

Solar Energy Project Proposal for:

Johnson County Secondary Roads Department



Johnson County Secondary Roads Campus
4810 Melrose Avenue West
Iowa City, IA 52240

Eagle Point 
SOLAR
Bringing you the SUN

Josh Busard

From: Jim Pullen <JPullen@eaglepointsolar.com>
Sent: Thursday, September 11, 2014 8:48 AM
To: Becky Soglin; Josh Busard
Subject: RE: question re Johnson County Sec Rds proposal

Becky & Josh,

Thank you for the inquiry and I apologize but the 89% is simply an error in our proposal. We evaluated many, many scenarios and somehow managed to mix the numbers from one scenario to another.

The 164,720kWh of annual production is the correct production number and your math is also correct, that is a 96.9% offset. Our modeling tool uses PV watts as the calculation engine so we are confident in that number, and we used your 170,000kWh estimate for usage.

Please let me know if you have any other questions.

Thanks

Jim Pullen
Sales Manager
Eagle Point Solar
900 Jackson Street
Suite 108
Dubuque, IA 52001
O: 563.582.4044
C: 563.451.8365



Made in USA!

www.eaglepointsolar.com

From: Becky Soglin [<mailto:bsoglin@co.johnson.ia.us>]
Sent: Wednesday, September 10, 2014 2:12 PM
To: Jim Pullen; Josh Busard
Subject: question re Johnson County Sec Rds proposal

Hi Jim,

We have a basic question about the project specs. On p. 9 of Eagle Point's proposal for the Johnson County Secondary Roads Replacement Facility, it cites annual production as 164,720 kWh and electrical usage offset at 89%. Can you tell me how you're getting these figures and how they relate to each other?

I ask because the projected annual kWh use for the facility is 170,000 kWh. Thus, I come up with these alternative calculations/explanations:

164,720 kWh = **96.9%** of 170,000 (the 89% is simply an error?)

OR

164,720 kWh = 89% of **185,078** (are you assuming higher need/usage than 170,000?)

Please copy Josh Busard on your response, or if it's something that needs more explaining, you can try Josh on Thursday at 319-356-6083 (he's out the rest of the day). I'm out of the office until Friday.

We may have other questions, but we just wanted to ask this, hopefully, quick one now.

Thanks, Becky

Becky Soglin, LEED Green Associate

Sustainability Assistant

bsoglin@co.johnson.ia.us

(319) 356-6083 phone

(319) 356-6084 fax

Johnson County Planning & Zoning

913 South Dubuque St., Suite 204

Iowa City, IA 52240

www.johnson-county.com



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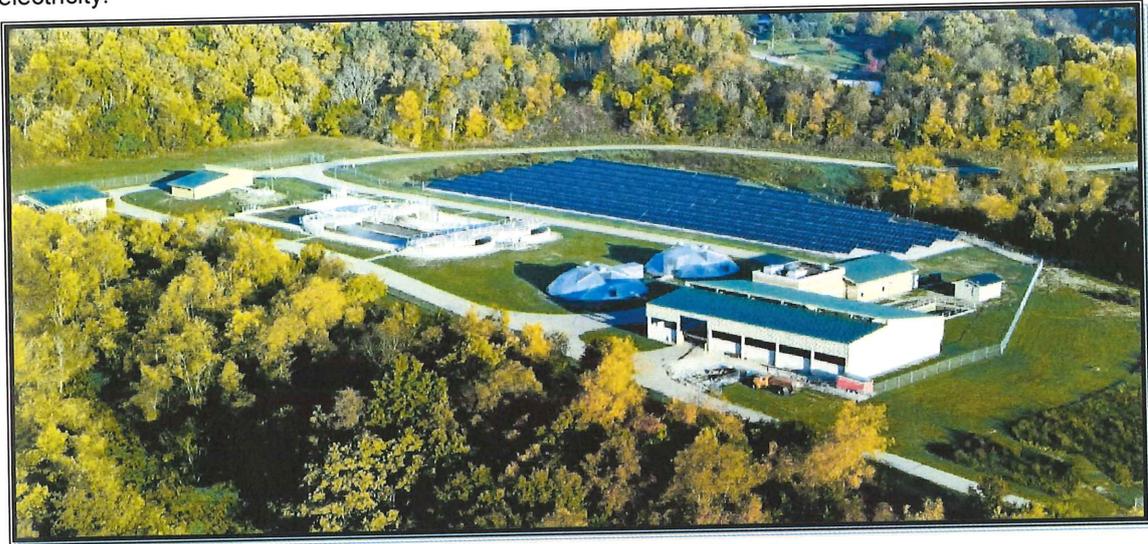
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Executive Summary

