top of closed solid waste landfills, creating valuable re-use of otherwise useless land.

All three sites were built on top of closed solid waste landfills, creating valuable re-use of otherwise useless land.

These western Massachusetts landfills requires very stringent design guidelines to be followed. The landfill cap was not allowed to be disturbed and all vegetation required to be left in place to required height for storm water management reasons. The sites were completed in only two months through difficult fall and winter conditions.

2.5 MW – Largest Landfill Solar System in New York State

This site is the largest solar PV installation on a landfill in New York. The install process is straightforward and quick. Bobcats with pouring buckets filled the forms, then modules were mounted.

Clarkstown, NY - 12 men installed 2.5 MW racking in under one week

"WE SELECTED GAMECHANGE'S POUR-IN-PLACE™ BALLASTED GROUND SYSTEM FOR ITS SUPERIOR QUALITY, VALUE, AND SPEED AND EASE OF INSTALLATION. IT WAS A PLEASURE WORKING WITH THEIR TEAM."

Charles Feit, CEO, OnForce Solar

12.9 MW - Largest Superfund Site in Patterson NY

This site is on a 10 acre closed municipal landfill in Putnam County New York.

12 men installed 1.2 MW racking in 3.5 days

"WORKING ON A LANDFILL REQUIRES THAT YOU PAY CAREFUL ATTENTION TO ANY EQUIPMENT THAT WILL CONTACT THE EXISTING GROUND SURFACE, SO THAT THE ENVIRONMENTAL INTEGRITY OF THE SITE CAN BE MAINTAINED. WORKING WITH GAMECHANGE RACKING ALLOWED US TO DESIGN THIS INSTALLATION COST EFFECTIVELY TO ENSURE THAT OUR PROJECT RESULTED IN AN OVERALL ENVIRONMENTAL GAIN IN THE TOWN OF PATTERSON."

Paul Curran, Managing Director, BQ Energy
Genius Tracker™ System

- Breakthrough Technology Enables Lowest Cost and Highest Reliability Tracker with Fastest Install and Lowest O&M Cost
- Black & Veatch Technical Assessment, CPP Wind Tunnel Tested and Rated 150mph, ETL/UL 2703 Testing Completed April 2016
- Highest Power Density of Any Single Axis Tracker, 99.3% Panel Density on Rows Vs. 94.0% Best Competitor
- Robust Linear Actuator Drive System Has 40 Year Operating Life and is IP 66 Rated for Operation in Harsh Environmental Conditions
- Every Drive Actuator Has its Own Battery Backup and Wirelessly Linked Controllers, Eliminating All Trenching, Tru3D-Gimbal™ Bearings Account for Pile Installation Being Out of Plumb, Out of Azimuth and Out of Vertical & East-West Alignment
- Self-Powered Rows Eliminate Central Drive, Allow for Uninterrupted Grass Cutting and Panel Washing
- 10 Person Crew Installs 1.70 MW Trackers and Panels Per Week

"You don’t have to be a genius to install their tracker, but you sure feel like one for doing it!"

Peter Greenberg
CEO, Energy Wise, Oregon
Fast Installation, Optimal Performance

Tru3D-Gimbal™ Gen3 Bearings allows for 4.5% plumbness & azimuth tolerance, 2” vertical & 1.5” east-west adjustment

Tru3D-Gimbal™ technology aligns, self-lubricating HDPE UV proof bearings to have 20+ year life due to elimination of misalignment grinding

Purlins attach quickly from above using minimal components, bottom mount option available

Linear actuator robust stainless steel & aluminum actuators with 40 year operation in harsh environmental conditions

Mounts all poly and thin film modules including First Solar Series 4

Self powered rows eliminate central drive, allow for easy maintenance
Genius Tracker™ Features

- **Encryption Protection:** ZigBee Wireless Network
- **Tracking:** Single Axis Horizontal
- **Rotational Range (East/West):** 90° Standard
  120° Available
- **Tracking Method:** Time and Location Based Algorithm
  (Based on NASA)
- **Anti-Shading (Backtracking):** Prevent Panel Shading for
  Entire Operational Range
- **Panel Mount:** Large Modules - Portrait 1 UP, Thin Film First
  Solar Series 4 Modules - Landscape 3 to 4 UP
- **Supported Modules:** All Major Brands Including Thin Film
- **Array Configuration:** Array May Be Built with Complete
  Flexibility in Both East-West and North-South Directions
- **Table Length:** Up to 90 72 Cell Modules Driven by One
  Actuator
- **Slope Tolerance:** Handles Slopes North-South +/- 6.5° and
  East-West +/- 9°
- **Remote Communication:** Secure Monitoring and Control
  Tracker Array in Real-Time Via an Encrypted Cloud Portal
  Full Stop; SCADA Solution Available
- **Wind Load Capacity:** CPP Wind Tunnel Tested, Rated Up
  to 150 mph
- **System Power Density:** Highest Power Density of Any
  Single Axis Tracker, 99.3% Panel Density on Rows Versus
  94.0% Best Competitor
- **Ground Coverage Ratio:** 0.25 to 0.65 (IAs Required)
- **Stow Wind Speed:** 70mph+ Typical Time of Day Weighted
  Average
- **Time to Stow:** 0.8 Minutes Time of Day Weighted Average
- **Stow Strategy:** 45° Tit. Least Stow Downtime in Industry
  with Typical Time Less Than 3 minutes
- **Backup Power:** Every Linear Actuator has Integrated Solar
  Panel and Battery Providing Integrated Backup - Typically 5
  Days
- **Drive Type:** Linear Actuator Robust Stainless Steel & Aluminum,
  40yr. Life IP Rated for Operation in Harsh Environmental
  Condition
Genius Tracker™ System Features

