

# Department of Public Works Turnkey Solar Power System

4637 Arundel Place Turnkey Solar Power System

The City of Hyattsville

4310 Gallatin Street Hyattsville, Maryland 20781

Attn: Laura Reams, City Clerk



501kW Conagra Packaging, Crozet Virginia.



104kW Virginia Tech Parking Deck, Blacksburg, VA



200.625kW Van Ness Center, Washington D.C.



# **PROPOSAL DOCUMENTS**

In order to qualify for this Project, Contractors must submit all information requested in the following pages.

# **CONTRACTOR INFORMATION**

Proposals must adhere to the format of these Proposal forms and content of this RFP. Proposals will not be evaluated unless all parts of the Proposal form are submitted in a complete package. The information set forth is the minimum required in order to qualify for consideration.

Firm Name	Altenergy Inc.
Address	1132 E. Market St Bay 5
City, State, Zip	Charlottesville, VA 22902
Contact Person	Nick Crissey
Phone Number	434.284.3552
Email Address	ncrissey@altenergyinc.com

# **PROPOSAL RATE SHEET**

In compliance with your Invitation to Proposal, we propose to furnish all materials, labor, equipment, and services, necessary to complete the work as outlined in the Scope, per the pricing stated below:

Item	Approx. Quantity	Unit	Position	Unit Rate	Proposal Amount
1	1	LS	4637 Arundel Place Turnkey Solar Power System	\$2.59	\$100,000
				Total Proposal	\$100,000

The quantities on this Proposal form are an estimate. Proposals will be for lump sum rate per occurrence; Contractor will be only paid for work that is inspected and accepted by the City.

# PROPOSAL FORM PRICE AUTHORIZATION

By signing this Proposal form, such action certifies that the Contractor has personal knowledge of the following:

That said Contractor has examined the RFP and specifications, carefully prepared the Proposal form, and has checked the same in detail before submitting said Proposal; and that said Contractor, or the agents, officers, or employees thereof, have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive Proposing in connection with this Proposal.

That all said work will be performed at the Contractor's own proper cost and expense. The Contractor will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications, and at the time stated in the contract.

The undersigned, being a reputable Contractor and having submitted the necessary pre-qualification forms, hereby submits in good faith and in full accordance with all specifications, attached or integral, his/her Proposal:

Name of Contractor	Altenergy Inc		
Authorized Signature	Nichold Cri	rey	
Name and Title of Signatory	Nicholas C	rissey	
Date	11/19/2022	1	
Type of Organization (circle One):	Corporation	Partnership	Proprietorship
SEAL: (If corporation)			

# **INSURANCE REQUIREMENT**

Submit a certificate of Insurance from your insurance agent or insurance company that evidences your company's ability to obtain the following minimum insurance requirements. Attach and label as Exhibit I.

1. Workers Compensation	١.	Workers	Compensation
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Coverage A:	Statutory	
Coverage B:	\$500,000	Bodily Injury by Accident for Each Accident
	\$500,000	Bodily Injury by Disease for Policy Limit
	\$500,000	Bodily Injury by Disease for Each Employee

2. Commercial Auto Liability Insurance for All Owners, Non-Owned and Hired Autos.

\$1,000,000 Combined Single Limit for Bodily Injury and Property Damage Liability

3. Commercial General Liability Insurance

\$2,000,000	General Aggregate
\$1,000,000	Products/Completed Operations Aggregate
\$1,000,000	Personal and Advertising Injury Limit
\$1,000,000	Combined Single Limit Bodily Injury & Property Damage - Each
	Occurrence
\$50,000	Fire Legal Limit
\$5,000	Medical Payment

4. Umbrella/Access Liability Insurance

\$2,000,000 Each Occurrence

# **COMPANY BACKGROUND**

Company Name	Altenergy Inc
Main Office Location	1132 E. Market St Bay 5
	Charlottesville, VA 22902
Year Founded	2004
Project Manager Name	Nicholas Crissey
Project Manager Phone	434.284.3552
Project Manager Email	ncrissey@altenergyinc.com
Years of Experience	5 years
Has the company ever operated under another name? If yes,	
what name?	No
Do you have the equipment and staff available to start within 10	
days of notice to proceed?	Yes
If no to the previous question, how long would it take to have the equipment and staff available?	
Has the company ever done work with the City of Hyattsville? If yes, when and what type of work.	

NO, not with the city. We have performed work in Prince George CO.

Complete and submit the following for three (3) projects of similar nature as the project specified. Make copies and/or attach additional pages as needed.

Name of Project	College Park City Garage
Owner of Project	City of College Park, Maryland
Address of Project	9217 51st Ave, College Park, Maryland 20740
Contact Person	Robert Marsilli
Phone Number	240-487-3601
Email address	rmarsili@collegeparkmd.gov
Description of work	Altenergy has completed (2) projects for the City of College Park. The first project is a 31.62kW Solar Energy System. This system was a roof-mounted ballasted array. This array consists of (93) Axitec solar modules and is estimated to produce 38,698kWh annually. The second project is for the City of College Park Landscape Garage. A 33.11kW Solar Energy System, consisting of (86) Axitec modules.
Comments	

Complete and submit the following for three (3) projects of similar nature as the project specified. Make copies and/or attach additional pages as needed.

Name of Project	Millersville Landfill and Resource Reclamation Facility Maintenance Shop
Owner of Project	Anne Arundel County
Address of Project	3898 Burns Crossing Rd., Severn, MD 21114
Contact Person	Carson Arnold
Phone Number	410-222-7600 ext. 146
Email address	carnold@acdsinc.org
Description of work	85.56kW Solar Energy System. This system is roof mounted with QCell solar modules Producing 106,582kWh annually. Altenergy was awarded the project through a RFP process, serving as the EPC contractor.
Comments	

Complete and submit the following for three (3) projects of similar nature as the project specified. Make copies and/or attach additional pages as needed.

Name of Project	Bowie Waste Water Treatment Plant
Owner of Project	City of Bowie, Maryland
Address of Project	16500 Annapolis Rd, Bowie, MD 20715
Contact Person	Alen Forney
Phone Number	301-575-2475
Email address	aforney@cityofbowie.org
Description of work	Altenergy completed two projects for the City of Bowie. The first project is a 19.24kW Solar Energy System, consisting of (76) Axitec Solar modules, ground mounted, for the Waste Water Treatment Plant.  The second project is a 12.48kW Solar Energy System for the Bowie Streets and Utilities Building. Consisting of (48) Axitec modules.
Comments	

# **ADDENDUM NO. 1**

# TO THE REQUEST FOR PROPOSALS (RFP)

# FOR THE CITY OF HYATTSVILLE, MARYLAND

RFP #DPW21-004

Wednesday March 17, 2021

The City of Hyattsville, Maryland, hereafter the "City", is issuing this Addendum #1 on March 17, 2021 to amend and clarify information and specifications included in RFP #DPW21-004, Department of Public Works Turnkey Solar Power System. **Addendum #1 updates the schedule for the RFP Process, including the submission date and time**. There are no other changes to the RFP. This addendum is incorporated into RFP #DPW21-004 and any associated contract documents as if fully set out in the original RFP. **Proposer must acknowledge the receipt of Addendum #1 by signing this addendum where indicated and including this addendum as part of your proposal package.** 

# On Page 3 the existing RFP Solicitation Schedule is struck and replaced with the following:

March 10, 2021: Solicitation

March 24, 2021: Pre-proposal meeting at 1:00PM

March 31, 2021: Questions Due by 5:00PM

April 7, 2021: Proposals Due at 1:00PM

April 7, 2021: Proposals Opened at 1:10PM

April 14, 2021: Notification of Intent to Award

April 19, 2021: Council Review and Approval

# On page 3, Section on preproposal meeting is struck and replaced with the following:

There will be a virtual pre-proposal meeting on March 24, 2021 at 1:00PM. The link will be posted on the City's website. An optional tour of the location is available by appointment only on a first come, first served basis. To setup a tour between March 18<sup>th</sup> and 24<sup>th</sup> please contact Joe Buckholtz at jbuckholtz@hyattsville.org or call 240-832-1700.