We appreciate this opportunity to submit a proposal to provide a turn-key solar installation for the Johnson County Roads Department as a response to the request for bids dated August 22, 2014.

In the last 4 years, Eagle Point Solar has designed and installed more than 110 solar projects and is one of the Midwest's largest and most experienced solar integrators.

Eagle Point Solar understands the highly cost-competitive nature of developing solar projects. It requires project developers to carefully balance the needs of customers seeking to maximize the rate of return on their investment, while incorporating the environmental and intrinsic benefits of providing emission-free electricity.



368kw Solar Array - Wastewater Treatment Facility - Galena, IL

Eagle Point Solar focuses on reducing project costs using standard system designs and construction processes. We provide the highest quality equipment and materials to ensure reliable operation over the service life of the system. Through intelligent design, the highest quality US manufactured hardware components and efficient use of labor and materials, we're able to reduce costs without cutting corners on the quality of equipment or materials used.

We look forward to working with you on this project and have the capacity to get started immediately with the design and engineering phase. Please let us know if you have any questions.

Sincerely,

J A Pullen

Jim Pullen
Sales Manager

Executive Summary

At Eagle Point Solar we believe our role as the integrator is to help our clients arrive at the most cost effective long term solution to their electrical energy needs. We feel it is our duty to fully understand what the customer is trying to accomplish and advise on all available options, considerations and challenges to best suit your situation. In doing so, we not only consider the easily predictable energy usage from generation but the effects solar can have on demand charges.

Impacting the demand portion of your electricity bill is a real challenge for you and everyone else with renewable energy systems. Our ability to accurately model the effect a solar array has on this portion of your bill requires a more detail set of data than we currently possess. Given the additional data, we can model the potential demand reductions your demand charges.

We propose an array that will offset approximately ~~89%~~^{91.97%} of your projected electrical usage (kilowatt hours). This would only offset 51% of your forecasted bill without considering demand. Depending on the timing of your usage, there may or may not be an effect on the demand portion of your bill. Because of this, we have provided a couple estimated financial scenarios for different demand impacts. It would be inaccurate to simply use a blended rate of cost/kWh for both usage and demand charges. With such a low base rate for energy (\$.048/kWh), we should consider ways to reduce demand to better impact your overall operating cost reductions.

Without additional detailed data, we are limited in our ability to model a lease or PPA arrangement since each of these financing vehicles is based on costs per kWh. Power Purchase Agreements are a great option for you as an organization that cannot take advantage of the tax incentives for renewable energy so we would highly recommend this option.

As mentioned above, we can certainly work with you on determining demand impacts, ways to reduce the cost impacts of demand charges, and create options that maximize your return on investment. It is our recommendation that before this project is awarded and constructed we be provided some additional data and time to further improve your return on investment and create the best value for Johnson County.

Company History

Eagle Point Solar was founded in 2010 with an unwavering focus on quality, professionalism, and service. We have become one of the leading solar providers in the Midwest with over 110 completed systems in Iowa, Illinois, and Wisconsin, generating millions of kilowatt hours of electricity. We have provided solar solutions for a variety of customers and facilities including schools, city governments, farms, non-profits, large and small businesses and homeowners.