- **Linear Actuator Motor:** 24 Volt or 12 Volt DC
- **Controller:** Microcontroller Driven, Field Replaceable Real-Time Swappable Controller Spares Provided
- **Control Board:** PCB with Standard Semiconductors
- **Warranty:** 10yr Structural Components, 5yr Warranty on Control & Drive Systems (20yr/10yr Also Available)
- **Grading Requirements:** Least Site Grading Required of Any Tracker System
- **Monitoring:** Operational Alert Emails and Web Portal for Viewing Site Installations
- **Parasitic Load:** Zero Draw on Solar Array - Small Solar Panel Charges Battery In Controller
- **Module Attachment:** Fast Installation with Bottom or Top Mount Attachment for All Framed and Double Glass Modules
- **Design Efficiency/Damping:** Industry's Highest Intrinsic Damping Eliminates Costly Dampers and Reduces Material Cost

Test & Certification

- CPP Wind Tunnel Tested and Rated 150mph
- ETL/UL 2703 Testing Completed April 2016
- Black & Veatch Technical Assessment

Calculations

- Structural PE Stamped Drawings and Calculations
- Site Specific Code Compliant System Structural Calculation Based on Values for Any Location

Material

- **Post:** G235 Galvanized Steel (HDG ASTM 123 Option Also Available)
- **Tubes:** G90 Galvanized Steel
- **Purlins and Other Components:** G90 Galvanized Steel
- **Tracker Hardware:** Magnacoat 3/8'' & 1/2'' x 1'' Hex or Serrated Flange Hex Bolts & Threaded Rods, 3/8'' & 1/2'' Serrated Flange Nuts & Washers
- **Panel Mounting Hardware:** Stainless Steel 1/4 - 20'' Serrated Flange Nuts 1/4 - 20 x 3/4 in Long Bolts Plus Star Washers for Grounding
- **Tru 3D-Gimbal™ 6005A-T6 Aluminum and UV Proof HDPE**
Grid – Lite™ Roof System
Low/Zero Ballast, Seismic Optimized Design

- Interlocking grid design combined with NextGen wind deflector reduces ballast to minimal or zero
- Industry’s best system to handle most severe seismic conditions
- Integrated wire management trays enable string wiring throughout entire array for NE & EW runs prior panelizing
- Near zero ballast saves up to $.02/watt
- Fast install with minimal components
- 5 and 10 degree tilts
- ETL/UL 2703 listed, ETL/UL 1703/2701 Class A fire rated
- 20 year warranty – Made in USA
- Wind tunnel testing by industry leader CPP and rated for 150 mph wind speed
Robust Grid Installs Fast, Excellent Wire Management

Ultra high grade galvanized interlocking rails install quickly to build grid

Interlocking grid design combined with NextGen wind deflector virtually eliminates ballast to minimal or zero

Integrated wire management trays enable string wiring throughout entire array for NE & EW runs prior to panelizing

Panel support for both 5 and 10 degree tilts: EPDM block available in place of slip sheets

Pre-punched slots in wind deflectors enable fast east-west string wiring prior to panelizing

Fire proof, durable galvanized and stainless steel components
GameChange Roof Systems Across the USA

1.9 MW, NY

1.2 MW, Providence RI

500 KW, Cumberland RI-A

500 KW, Cumberland RI-B

478 KW, Gardner MA

402 KW, Burlington CT

287 KW, Irving

389 KW, White Plains NY

GAMECHANGE SOLAR
REPOWERING THE PLANET
Standing Seam Roof System

- Rail Mount option includes rails, rail jumpers, L feet, seam clamps, self grounding ETL/UL panel clamps and all hardware
- Direct Mount option includes seam clamps, panel mounting plates, self grounding ETL/UL panel clamps and all hardware
- Flush mount, 5 and 10° standoffs available with Rail Mount option
- Seam clamps available for standard metal seam roofs
- Zero ballast and no penetrations
- Fast install with minimal components
- Integrated grounding
- Rated for 130 mph wind and 60 psf snow loads
- 20 year warranty - Made in USA
Low Cost, Fast Install

L foot attached from above with one tool

Aluminum jumper strip provided for bonding rails

Stainless steel self grounding mid panel clamps

Direct Mount option includes seam clamps, mounting plates, panel clamps & all hardware
Get on board with GameChange Solar
Let’s repowering the planet