# On page 9, section on submission of proposals is struck and replaced with the follow:

The Proposals will be received by the City Clerk, no later than **1:00 pm**, Wednesday, April 7, 2021 and shall be mailed or hand delivered to:

The City of Hyattsville

4310 Gallatin Street

Hyattsville, Maryland 20781

Attn: Laura Reams, City Clerk

For additional information regarding the services specified in this request for qualifications, contact Hal Metzler, City Project Manager in writing by email at hmetzler@hyattsville.org. Questions specific to this solicitation will be accepted until 5:00 PM on Wednesday, March 31<sup>th</sup>, 2021.

On page 10, section on Evaluation of Proposals and Award of Contracts, the first paragraph is struck and replaced with the following:

The Proposals will be publicly opened and read on Wednesday, April 7, 2021 at 1:10pm via a virtual meeting. The link to the meeting will be available via the City website.

There are no other changes to the RFP at this time.

**END OF ADDENDUM #1** 

Hal W. Metzler, Jr. El

City of Hyattsville, Deputy Director

I acknowledge receipt of addendum #1 for this RFP and have enclosed it as part of the bid package.

Signature Nicholds Tissey

Date

11/19/2021

# **ADDENDUM NO. 2**

# TO THE REQUEST FOR PROPOSALS (RFP)

# FOR THE CITY OF HYATTSVILLE, MARYLAND

RFP #DPW21-004

Wednesday April 2, 2021

The City of Hyattsville, Maryland, hereafter the "City", is issuing this Addendum #2 on April 2, 2021 to amend and clarify information and specifications included in RFP #DPW21-004, Department of Public Works Turnkey Solar Power System. Addendum #2 answers submitted questions, provides requested documentation, and updates the submission date and time. There are no other changes to the RFP. This addendum is incorporated into RFP #DPW21-004 and any associated contract documents as if fully set out in the original RFP. Proposer must acknowledge the receipt of Addendum #2 by signing this addendum where indicated and including this addendum as part of your proposal package.

# **Attendee List:**

First	Last	
Name	Name	Email
Dennis	Windley	dwindley@dssservicesinc.com
Jennifer	Cruz	jcruz@rerenergygroup.com
Katie	Jester	katie@sunrisesolarmd.com
Ashlyn	Brulato	ashlyn.brulato@edpr.com
George	Chambers	chambers46@gmail.com
William	Rawheiser	williamr@suninone.com
Richard	Stoltzfus	richard@sunrisesolarmd.com
Dan	Baugher	dan@sunrisesolarmd.com

# On Page 3 the existing RFP Solicitation Schedule is struck and replaced with the following:

March 10, 2021: Solicitation

March 24, 2021: Pre-proposal meeting at 1:00PM

March 31, 2021: Questions Due by 5:00PM April 14, 2021: Proposals Due at 1:00PM April 14, 2021: Proposals Opened at 1:10PM April 28, 2021: Notification of Intent to Award May 3, 2021: Council Review and Approval

# On page 9, section on submission of proposals is struck and replaced with the following:

The Proposals will be received by the City Clerk, no later than **1:00 pm**, Wednesday, April 14, 2021 and shall be mailed or hand delivered to:

The City of Hyattsville

**4310** Gallatin Street

Hyattsville, Maryland 20781

**Attn: Laura Reams, City Clerk** 

For additional information regarding the services specified in this request for qualifications, contact Hal Metzler, City Project Manager in writing by email at hmetzler@hyattsville.org. Questions specific to this solicitation will be accepted until 5:00 PM on Wednesday, March 31th, 2021.

# On page 10, section on Evaluation of Proposals and Award of Contracts, the first paragraph is struck and replaced with the following:

The Proposals will be publicly opened and read on Wednesday, April 14, 2021 at 1:10pm via a virtual meeting. The link to the meeting will be available via the City website.

# **Questions and Answers:**

- 1. Are there any electrical upgrades planned for the old DPW building?
  - A Not at this time
- 2. Have you contacted PEPCO about your wish to utilize virtual net metering? Or would our services be provided from square one in this effort?
  - A We have not contacted PEPCO. This should be included in your proposal.
- 3. Can you provide the manual transfer switch specs?
  - A Manual transfer switch specs can be downloaded from Hyattsville.org/360/bids-andrfps
- 4. Are there available electrical/structural drawings of the new building? If so; where can they be found?
  - A Electrical and Structural drawings can be downloaded from Hyattsville.org/360/bids-and-rfps
- 5. Is there a bid bond or performance bond requirement?
  - A No a bid bond or performance band is not required
- 6. Can you provide clarity on your request for advice, in the third section of "Financial Structuring" on use of tax credits? Are you interested in a PPA?
  - A The City is interested in all options available for financing the project.

- 7. Will you be providing a link to a list off all asked questions or will this be issued in another addendum?
  - A Yes, Addendum #2 will contain questions and answers.
- 8. Our bonding company needs a percentage for the Bid Bond. We do not see that specified in your RFP documents. Is there a percentage you require? We normally do 5% or 10%. Please let me know. If we can't get this determination today, I would ask for an extension of a few days (maybe 5 business days) on the proposal, as we will need time to process the bond.
  - A See response to question 5.
- 9. Copies of Hyattsville Electric Bills showing billing for all city electric meters.
  - A Spreadsheets from 2019 to date can be downloaded from Hyattsville.org/360/bidsand-rfps
- 10. Name and contact info for Pepco (Need ASAP)
  - A The City does not have a contact at PEPCO at this time
- 11. Old building voltage (Need ASAP)
  - A The voltage is 3 phase 240V
- 12. Drawings for roof of new building in pdf
  - A Drawings can be downloaded from Hyattsville.org/360/bids-and-rfps
- 13. Roof drawings for old building in pdf
  - A Drawings can be downloaded from Hyattsville.org/360/bids-and-rfps

Hal W. Metzler, Jr. El

**END OF ADDENDUM #2** 

City of Hyattsville, Deputy Director

I acknowledge receipt of addendum #2 for this RFP and have enclosed it as part of the bid package.

Company	Altenergy Inc.			
 Signature	Nichold Crisney	Date	11/19/2021	

PROJECT: Department of Public Works Turnkey Solar Power System (RFP #DPW21-004)

Location: 4637 Arundel Place, Hyattsville, MD 20781

DATE: 11/19/2021

### **SCOPE OF WORK**

Altenergy will provide a complete, turnkey installation including but not limited to design and engineering, permitting, procurement, installation, interconnection, and rebates and incentives. This system will be installed in accordance with all applicable national electrical codes, inspected and verified by local inspection processes. The permit and net metering agreement will be administered and executed by Altenergy Incorporated but will be authorized by the system owner.

Altenergy will be able to provide an efficient process to meet the Scope of Work in section III, RFP Bid Terms, and conditions. Once contract is in place, our project managers will begin the permitting process, interconnections applications and scheduling. Our procurement specialist will secure equipment and scheduling of deliverables. Updates in this process will then be relayed to the city's contact on a bi-weekly basis. After construction and PTO has been granted from the utility, a final walk through will be scheduled with the owner to go over system components, operation training and monitoring. A detailed owner's manual will be provided to the client at the end of the final walk through and system commissioning.

# **Experience and Support**

Altenergy has 1,700 projects, 21 Megawatts designed and built across 10 states. Altenergy has worked with a wide range of Local, State, and Federal government entities throughout the US. We have built many commercial solar projects in the US and have a vast knowledge of permitting requirements by the local authorities. The installation of the racking, solar panels and inverters will all be performed by Altenergy's trained installation crew. Nick Crissey will serve as the dedicated project manager and a dedicated site manager will be on-site for the duration for the project to receive deliveries, send updates and reports and perform Quality Control inspections. Altenergy's installation crew, will be on site during the construction phase at a minimum of 8 hours a day and a 40-hour work week.