Qualifications

Eagle Point Solar offers an innovative, turn-key solar electric solution offered through a comprehensive process that takes your system purchase from concept to commissioning. There is no faster, easier way to obtain a cost-saving, environmentally friendly solar electric system for your facility. Here are a few things that make us uniquely qualified for your project:

- 1) We are a professional solar installer/integrator that is 100% focused on the solar industry. For the last 4 years we have grown to a team of 25 employees with specific areas of expertise in our industry.
- 2) Full-time, on-staff installers. We do not sub-contract the installations of the solar array. Therefore we can leverage our knowledge from past projects and complete installations quickly, with consistent quality. As full-time employees, our people enjoy not only extremely competitive wages with a range of \$20-\$26/hour, but also eligibility for company benefits like health insurance and retirement plans.

- 3) Solarworld Platinum Level Installer. We are one of very few installers that have the quantity and quality of installations to reach the platinum level pinnacle.
- 4) NABCEP Certified, Master Electrician on staff.
- 5) On-Going customer support including monthly monitoring of the production of your array and web alerts for any potential issues. You have the ability to call us with questions at any point during the life of your system and we also provide a 5 year warranty covering our work as the installer.

Our Process

The major activities included in our end-to-end process include:

- Project goals and objectives development
- Perform site feasibility studies and rate analysis
- Engineer a comprehensive, optimized design
- Manage the project implementation
- Permitting, including utility interconnection agreements
- Material purchasing and logistics
- Construction and installation
- Install real-time, web-based monitoring
- On-going monitoring and support

Our Team

Every project has corporate level management from Eagle Point Solar's headquarters in Dubuque, Iowa as well as local construction management at the site. Eagle Point Solar will oversee quality of service and product and is the prime contractor responsible for all of the project work. Our experienced construction management team has enabled us to attain a reputation as a consistent and efficient solar provider focused on customer satisfaction and quality workmanship.

Barry R. Shear

President

Barry Shear is President and Owner of Eagle Point Solar. He has earned a wide reputation as a vigorous advocate for solar energy and climate change initiatives. Barry feels energy from renewable sources is the Industrial Revolution of the 21st century, and that jobs, economic growth, sustainability, and reducing greenhouse gas emissions can all be accomplished within a framework that works for the public and the utilities. Barry and Eagle Point Solar took the lead in the landmark Supreme Court case which now allows for third party power purchase agreements in Iowa. He is a founding Board member and Treasurer of ISETA (Iowa Solar Energy Trade Association) and is a frequent speaker and panelist on Solar Energy Policy.

Terry Dvorak***General Manager***

Terry Dvorak is the General Manager for Eagle Point Solar and to oversee operations. Terry has over 50MW of solar experience across the country with projects ranging from 2kW to 19MW. Such projects have involved a variety of technologies including ballasted and fixed rooftop systems, carport canopies, ground mounts, single-axis and dual-axis tracking systems. Terry has developed, designed, installed, commissioned, and arranged financing for solar projects. With 17 years of project management experience, and the last 5 dedicated to solar, Terry works with customers integrate solar in a financially responsible manner.

Clark Zivojnovich***Electrical Operations Manager***

Clark is a Master Electrician and our in-house NABCEP certified Solar Installer. Clark has 35 years of experience as an electrician, and has worked on virtually every type of electrical installation. He is responsible for the electrical design and construction.

Steve Stanfley***Construction & Project Manager***

Steve has field responsibility for all solar installation projects. He also has supervisory responsibility for the entire construction process, from procuring equipment, site preparation, installation and system commissioning. Prior to Eagle Point Solar, Steve owned a high-end custom home building business.

Jim Pullen***Sales Manager***

Jim has over 25 years of Sales & Executive Sales Management experience. Leading the sales group as well as establishing and executing sales strategies is a major focus. Jim has also personally provided solar consultations to over 50 customers in the last year who have installed solar arrays. Prior to Eagle Point, Jim was a small business owner and also the Vice President of Sales for an established technology firm.

Kim McDermott***Vice President of Administration***

Kim is responsible for the day-to-day office operation and financial activities. Her experience includes 9 years in the gaming industry, the last 4 years as the Director of Finance. She specializes in project cost controls and financial analysis for large scale projects.

Steve Fugate***Commercial Solar Consultant***

Steve is a Johnson County resident and is responsible for managing the day-to-day relationship between Eagle Point Solar and our clients. He has accumulated over 10 years of experience in the renewable energy industry. Working with Government, utilities and industry on sustainability and efficiency projects and as the Education Director for the Iowa Renewable Energy Association, he has become a statewide resource for education and outreach.

Project Portfolio - References

The following list represents a sample of Eagle Point Solar commercial customers and projects installed within the last several years. The companies listed below welcome the opportunity to provide professional references, and additional references are available upon request.



Wastewater Treatment Plant – Galena, IL

Overall Project Size: 368kW
Module Type: SolarWorld SW255
Inverter Type: (3) PVPowered 100kw
Mounting System: Sunfix Ground Mount
Completion Date: September, 2012
Contact: Andy Lewis (City Engineer)
Email: alewis@cityofgalena.org



City Operations Garage – Dubuque, IA

Overall Project Size: 203kW
Module Type: SolarWorld SW240
Inverter Type: (2) PVPowered 100kw
Mounting System: SolarDock ballasted roof mount
Completion Date: December, 2011
Contact: John Klostermann
Email: jkloster@cityofdubuque.org



Swiss Colony – Peosta, IA

Overall Project Size: 150kW
Module Type: SolarWorld SW240
Inverter Type: (2) PVPowered 75kw
Mounting System: SolarDock ballasted roof mount
Completion Date: December, 2011
Contact: John Mitchell
Email: Mitchell_J@sccompanies.com



Farmers Electric COOP-Kalona, IA

Overall Project Size: 800kW
Module Type: SolarWorld SW275
Inverter Type: (9) SMA Sunny Boy 6000
Mounting System: Legrand Ground Mount
Completion Date: July, 2014
Contact: Warren McKenna
Email: wmckenna@feckalona.com

Sample Project Portfolio

Year	Customer	Type	Location	Size (kw)
2014	Windsor Hills Dental	Roof	Dubuque, IA	13.44
2014	Dubuque Hose & Hydrualic	Roof	Dubuque, IA	31.3
2014	Farmers Electric Coop	Ground	Kalona, IA	800
2014	Honkamp Krueger Financial	Roof	Dubuque, IA	16.9
2014	Ambrosy Farm	Roof	Zwingle, IA	49.5
2014	Envision Sports Design	Roof	Dubuque, IA	19.8
2014	Rochelle Waste Water Plant	Ground	Rochelle, IL	315
2014	Longhorn Saddelry	Roof	Dubuque, IA	12.9
2013	Mike Finnin Ford	Roof	Dubuque, IA	20
2013	Roeder Outdoor Power	Roof	Dubuque, IA	60
2013	Beloit High School	Roof	Beloit, WI	80
2013	Straka Johnson Architects	Roof	Coralville, IA	7
2013	Cartegraph	Roof	Dubuque, IA	30
2012	Wienen Farm	Roof	Elizabeth, IL	10
2012	Dittmer Recycling	Roof	Dubuque, IA	50
2012	Galena Waste Water Plant	Ground	Galena, IL	368
2012	Steel Mart	Roof	Dubuque, IA	25
2011	City of Dubuque Operations	Roof	Dubuque, IA	201
2011	Straka Johnson Architects	Roof	Dubuque, IA	12
2011	Swiss Colony	Roof	Peosta, IA	150
2011	Scott Printing	Roof	Dubuque, IA	10

Summary of Project Specifications

Location	Size (kw)	Annual Production (kWh)	Electrical Usage Offset	CO2 Reduction (Tons)	Cost
Replacement Facility 4810 Melrose Ave West Iowa City, IA 52246	140.25	164,720	89% 97%	3,076	\$375,870

= approx
6,152,000 lbs

Roof mounted PV system utilizing clamps to attach the racking to standing seams of newly constructed Secondary Roads Department building. By using this system, roof penetrations will be avoided.

Inverters to be installed inside of building on the mezzanine level as suggested by construction supervisor.

A/C electrical runs to be run inside whenever possible and connection to be made directly to main electrical service entrance, 800Amp 208V

Manual disconnect to be mounted as per instruction by Mid-American energy.