Altenergy has worked with the following Federal and Local Municipalities:

- City of Cambridge 2018
- City of College Park 2018 & 2020
- Town of Sharptown 2018
- City of Bowie 2015
- Anne Arundel County 2015-2016
- VA Department of Mines, Minerals & Energy 2019
- Johnson County, MO 2020
- United States Marine Corps 2020
- Department of Game and Inland Fisheries

# **System Components:**

4637 Arundel Place Hyattsville, MD 20781

# Total Project Cost - \$100,000

# 38kW (DC) 26kW (AC) Solar PV System

- Trina 475W Solar Modules
- SolarEdge 17k and 9k (208V) Inverters
- SolarEdge P950 Optimzers
- IronRidge XR100 Racking System
- 400A Disconnect
- 400A Combiner Panel

### Warranties

25-year manufacturer's warranty on solar modules

12-year manufacturer's warranty on SolarEdge Inverters

25-year manufacturer's warranty on SolarEdge Optimizers

25-year manufacturer's warranty on IronRidge racking

10-year Altenergy warranty on parts and labor

# **System Production:**

Total system annual production for the proposed 38kW (DC) solar array located at 4637 Arundel Place, Hyattsville, MD 20781 is **45,917kWh**.

# **System Expansion:**

The maximum allowable system size has been previously proposed as 145.77kW. This size system would require a combiner panel with a rating of 400A. Included in the proposed system is a 400A disconnect along with a 400A combiner panel that will have spaces for additional inverter output connections. To expand the system, one would simply need to install additional PV modules on the roof, install another inverter (sized to requested expansion of array production capacity) and wire that inverter's output connection the combiner panel.





Caution: Photovoltaic system performance predictions calculated by PWWatts<sup>®</sup> include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PWWatts<sup>®</sup> inputs. For example, PV modules with better performance are not differentiated within PVWatts<sup>®</sup> from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at https://sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

Disclaimer: The PVWatts<sup>®</sup> Model ("Model") is provided by the National Renewable Energy Laboratory ("NREL"), which is operated by the Alliance for Sustainable Energy, LLC ("Alliance") for the U.S. Department Of Energy ("DOE") and may be used for any purpose whatsoever.

The names DOE/NREL/ALLIANCE shall not be used in any representation, advertising, publicity or other manner whatsoever to endorse or promote any entity that adopts or uses the Model. DOE/NREL/ALLIANCE shall not provide any support, consulting, training or assistance of any kind with regard to the use of the Model or any updates, revisions or new versions of the Model.

AGREE INDEMNIFY DOE/NREL/ALLIANCE, AND ITS AFFILIATES,
OFFICERS, AGENTS, AND EMPLOYEES
AGAINST ANY CLAIM OR DEMAND, INCLUDING REASONABLE ATTORNEYS' FEES, RELATED TO YOUR USE, RELIANCE, OR ADOPTION OF THE MODEL FOR ANY PURPOSE WHATSOEVER. THE MODEL IS PROVIDED BY DOE/NREL/ALLIANCE 'AS IS'
AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING BUT NOT
LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE EXPRESSLY
DISCLAIMED. IN NO EVENT SHALL
DOE/NREL/ALLIANCE BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER. INCLUDING BUT NOT LIMITED TO CLAIMS ASSOCIATED WITH THE LOSS OF DATA OR PROFITS, WHICH MAY RESULT FROM ANY ACTION IN CONTRACT, NEGLIGENCE OR OTHER TORTIOUS CLAIM THAT ARISES OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE MODEL.

The energy output range is based on analysis of 30 years of historical weather data for nearby, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

# RESULTS

Module Type

**Array Type** 

**Array Tilt** 

**Array Azimuth** 

System Losses

**Economics** 

**Inverter Efficiency** 

DC to AC Size Ratio

Average Retail Electricity Rate

**Performance Metrics** 

**Capacity Factor** 

# 45,917 kWh/Year\*

		4),91/ K	wii/ iedi
	System output may range	from 43,883 to 47,685 kWh pe	r year near this loc
Month	Solar Radiation	AC Energy	Value
	( kWh / m <sup>2</sup> / day )	( kWh )	(\$)
January	2.55	2,342	264
February	3.45	2,909	328
March	4.39	4,037	455
April	5.46	4,703	530
May	5.84	5,093	574
June	6.37	5,137	579
July	6.45	5,284	596
August	5.70	4,708	531
September	4.91	4,046	456
October	3.72	3,299	372
November	2.74	2,361	266
December	2.20	1,998	225
Annual	4.48	45,917	\$ 5,176
Location and Station Ide	entification		
Requested Location	4637 Arund	lel PI, Hyattsville, MD 2078	1
Weather Data Source	Lat, Lon: 38	3.93, -76.94 1.2 mi	
Latitude	38.93° N		
Longitude	76.94° W		
PV System Specification	ns (Residential)		
DC System Size	38 kW		

Standard

150°

96%

16.65%

0.113 \$/kWh

13.8%

Fixed (roof mount)







# Design and Pre-install:

- 1. Interconnection Agreement process will be prepared and processed by Altenergy. A representative of the City of Hyattsville will need to authorize the application as the utility account holder.
- 2. The project will be permitted and inspected to the full extent required by the AHJ
- 3. Installation will be as soon as possible and at the convenience of the City of Hyattsville.

# Installation

- 1. Installation will be conducted during normal business hours unless otherwise requested by the City of Hyattsville. Construction impact will be minimized to the fullest extent possible.
- 2. Upon completion a commissioning report will be produced confirming that every component of the system is operating as expected. The superior monitoring capability of the SolarEdge based system will allow ongoing confirmation of such conditions on a continual basis.
- 3. Final inspection will be procured from all the appropriate AHJs, Altenergy staff will be present and ready to aid inspectors for all inspections required.
- 4. Necessary documentation will be submitted to the utility immediately upon becoming available.

### Post Installation

- 1. Utility inspections will be completed as required with Altenergy staff present.
- 2. Final system checks as laid out in the commissioning report will be conducted upon system completion. In addition to education opportunities Altenergy management will be present for up to a full day to provide operational training and walk-thru to the facility staff.
- 3. Altenergy will set up the internet monitoring portal, transfer ownership access to the City of Hyattsville and provide training as necessary in the set up and continuing use of the monitoring portal. Altenergy will also continue to monitor the system for operational status for the life of the system.
- 4. Altenergy will provide maintenance and operation for a period of five years per RFP requirements. Altenergy will provide an owners Maintenance and Operations manual at the time of system commissioning and final walkthrough.

# Project Approach

Upon award of the contract, Altenergy will communicate with the owners as soon as possible to discuss site requirements, expected schedule, etc. Altenergy will discuss construction progress, potential delays, schedule, budget etc. Our daily schedule and budget will be maintained by the project manager. Quality assurance will be maintained by the Director of operations. Altenergy is a full EPC contractor and all specified equipment within Altenergy's response meets or exceeds the requirements in the RFP. Altenergy will use the design provided in this RFP as a foundation for the proposed solar arrays. Our system will be designed by our experienced NABCEP certified design team, which has experience designing to historical review standards. All PV array and inverter components will be installed per manufacturer's instructions. The inverters selected in this proposal meet all 2017 NEC rapid shutdown requirements. The project will be overseen by Nick Crissey. Nick will interface with the engineering department to ensure the project is built to the specifications of the RFP and this proposal.

### **Construction Plan:**

Altenergy will actively manage the PV system construction according to the initial project schedule. Agreed upon milestones will be tracked according to a percentage of completed, critical tasks. The PV system construction will commence and follow the typical schedule of racking install, module install, equipment placement, trenching & wiring, and testing/commissioning. During the construction process, Altenergy will report to the owner on a bi-weekly basis to summarize progress, safety, quality control, and any other information requested by the owner or that Altenergy deems pertinent. If those tasks are proceeding at a rate that is not consistent with the set schedule, action will be taken to increase the rate of execution through increased manpower or through analysis and subsequent increase in labor efficiency.

# **Procurement:**

At the time of contract signing, Altenergy will begin procuring the solar modules, inverters, racking and all other necessary equipment outlined in this RFP. Our in-house procurement team has developed a high-quality approach to identifying the best products and value for our clients, using relevant sourcing processes and tools to select the best manufacturers and suppliers. Our procurement team has built solid relationships with our supplier's spanning a decade, allowing Altenergy to provide the best value to our clients. Our team are experts at supplier relationship management, contract management and sourcing.

# **Financial Structuring:**

Please see the Solar Investment Financial Analysis for yearly estimated SREC values assumptions for the next five years and estimated value of electricity generated for the duration of the system. We have included an analysis without the Federal Investment Tax Credit, as a non-taxable entity. The table shows system depreciation and anticipated decline in production. SREC values are based on current market value and are not guaranteed in the future. All assumptions are an estimate. Altenergy Inc., does not guarantee these assumptions.



# **Solar Investment Financial Analysis**

**Hyattsville DPW** \$100,000 Prepared for: Total System Cost: Project Name: Hyattsville DPW Solar 26% Federal Tax Credit: \$0 Fed. Tax Bracket: 0.00% State & Fed. Depreciation (Cash Value): \$0 State Tax Bracket: 0.00% Total Net Cost: \$100,000 System Size (kW): 38.00 Price Per Watt: Internal Rate of Return: \$2.63 13.47% Payback Period (Years): Current Price per Kilowatt Hour: \$0.217 Max. Annual Module Degradation 0.60% \*25 Year Cost of Electricity at 3.8% Annual Inflation Rate: \$371,851 \*Annual Electric Rate Escalator: 3.80% 25 Year Cost of Elec. by Going Solar: \$100,000 Total Expected Savings Over 25 Years: \$289,318

\*Inflation rate based on the national average as determined by the

U.S. Energy Information Administration.

Year	System Cost	Federal Tax Credit	Depreciable Amount	·		SREC	kWh Production	*kWh Price	*Avoided kWh Bills	Annual Cashflow	Cumulative Cashflow
	(100,000)									(\$100,000)	(\$100,000)
1		\$0	\$0	\$0	\$0	\$3,536	45,917	\$0.217	\$9,964	\$13,500	(\$86,500)
2						\$3,514	45,641	\$0.225	\$10,281	\$13,795	(\$72,705)
3						\$3,493	45,368	\$0.234	\$10,607	\$14,101	(\$58,605)
4						\$3,472	45,095	\$0.243	\$10,944	\$14,417	(\$44,188)
5						\$3,452	44,825	\$0.252	\$11,292	\$14,743	(\$29,445)
6							44,556	\$0.261	\$11,651	\$11,651	(\$17,794)
7							44,289	\$0.271	\$12,021	\$12,021	(\$5,773)
8							44,023	\$0.282	\$12,403	\$12,403	\$6,629
9							43,759	\$0.292	\$12,797	\$12,797	\$19,426
10							43,496	\$0.304	\$13,203	\$13,203	\$32,630
11							43,235	\$0.315	\$13,623	\$13,623	\$46,253
12							42,976	\$0.327	\$14,056	\$14,056	\$60,308
13							42,718	\$0.339	\$14,502	\$14,502	\$74,811
14							42,462	\$0.352	\$14,963	\$14,963	\$89,774
15							42,207	\$0.366	\$15,439	\$15,439	\$105,212
16							41,954	\$0.380	\$15,929	\$15,929	\$121,141
17							41,702	\$0.394	\$16,435	\$16,435	\$137,577
18							41,452	\$0.409	\$16,957	\$16,957	\$154,534
19							41,203	\$0.425	\$17,496	\$17,496	\$172,030
20							40,956	\$0.441	\$18,052	\$18,052	\$190,082
21							40,710	\$0.458	\$18,626	\$18,626	\$208,707
22							40,466	\$0.475	\$19,217	\$19,217	\$227,925
23							40,223	\$0.493	\$19,828	\$19,828	\$247,752
24							39,982	\$0.512	\$20,458	\$20,458	\$268,210
25							39,742	\$0.531	\$21,108	\$21,108	\$289,318
		\$0	\$0	\$0	\$0	\$17,467	1,068,954		\$371,851	\$389,318	\$289,318

Altenergy Inc does not guarantee the above tax information or the availability of the SRECs. Please consult your tax adviser for tax advice.

# Hyattsville DPW

Altenergy Inc.

	Project Start Date Project Manager			Display	olay Week1_			Week 1         Week 2         Week 3         Week 4         Week 5         Week 6         Week 7         Week 8           3 Jan 2022         10 Jan 2022         17 Jan 2022         24 Jan 2022         31 Jan 2022         7 Feb 2022         14 Feb 2022         21 Feb 2022
WBS	TASK	LEAD	START	END	DAYS	% DONE	WORK DAYS	3 4 5 6 7 8 9 10 11 12 13 14 15 16 7 7 8 9 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20
1	Design & Approval			-			-	
1.1	Sub Array 1		Mon 1/03/22	Mon 2/07/22	36	0%	35	
1.2	Sub Array 2		Mon 1/03/22	Mon 2/07/22	36	0%	35	
2	Permitting						-	
2.1	DPIE		Tue 2/08/22	Mon 3/28/22	49	0%	45	
3	Mobilization			-			-	
3.1	Sub Array 1		Tue 3/29/22	Wed 3/30/22	2	0%	2	
3.2	Sub Array 2		Tue 3/29/22	Wed 3/30/22	2	0%	2	
4	AC/DC Electrical			-			-	
4.1	Sub Array 1		Fri 4/01/22	Wed 4/20/22	20	0%	14	
4.2	Sub Array 2		Fri 4/01/22	Wed 4/20/22	20	0%	14	
4.3	AC		Mon 4/04/22	Wed 4/20/22	20	0%	14	
5	Module Installation			-			-	
5.1	Sub Array 1		Mon 4/04/22	Wed 5/18/22	45	0%	25	
5.2	Sub Array 2		Wed 4/06/22	Fri 5/20/22	45	0%	25	
6	Commission/PTO			-				
6.1	Commission/PTO		Mon 5/23/22	Mon 5/30/22	8	0%	6	

# Hyattsville DPW

Altenergy Inc.

	Project Start Date _ Project Manager			Display	Display Week			Week 9         Week 10         Week 11         Week 12         Week 13         Week 14         Week 15         Week 16           28 Feb 2022         7 Mar 2022         14 Mar 2022         21 Mar 2022         28 Mar 2022         4 Apr 2022         11 Apr 2022         18 Apr 2022
WBS	TASK	LEAD	START	END	DAYS		WORK DAYS	28 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 M T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T F S S M T W T W T W T W T W T W T W T W T W T
1	Design & Approval			-			-	
1.1	Sub Array 1		Mon 1/03/22	Mon 2/07/22	36	0%	35	
1.2	Sub Array 2		Mon 1/03/22	Mon 2/07/22	36	0%	35	
2	Permitting						-	
2.1	DPIE		Tue 2/08/22	Mon 3/28/22	49	0%	45	
3	Mobilization						-	
3.1	Sub Array 1		Tue 3/29/22	Wed 3/30/22	2	0%	2	
3.2	Sub Array 2		Tue 3/29/22	Wed 3/30/22	2	0%	2	
4	AC/DC Electrical			-			-	
4.1	Sub Array 1		Fri 4/01/22	Wed 4/20/22	20	0%	14	
4.2	Sub Array 2		Fri 4/01/22	Wed 4/20/22	20	0%	14	
4.3	AC		Mon 4/04/22	Wed 4/20/22	20	0%	14	
5	Module Installation						-	
5.1	Sub Array 1		Mon 4/04/22	Wed 5/18/22	45	0%	25	
5.2	Sub Array 2		Wed 4/06/22	Fri 5/20/22	45	0%	25	
6	Commission/PTO							
6.1	Commission/PTO		Mon 5/23/22	Mon 5/30/22	8	0%	6	

# Hyattsville DPW

Altenergy Inc.