Approximate installation time, 12 days.

Major Components/Services:

- (510) - SolarWorld SW275 Watt Mono Solar Panels
- (6) – SMA America Sunny Tri-Power 24000TL-US
- (1)- Sunny Portal monitoring system with android and I-phone presentation app
- DPW Power Rail, Tilt Leg Mounting System *(or similar)*
- All necessary Electrical Components
- Complete installation of Solar and Electrical Components
- Complete and submit all necessary Mid-American Energy documentation including:
 - Customer Authorization
 - Interconnection Agreement
 - 1-Line Electrical Drawing
 - Project lay out sketch
 - Certificate of Completion
- All Interconnection Fees
- All Permitting Fees
- Final Inspection and Commissioning

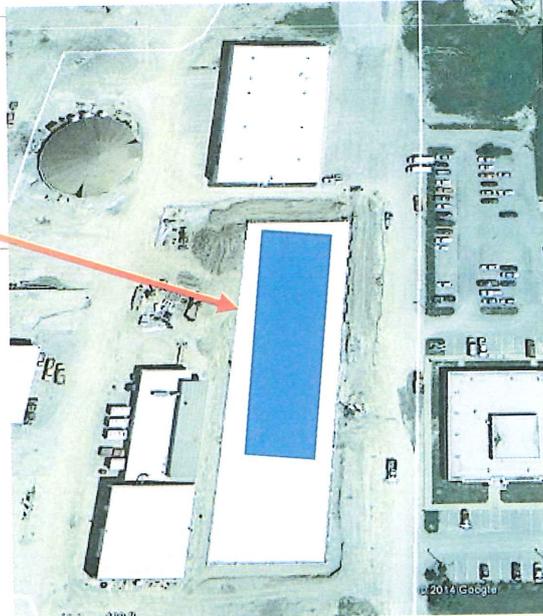
Johnson County Secondary Roads Replacement Facility

(510) - Solarworld SW 275 mono panels

(6) - SMA Sunny Tri-Power 24000 TL-US

Organized in 34 rows of 15 panels in each row

Tilt leg racking system attached via clamp - no penetrations



Major Components:

- **Modules – SolarWorld 275W Mono**
 - 275 Watt, High Performance, High Power
 - Made in Hillsboro, Oregon with American Components and Materials
 - 25 Year Production Warranty, 10 year product warranty
 - Size: 39.41" x 65.94"
 - Weight: 39.5 lbs
- **String Inverters – SMA America Sunny Tri-Power 24000TL-US**
 - 98% efficiency rating
 - Made in Denver, Colorado
 - Rated for outdoor mounting
 - Extended 20 year manufacturer's warranty
- **Racking – DPW Power Rail, Tilt Leg**
 - No Roof Penetrations
 - Tilt options to Fixed-Tilt at 30 Degrees
 - UL Listed
 - 25 year manufacturer's warranty
- **Production Monitoring System – SMA Sunny Portal**
 - Web-Based Portal
 - Display available on Johnson County Roads web site.

Financial Specifications

Cost Detail

Equipment	\$281,902
Installation	\$93,968

Gross Project Cost

\$375,870

**** Pricing is based on system sizes defined in the project specifications section.
Certain array sizes could be increased or decreased based on further evaluation.

****There is a request in the RFP to provide a "cost per panel". In our case, the system is priced as a whole including the cost of panels, racking, inverters and all other necessary equipment and services needed to install the system.

Cash Flow Details for the System

Cash Flows in Year	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Gross Cost: PV	(375,870)				
Utility Bill Savings with Inflation Applied	0	8,199	8,508	8,829	9,161
Net Annual Cash Flow	(375,870)	8,199	8,508	8,829	9,161
Cumulative Cash Flow	(375,870)	(367,671)	(359,163)	(350,334)	(341,173)

Net Annual Cash Flow is the sum of values in gray lines.