	Project Start Date Project Manager			Display	Display Week			Week 17         Week 18         Week 19         Week 20         Week 21         Week 22         Week 23         Week 24           25 Apr 2022         2 May 2022         9 May 2022         16 May 2022         23 May 2022         30 May 2022         6 Jun 2022         13 Jun 2022
WBS	TASK	LEAD	START	END	DAYS	% DONE	WORK DAYS	25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19
1	Design & Approval			-			-	
1.1	Sub Array 1		Mon 1/03/22	Mon 2/07/22	36	0%	35	
1.2	Sub Array 2		Mon 1/03/22	Mon 2/07/22	36	0%	35	
2	Permitting			-			-	
2.1	DPIE		Tue 2/08/22	Mon 3/28/22	49	0%	45	
3	Mobilization			-			-	
3.1	Sub Array 1		Tue 3/29/22	Wed 3/30/22	2	0%	2	
3.2	Sub Array 2		Tue 3/29/22	Wed 3/30/22	2	0%	2	
4	AC/DC Electrical						-	
4.1	Sub Array 1		Fri 4/01/22	Wed 4/20/22	20	0%	14	
4.2	Sub Array 2		Fri 4/01/22	Wed 4/20/22	20	0%	14	
4.3	AC		Mon 4/04/22	Wed 4/20/22	20	0%	14	
5	Module Installation			-			-	
5.1	Sub Array 1		Mon 4/04/22	Wed 5/18/22	45	0%	25	
5.2	Sub Array 2		Wed 4/06/22	Fri 5/20/22	45	0%	25	
6	Commission/PTO			-				
6.1	Commission/PTO		Mon 5/23/22	Mon 5/30/22	8	0%	6	



# **Company Summary**

At Altenergy, you will work with some of the most creative and thoughtful problem solvers looking to make a difference. We are community-minded, and we are educators. We believe in high-quality design and exceptional customer-service. Going the extra mile to deliver a solar system that leaves a lasting impact, both on the planet and on the wallet is important to us. We consider ourselves to be hardworking, fun, tenacious and design experts. With local roots in Virginia, we also have a national footprint in Maryland, Idaho and Michigan. In 16 years, we've completed 1,700 projects across 10 states and 21 megawatts of PV capacity. And really, we're just getting started.

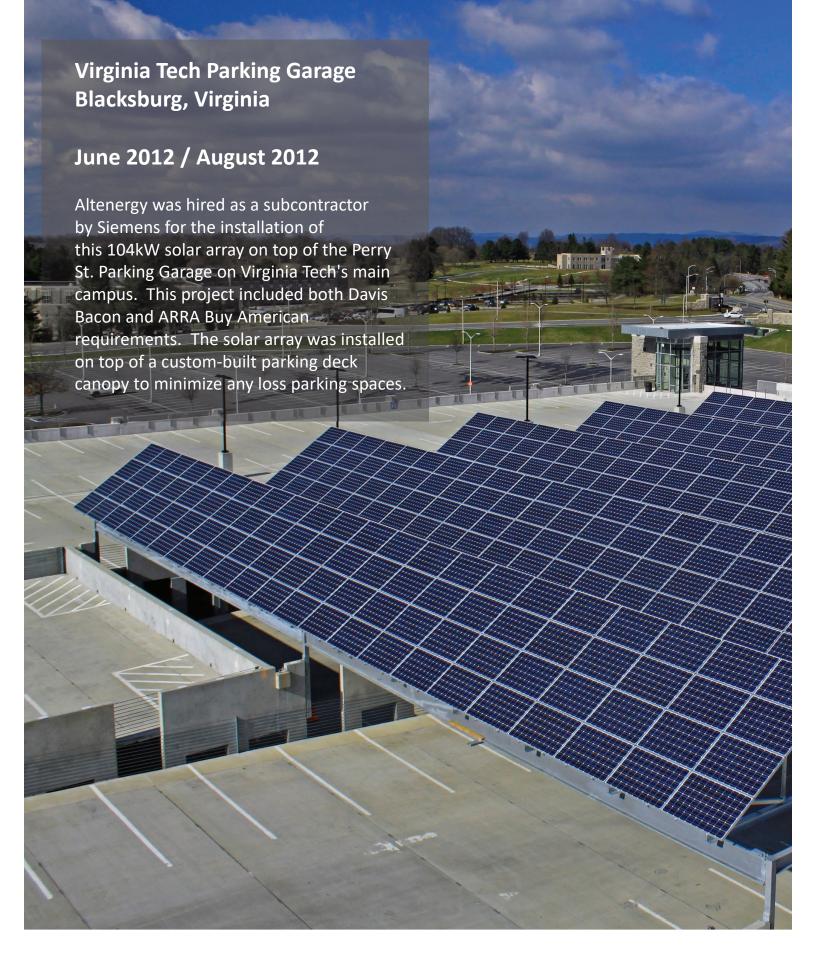
# **Core Competencies**

- Full EPC Solar Installation Contractor
- Design & Engineering
- Vertically Integrated
- New & Retrofit Construction
- Procurement
- Construction Management
- Commissioning
- Education & Long-Term Experience
- · Technology Driven

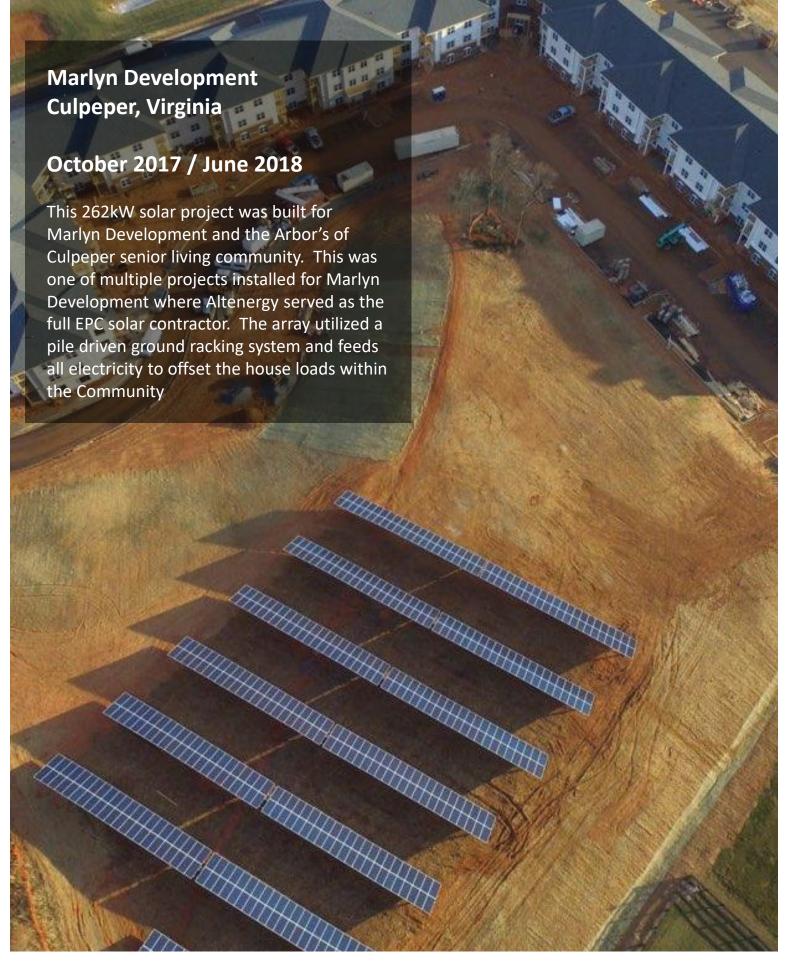
# Licenses

- State of Virginia Class A AES Electrical License #2705126186
- State of Maryland Class A Contractor's License #133878
- Washington D.C. Class A Contractor's License #410514000588
- State of Michigan Class A Contractor's License #262000247
- State of Idaho Class A Contractor's License #RCE-30967
- State of West Virginia License #8WV8P\_AFX8K