Cash Flows in Year	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
Utility Bill Savings with Inflation Applied	9,506	9,864	10,234	10,620	11,020
Net Annual Cash Flow	9,506	9,864	10,234	10,620	11,020
Cumulative Cash Flow	(331,667)	(321,803)	(311,569)	(300,949)	(289,929)
Cash Flows in Year	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>
Utility Bill Savings with Inflation Applied	11,435	11,865	12,312	12,774	13,256
Net Annual Cash Flow	11,435	11,865	12,312	12,774	13,256
Cumulative Cash Flow	(278,494)	(266,629)	(254,317)	(241,543)	(228,287)
Cash Flows in Year	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>
Utility Bill Savings with Inflation Applied	13,755	14,272	14,809	15,367	15,945
Net Annual Cash Flow	13,755	14,272	14,809	15,367	15,945
Cumulative Cash Flow	(214,532)	(200,260)	(185,451)	(170,084)	(154,139)
Cash Flows in Year	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>
Utility Bill Savings with Inflation Applied	16,546	17,168	17,815	18,485	19,181
Net Annual Cash Flow	16,546	17,168	17,815	18,485	19,181
Cumulative Cash Flow	(137,593)	(120,425)	(102,610)	(84,125)	(64,944)
Cash Flows in Year	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>
Utility Bill Savings with Inflation Applied	19,902	0	0	0	0
Net Annual Cash Flow	19,902	0	0	0	0
Cumulative Cash Flow	(45,042)	0	0	0	0

Bonding/Insurance

Eagle Point Solar carries general commercial and liability insurance and has bonding capacity if necessary. Insurance limits and bonding capacity can be increased if required for a specific project.

Name of Insurance Broker: Kunkel & Associates

1. Commercial General Liability Insurance (CGL) covering bodily injury and property damage liability, personal and advertising injury liability, products completed operations and contractual liability with a \$1,000,000 Per Occurrence and \$2,000,000 General Aggregate limit
2. Commercial Automobile Liability Insurance covering bodily injury and property damage liability, including coverage for owned, non-owned and hired vehicles with a Combined Single Limit of \$1,000,000 Per Occurrence
3. Workers Compensation Insurance as required by the applicable law of the state in which the work is being performed, including Employers Liability with \$500,000 for bodily injury by accident and \$500,000 for bodily injury by disease
4. Umbrella/Excess Liability Insurance on an occurrence basis with \$2,000,000 Per Occurrence and \$2,000,000 in the Aggregate in excess of the limits provided by Employer's Liability, Commercial General Liability and Commercial Automobile Liability

Licensing

Eagle Point Solar has an experienced group of licensed contractors and installers which has established us as one of the leading solar energy system contractors in the Midwest.

Iowa: Contractor License #C108214, Master Electrician License #EL13435MA

Illinois: File #03817504

Appendix

Sunmodule⁺ Plus SW 275 mono



TUV Power controlled:
Lowest measuring tolerance in industry



Every component is tested to meet
3 times IEC requirements



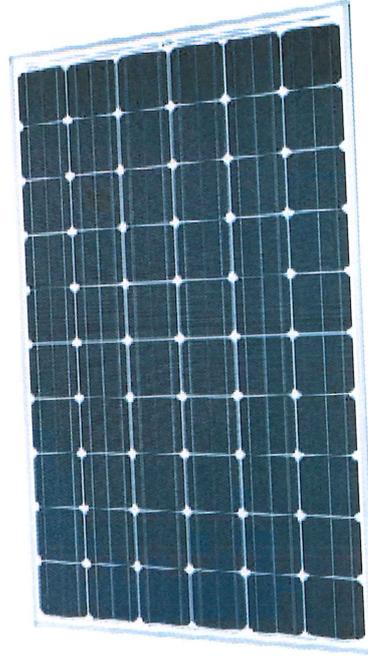
Designed to withstand heavy
accumulations of snow and ice



Sunmodule Plus:
Positive performance tolerance



25-year linear performance warranty and
10-year product warranty



World-class quality

Fully-automated production lines and seamless monitoring of the process and material ensure the quality that the company sets as its benchmark for its sites worldwide.