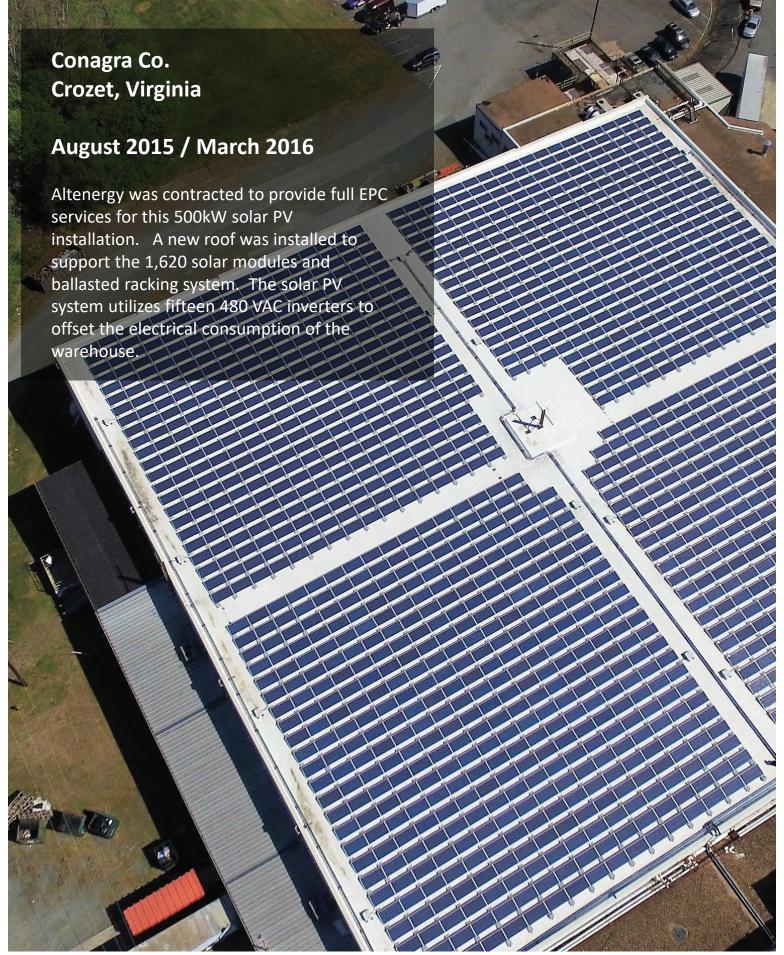














# **Altenergy Projects**

# Developed, Engineered, Procured and Constructed



Laurel Meadow Elementary - 355.68k W Mechanicsville, VA 2020



Van Ness Center Associates, LLC – 200kW Washington D.C. 2020



Wood River Animal Shelter - 140kW 2018



Virginia Tech – 104.4kW Blacksburg, VA 2005



UVA Hospital – Thermal System Charlottesville, VA 2020



BizStream - 86.475kW Allendale, MI 2020



Eldean Shipyard- 103.33kW Macatawa, Michigan, 2020



United Medical Laboratories – 42.35kW Vienna, VA 2017



Hillside Ranch Irrigation -99.74k W Bellevue, ID 2020



CMA Properties - 170.425kW Staunton, VA 2021



WKTV – 100kW Wyoming, Michigan, 2020



Railside Industries - 234.05kW Weyers Cave, VA 2016



13th ST LLC- 66.96k W Washington D.C 2020



Dept. Of Mines, Minerals, Energy - 139.84kW Big Stone Gap, VA 2019



M Industries Inc. - 178.88k W Ada, Michigan, 2020



- 1. Arundel County Recreation and Parks Headquarters, May 2016 Carson Arnold carnold@acdsinc.org 19kW, 1 Harry S. Truman Pkwy, Annapolis, MD 21401
- 2. Millersville Landfill and Resource Reclamation Facility Maintenance Shop Carson Arnold carnold@acdsinc.org 85.56kW, 3898 Burns Crossing Rd., Severn, MD 21114
- 3. Town of Sharptown, Maryland, May, 2018 Aaron K. Goller 410-543-9091, akg@dbfinc.com 110.4kW, 305 State St, Sharptown, MD 21861
- 4. Marlyn Development, Robert Bosley, 435-3339, rjbosley@marlyndv.com 187.44kW, Solar PV Project, 15255 Ira Hoffman Lane Culpeper VA 22701
- 5. Railside Industries, J.D. Patton, May 2015 234-9185, jdpatton@idmtrucking.com 234.05kW, 97 Railside Dr, Weyers Cave, VA 24486
- 6. Department of Mines, Minerals and Energy, Teresa Flanary, 276-523-8100, teresa.flanary@dmme.virginia.gov 139.84kW, 3405 Mountain Empire Road, Big Stone Gap, VA 24219
- 7. City of College Park, Maryland, June 2017 Robert Marsili, 240-487-3601, rmarsili@collegeparkmd.gov 31.57kW, 9217 51st Ave, College Park, Maryland 20740





# **Profile**

Russ leads teams, loves renewables, and loves turning over well-built, high-quality projects on time.

# **Education**

**BA, University of Oklahoma** 

# Achievements LEED AP, USGBC

Muscle Shoals Solar (227MWac)

Acquisition by Ørsted A/E

Divestment of PJM/SE (239MWac) solar portfolio, 2020

Divestment of Coronal Energy to Ørsted A/E, 2019

Development and asset sale of 55MWac Duke Energy portfolio, 2019

Commercial construction management, projects \$20M-\$50M

**Board member, Salvation Army,** Charlottesville, VA

15 years
of construction management & renewable experience

# **RUSS EDWARDS**

# **President**

Edwards brings over 15 years of construction management and renewables experience to Altenergy (soon to be Tiger Solar), including most recently serving as Senior Director of Onshore Project Development at Ørsted (formerly Danish Oil & Natural Gas), ranked the most sustainable energy company in Corporate Knights Global 100 Index. In his role, Edwards oversaw utility scale solar, wind, and battery developments in southeastern and western markets.

Edwards previously served as Vice President Development, Coronal Energy, a Charlottesville-based utility scale solar developer, leading a team of project developers in 20+ states. In 2019, Edwards successfully helped take the company's solar development platform out to market, resulting in the successful acquisition by Ørsted.





# **Profile**

Matthew enjoys solving complex problems for his solar clients.

# **Education**

**BS** in Industrial Design

North Carolina State University – Raleigh, NC. 2001-2005

# **Achievements**

Idaho Spec Electrical
Journeyman's License: # 013090

Heatsprings Solar Executive MBA Training – October 2020

15 years of experience

# **MATTHEW DUNAY**

**Chief Technology Officer** 

Matthew is one of the original co-founders of Altenergy and served as its first employee. Since 2005, Matthew has worn many job titles including solar installer and has worked over the years to build a dedicated team capible of delivering complex and high-quality solar projects. Matthew oversees much of Altenergy's business development for commercial, industrial and institutional clients including Skanska, Siemens and Johnson Controls. Matthew graduated Magna Cum Laude with a BA in Industrial Design from North Carolina State University and is a licensed Spec PV Journeyman electrician.



# ALTENERGY

# **Profile**

Casey is our company expert on the National Electric Code requirements for solar electric systems.

# **Education**

**BS in Mechanical Engineering** 

Montana State University-Bozeman, Montana 2007

# **Achievements**

NABCEP PV Installation Professional PV-032611-343

2009 COSEIA Advanced Off-Grid Power Systems Workshop

**2009 IGSHPA Ground Source Heat** Pump System Design & Installation

2008 Solar Energy International – Solar Electric Design and Installation

2007 Certified Engineer Intern # 18111 EI

13 years of experience

# **ROBERT CASEY WILSON**

# **Senior Engineer**

Casey has been with Altenergy since 2014. He is a graduate of Montana State University where he received a Bachelor of Science in Mechanical Engineering Technology. He has 13 years of experience with solar electric system design, installation, & project management. He also sits on the state of Idaho electrical board representing solar and specialty contractors. Casey is our company expert on the National Electric Code requirements for solar electric systems and his current responsibilities at Altenergy include systems design, drafting, and project management.

Office: 434-293-3763 | 1132 E Market St. Bay 5 Charlottesville, Va. 22902 | www.altenergyinc.com



# ALTENERGY

# **Profile**

Taylor has a strong desire to make a difference in his career with Altenergy and a personal goal to help mitigate the environmental impact of fossil fuels, through renewable energy systems.

# **Education**

BS in Integrated Science and Technology, Energy

James Madison University - Harrisonburg, VA 2007 to 2011

# **Achievements**

NABCEP PV Installation Professional PV-041115-011519

VA Master Electrician License Number – 2710070441

MD Master Electrician License Number – 14444

Washington D.C. Master Electrician License Number: EM40000024

OSHA Certificate - #36-005286483

8 years of experience

# **TAYLOR BALAC**

**Corporate Master Electrician and Safety Coordinator** 

Taylor is a graduate of JMU with a BS in Integrated Science and Technology, Energy and has been with Altenergy since 2016, serving many roles as Lead Installer, Branch Manager, and Sales. Taylor currently serves as Altenergy's Corporate Safety Manager, creating installation standards for all branches, providing weekly safety meetings for installers and assists the design team with establishing site specific safety plans for all commercial projects. Taylor ensures all projects are installed with quality and safety at the forefront. Balac holds a Master Electrician License in Virginia, Maryland, and Washington, D.C.

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# **Profile**

CJ's has a goal to help find ways to drive down the costs of solar to make it financially appealing and accessible for all. The foundation of his role in Procurement is to get the right products, to the right locations, at the right time, for the right price to better serve our customers.

# **Education**

BS in Business Administration
Auburn University
Class of 2012

# **Achievements**

Member of Auburn Formula SAE Team for Seasons 2012 and 2013

Procured over 20MW of Solar PV Equipment from Altenergy

8 years
of experience

# **CJ MILSTEAD**

# **Director of Procurement**

CJ has over 8 years of procurement experience with Altenergy. As part of Altenergy's team, CJ has overseen all projects wearing many hats over the years, performing multiple roles from procurement, accounting, contract writing, marketing, SREC and net metering registration, customer service, and general office administration. CJ has served as the main contact for procuring all solar PV equipment and managing the logistics from start to finish. CJ played a direct roll in Altenergy's growth, starting with only two branches and expanding to five branches.





# **Profile**

Nicholas has done it all from project management to installing the solar panels himself. He can provide our clients perspective on their installs from every angle.

# **Education**

BS in Corporate Financial Management

Virginia Tech,

# **Achievements**

**SEI Course Educated** 

**OSHA 30-Hour Certification** 

Single-handedly managed 6 MW of Solar Installations

3 years of experience

# **NICK CRISSEY**

# Maryland & Washington D.C Branch Manager

Nick Crissey, Maryland Branch Manager Originally from Binghamton, NY; Nick's connection with Altenergy began in his southern home in Charlottesville, VA. He spent time there training intensively under Master Electrician, Chris Poggi, and Daniel Walsh. This knowledge, paired with his degree in Corporate Financial Management from Virginia Tech and OSHA-30 Certification has him equipped to serve the Maryland/DC areas.

THE



FRAMED 252 LAYOUT MODULE

# **252 LAYOUT**

MONOCRYSTALLINE MODULE

470-490W

**POWER OUTPUT RANGE** 

20.8%

**MAXIMUM EFFICIENCY** 

# 0~+5W

# **POSITIVE POWER TOLERANCE**

Founded in 1997, Trina Solar is the world's leading total solution provider for solar energy. With local presence around the globe, Trina Solar is able to provide exceptional service to each customer in each market and deliver our innovative, reliable products with the backing of Trina as a strong, bankable brand. Trina Solar now distributes its PV products to over 100 countries all over the world. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners in driving smart energy together.

# Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61703

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

 ${\sf ISO14064: Greenhouse \, Gases \, Emissions \, Verification}$ 

ISO45001: Occupation Health and Safety
Management System











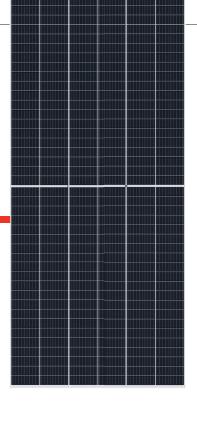






PRODUCTS
TSM-DE15V(II)

POWER RANGE 470-490W





# **High power**

- Up to 490W front power and 20.8% module efficiency with third-cut and MBB (Multi Busbar) technology bringing more BOS savings
- Lower resistance and good reflection effect of MBB ensures higher power



# **High reliability**

- Improved PID resistance through cell process and module material control
- Resistant to salt, acid, and ammonia
- Proven to be reliable in high temperature and humidity areas
- Mechanical performance: Up to 5400 Pa positive load and 2400 Pa negative load



# High energy generation

- Excellent IAM and low light performance validated by 3rd party with cell process and module material optimization
- Better anti-shading performance and lower operating temperature



# Three Phase Inverter with Synergy Technology

for the 208V Grid for North America

SE43.2KUS



# INVERTERS

# Specifically designed to work with power optimizers

- Easy two-person installation each unit mounted separately, equipped with cables for simple connection between units
- Balance of System and labor reduction compared to using multiple smaller string inverters
- Independent operation of each unit enables higher uptime and easy serviceability
- No wasted ground area: wall/rail mounted, or horizontally mounted under the modules (10° inclination)

- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Fixed voltage inverter for superior efficiency (97%) and longer strings
- Integrated DC Safety Switch
- Built-in RS485 Surge Protection, to better withstand lightning events
- Built-in module-level monitoring with Ethernet or cellular GSM



# Three Phase Inverters for the 120/208V Grid for North America

SE9KUS / SE14.4KUS





NVERTERS

# The best choice for SolarEdge enabled systems

- Specifically designed to work with power optimizers
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Internet connection through Ethernet or Wireless
- Fixed voltage inverter for longer strings
- UL1741 SA certified, for CPUC Rule 21 grid compliance

- Built-in module-level monitoring
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- Integrated Safety Switch
- Supplied with RS485 Surge Protection, to better withstand lightning events
- Small, lightweight, and easy to install outdoors or indoors on provided bracket



# Power Optimizer For North America

P860 / P960



# **POWEROPTIMIZER**

# PV power optimization at the module-level The most cost-effective solution for commercial and large field installations

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Balance of System cost reduction; 50% less cables, fuses and combiner boxes, over 2x longer string lengths possible
- Fast installation with a single bolt

- Advanced maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Use with two PV modules connected in parallel





# Flush Mount System



# Built for solar's toughest roofs.

IronRidge builds the strongest mounting system for pitched roofs in solar. Our components have been tested to the limit and proven in extreme environments, including Florida's high-velocity hurricane zones.

Our rigorous approach has led to unique structural features, such as curved rails and reinforced flashings, and is also why our products are fully certified, code compliant and backed by a 25-year warranty.



# Strength Tested

All components evaluated for superior structural performance.



# **PE Certified**

Pre-stamped engineering letters available in most states.



# **Class A Fire Rating**

Certified to maintain the fire resistance rating of the existing roof.



# **Design Assistant**

Online software makes it simple to create, share, and price projects.



# **UL 2703 Listed System**

Entire system and components meet newest effective UL 2703 standard.



# 25-Year Warranty

Products guaranteed to be free of impairing defects.

Lawrence J. Hogan, Jr.