SolarWorld Plus-Sorting

Plus-Sorting guarantees highest system efficiency. SolarWorld only delivers modules that have greater than or equal to the nameplate rated power.

25 years linear performance guarantee and extension of product warranty to 10 years

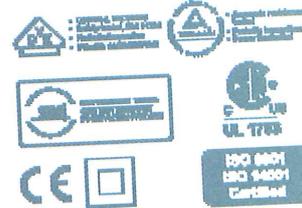
SolarWorld guarantees a maximum performance depression of 0.7% p.a. In the course of 25 years, a significant added value compared to the two-phase warranties common in the industry. In addition, SolarWorld is offering a product warranty, which has been extended to 10 years.*

*In accordance with the applicable SolarWorld Limited Warranty at purchase.
www.solarworld.com/warranty



MADE IN USA

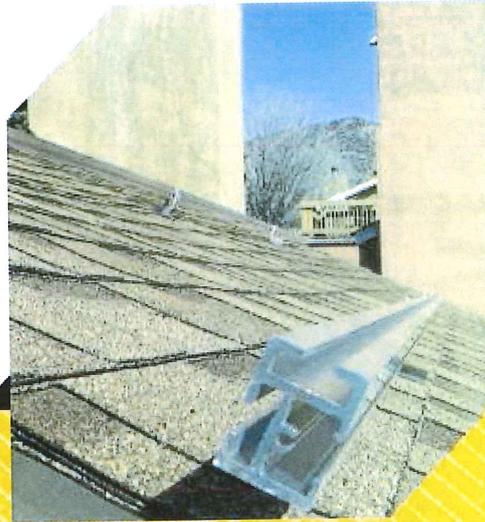
solarworld.com



We turn sunlight into power.

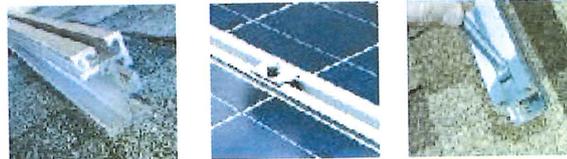


POWER RAIL™
Top-Clamping PV Mounting System
P6, P8 and P14 Rails



☀️ COMMUNICATIONS 🌐 ENERGY 🏭 SPECIAL INDUSTRIES ☀️ SOLAR

POWER-FAB®
Quality Hardware for the PV Industry



SUNNY TRIPOWER
12000TL-US / 15000TL-US / 20000TL-US / 24000TL-US



RATED FOR
1000 V DC & 600 V DC
SYSTEMS



Design flexibility

- 1000 V DC or 600 V DC
- Two independent DC inputs
- 15° to 90° mounting angle range
- Detachable DC Connection Unit

System efficiency

- 98% CEC, 98.5% Peak
- 1000 V DC increases system efficiency
- OptiTrac advanced MPPT
- OptiTrac Global Peak MPPT

Enhanced safety

- Integrated DC AFCI
- Floating system with all-pole sensitive ground fault protection
- Reverse polarity indicator

Future-proof

- Cluster Controller, WebConnect/Speedwire
- Bi-directional Ethernet communications
- Complete grid management feature set
- Ability to satisfy future utility requirements

SUNNY TRIPOWER
12000TL-US / 15000TL-US / 20000TL-US / 24000TL-US

The ultimate solution for decentralized PV plants

SMA's new Sunny Tripower TL-US is raising the level of performance for decentralized commercial PV plants. This three-phase transformerless inverter is UL listed for up to 1000 V DC maximum system voltage and has peak efficiency above 98 percent, while OptiTrac Global Peak minimizes the effects of shade for maximum energy production. The Sunny Tripower delivers a future-proof solution with full grid management, and communications and monitoring features. The Sunny Tripower is also equipped with all-pole ground fault protection and integrated AFCI for a safe, reliable solution. It offers unmatched flexibility with a wide input voltage range and two independent MPP trackers. Suitable for both 600 V DC and 1,000 V DC applications, the Sunny Tripower allows for flexible design and a lower levelized cost of energy.

ENGINEERED
IN GERMANY
ASSEMBLED
IN THE USA