Governor

Boyd K. Rutherford Lt. Governor

Tiffany P. Robinson

19 04 14444 MESSAGE(S):

TAYLOR MORGAN BALAC

6162 12-09-2020



LICENSE \* REGISTRATION \* CERTIFICATION \* PERMIT

# STATE OF MARYLAND MARYLAND DEPARTMENT OF LABOR

STATE BOARD OF MASTER ELECTRICIANS CERTIFIES THAT: TAYLOR MORGAN BALAC

ALTENERGY, INC. 1132 EAST MARKET ST BAY 5 CHARLOTTESVILLE

VA 22902

IS AN AUTHORIZED:

04-QUALIFIED AGENT

LIC/REG/CERT 14444

**EXPIRATION** 12-09-2022 EFFECTIVE N/A

Signature of Bearer

CONTROL NO 5615561

WHERE REQUIRED BY LAW THIS MUST BE CONSPICUOUSLY DISPLAYED IN OFFICE TO WHICH IT APPLIES

19 04 14444

5,615,561

Secretary

19 04 14444

STATE BOARD OF MASTER ELECTRICIANS 500 N. CALVERT STREET BALTIMORE, MD 21202-3651

> TAYLOR MORGAN BALAC ALTENERGY, INC. 1132 EAST MARKET ST BAY 5 CHARLOTTESVILLE

VA 22902



LICENSE \* REGISTRATION \* CERTIFICATION \* PERMIT STATE OF MARYLAND

Boyd K. Rutherfor

STATE BOARD OF MASTER ELECTRICIANS CERTIFIES THAT: TAYLOR MORGAN BALAC

IS AN AUTHORIZED: 04 - QUALIFIED AGENT

LIC/REG/CERT EXPIRATION

14444 12-09-2022 EFFECTIVE

CONTROL NO 5615561

Signature of Bearer

Lawrence J. Hogan, Jr.

Boyd K. Rutherford Lt. Governor

Tiffany P. Robinson Secretary.

# MARYLAND HOME IMPROVEMENT COMMISSION

08 05 133878 MESSAGE(S):

ALTENERGY INC

6063 09-01-2020

1aryland DEPARTMENT OF LABOR

LICENSE \* REGISTRATION \* CERTIFICATION \* PERMIT

# STATE OF MARYLAND MARYLAND DEPARTMENT OF LABOR

MARYLAND HOME IMPROVEMENT COMMISSION CERTIFIES THAT: ALTENERGY INC

ALTENERGY INC

05-133878 8033-B PENN RANDALL PLACE

UPPER MARLBORO

MD 20772

IS AN AUTHORIZED:

05-CONTRACTOR/SALESMAN (CORP/PART)

LIC/REG/CERT 133878

**EXPIRATION** 10-06-2022 EFFECTIVE N/A

CONTROL NO 5564017

Secretary

Signature of Bearer

WHERE REQUIRED BY LAW THIS MUST BE CONSPICUOUSLY DISPLAYED IN OFFICE TO WHICH IT APPLIES

08 05 133878

5,564,017

08 05 133878

MARYLAND HOME IMPROVEMENT COMMISSION 500 N. CALVERT STREET BALTIMORE, MD 21202-3651

> ALTENERGY INC ALTENERGY INC 05-133878 8033-B PENN RANDALL PLACE UPPER MARLBORO MD 20772

Maryland

LICENSE \* REGISTRATION \* CERTIFICATION \* PERMIT STATE OF MARYLAND

Boyd K. Rutherfor

MARYLAND HOME IMPROVEMENT COMMISSION

CERTIFIES THAT: ALTENERGY INC

IS AN AUTHORIZED: 05 - CONTRACTOR/SALESMAN (CORP/PAIT)

LIC/REG/CERT EXPIRATION

EFFECTIVE

CONTROL NO

133878 10-06-2022

5564017

Signature of Bearer

# PRINCE GEORGE'S COUNTY

# DEPARTMENT OF PERMITTING INSPECTIONS AND ENFORCEMENT

# **Electrical Contractor's License**

License No.: 28550-2020-0

Expiration Date: 07/31/2022

This is to certify that a license has been granted this day to:

ALTENERGY INC

to engage in the business of installing, erecting and repairing wires, conduits, etc. for the transmission of electric current for light, heat and power purposes, and the installation of electrical machinery, apparatus, devices and fixtures in Prince George's County, Maryland, as defined under Subtitle 2, Division 14B, of the Prince George's County Code.

Issued under the authority of Subtitle 2, Administration, Division 14B, of the Prince George's County Code on 7/15/2020

Melinda Bolling

Melinda Bolling

Director

This License Shall Be Conspicuously Displayed

Non-Transferable



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 11/19/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

	this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).												
_	DUCER				CONTACT Cherice Tracy								
Sc	ott Insurance - Richmond				PHONE (A/C, No, Ext): 804-545-2234 (A/C, No): 434-455-8524								
	00 Westerre Parkway ite 200				E-MAIL	E-MAIL ADDRESS: ctracy@scottins.com							
	chmond VA 23233				ADDILL	NAIC#							
					INSURE	12372							
INSL	IRED			ALTEINC-01	INSURE	19801							
Alt	energy, Inc.				INSURE	36927							
	n: Judith Newton 32 E Market Street, Bay 5				INSURE		23280						
Ch	arlottesville VA 22902				INSURE		a maoninity (	sompany (7 t* )		20200			
					INSURE								
CO	VERAGES CEF	TIFIC	CATE	NUMBER: 392857908	INCORE			REVISION NUMBER:					
IN C	HIS IS TO CERTIFY THAT THE POLICIES IDICATED. NOTWITHSTANDING ANY RETIFICATE MAY BE ISSUED OR MAY XCLUSIONS AND CONDITIONS OF SUCH	EQUIF PERT POLI	REME AIN, CIES.	NT, TERM OR CONDITION THE INSURANCE AFFORD LIMITS SHOWN MAY HAVE	OF ANY	CONTRACT THE POLICIES	OR OTHER I S DESCRIBEI PAID CLAIMS.	DOCUMENT WITH RESPECT TO HEREIN IS SUBJECT TO	T TO V	WHICH THIS			
INSR LTR	TYPE OF INSURANCE		SUBR WVD	POLICY NUMBER		POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	3				
С	X COMMERCIAL GENERAL LIABILITY			PACES4278133		9/28/2021	9/28/2022	EACH OCCURRENCE	\$ 1,000	,000			
	CLAIMS-MADE X OCCUR							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,0	00			
								MED EXP (Any one person)	\$ 10,000	0			
								PERSONAL & ADV INJURY	EGATE \$2,000,00				
	GEN'L AGGREGATE LIMIT APPLIES PER:							GENERAL AGGREGATE					
	POLICY PRO- X LOC							PRODUCTS - COMP/OP AGG					
	X OTHER: Job Site							Loc/Job Agg Cap	\$ 5,000	,000			
D	AUTOMOBILE LIABILITY		EPP 0630172			9/28/2021	9/28/2022	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000	,000			
	X ANY AUTO							BODILY INJURY (Per person)	\$				
	OWNED SCHEDULED AUTOS							l ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	\$				
	X HIRED X NON-OWNED AUTOS ONLY							PROPERTY DAMAGE (Per accident)	\$				
									\$				
С	UMBRELLA LIAB X OCCUR			EXC4278134	9/28/202	9/28/2021	9/28/2022	EACH OCCURRENCE	\$ 5,000	,000			
	X EXCESS LIAB CLAIMS-MADE							AGGREGATE	\$ 5,000	,000			
	DED RETENTION \$								\$				
A B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WCB1028940 WC928758714564		6/9/2021 6/9/2021	6/9/2022 6/9/2022	X PER STATUTE OTH-					
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?	N/A						E.L. EACH ACCIDENT	\$ 1,000,000				
	(Mandatory in NH) If yes, describe under							E.L. DISEASE - EA EMPLOYEE					
	DÉSCRIPTION OF OPERATIONS below							E.L. DISEASE - POLICY LIMIT	\$ 1,000	,000			
DES	CRIPTION OF OPERATIONS / LOCATIONS / VEHIC	LES (A	CORD	101, Additional Remarks Schedu	le, may be	attached if more	e space is require	ed)					
CE	PTIEICATE HOLDER				CANO	ELLATION							
CE	RTIFICATE HOLDER				CANC	ELLATION							
	The City of Hyattsville 4310 Gallatin Street				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.								
	Hyattsville MD 20781				AUTHORIZED REPRESENTATIVE								
					Stacm W. Hall								