



AGENDA FOR THE TOWN MEETING

August 26, 2013

7:00 p.m.

PLEDGE TO THE FLAG

CALL TO ORDER

CONSENT AGENDA

- Town Minutes
- August 12, 2013 – Town Meeting

PERSONAL REQUESTS FOR AGENDA:

Wyatt Hopson – Pizza Gardener of the Year

Solar Photovoltaic Array Proposal – RER Energy Group

- *Jim Kurtz, President*
- *Chris Flynn, Vice President of Finance*
- *Steven Schwartz, Chief Business Developer Officer*
- *Chris Dellinger, Regional Energy Developer*

UNFINISHED BUSINESS:

- 5K/10K Race – Atlantic Edge Discussion

NEW BUSINESS:

PUBLIC COMMENTS:

Please state Name and Address for the Record

ANNOUNCEMENTS:

ADJOURNMENT

EXECUTIVE SESSION: *(If Necessary)*

**BURGESS AND COMMISSIONERS
OF MIDDLETOWN MARYLAND**

TOWN MEETING MINUTES

**REGULAR MEETING
2013**

August 12,

The first monthly meeting of the Burgess and Commissioners of Middletown was called to order on August 12, 2013, by Burgess Miller at 7:00 p.m. in the Middletown Municipal Center, 31 W. Main Street, Middletown, Maryland. Present were: Commissioners Jennifer Falcinelli, Larry Bussard, Richard Dietrick, Tony Ventre and Christopher Goodman.

CONSENT AGENDA

Town Minutes – July 22, 2013 Town meeting

Commissioner Bussard motioned to accept this consent agenda, seconded by Commissioner Goodman and passed unanimously.

PERSONAL REQUEST FOR AGENDA: none

Unfinished Business:

5K/10K Race – Atlantic Edge Discussion – tabled as no-one was present from Atlantic Edge.

Discussion of Memorial Hall – Commissioner Falcinelli stated that at last month's meeting, the Commissioners wanted to get the opinion of the residents. Commissioner Falcinelli stated that we put it on our web page, face book page and we also sent out an email blast asking for the residents to reply their opinions to the town's email address. Drew stated that we have received several emails, some are for and some are against.

Commissioner Goodman asks if the grant we received if it would have conditions? Drew stated that yes most grants received do have conditions on that we must abide by.

Commissioner Ventre stated that if our intention is to acquire the building and turn it into usable space, shouldn't we get a cost for this? Commissioner Ventre stated that we should contact LGIT and ask them to do a risk assessment on the building as a liability standpoint. Commissioner Ventre feels that we would get a good idea of what will need to be done to get the building up to code.

Becky stated that she will have some financial numbers to present to the Board at the next meeting with several different scenarios. Becky also stated that Nick Rudolph with the MD Main Street program will be here Thursday at 4pm. and invited all the Commissioners to attend.

REPORTS OF COMMITTEES –

WATER & SEWER – Commissioner Falcinelli reported:

Water usage - 292,000 gallons per day

Spring Flow – 115,000 gallons

Reservoir – leaking 20,000-30,000 a day, we will be repairing the leak sometime in September; it will be off line during the repair. Notices will be sent to all residents to conserve water.

Water & Sewer meeting - August 21, 2013 at 7pm., monthly billing will be discussed, the goal is to start monthly billing for the Glenbrook Community January 1, 2014.

PUBLIC WORKS – Commissioner Bussard reported:

Town Staff has been spraying weeds along the streets, removed the flag poles and tree stumps at the War Memorial, sidewalk repairs are being made throughout town, and the gas line project is underway.

Walnut Street Bridge – in progress, tested the waterline today.

Scrap Tire Event – September 28th from 7:30am. – 2:30pm. at the Recycling Center on Reich's Ford Road.

PLANNING COMMISSION – Commissioner Goodman reported:

Valley School demolition plan – approved.

Fire Station and Shopping Center site and improvement plans are on the agenda this month.

PARKS & RECREATION – Commissioner Ventre reported:

Grant – At last month's meeting we had a discussion about grant money being available and we wanted to possibly install a water line to the pavilion at Remsberg Park and also install bathrooms, after some investigation Commissioner Ventre reported that it's unlikely that we would get a grant to do such project. Commissioner Ventre would like to still make the grant application (which needs to be submitted by Aug. 19, 2013), he asked the Board what their thoughts were on projects they would like to see done. After some discussion it was agreed upon to have Drew submit the grant application for putting in a dog park at Wiles Branch Park and also re-doing the walkway from West Main St. to Wiles Branch Park.

FINANCE – Commissioner Dietrick reported:

Audit – no final numbers yet on FY 13.

PUBLIC INFORMATION – Commissioner Falcinelli reported:

Community Directory – meeting on August 21, 2013 to start updating the directory.

NEW BUSINESS

Solar Proposal Review – Drew stated that RER Energy Group will be making their presentation at the next meeting. Burgess Miller stated that he and Drew have met with a few companies and this is by far the best one as Burgess Miller has stated up front that he wants a lease payment made to the Town, then the investor's would make their profit elsewhere.

Middletown Fire Station – Waiver of Fees – Steve Leatherman and Tracy Diggs from Frederick County were present. It was stated that the Middletown Fire Company is being fully funded by Frederick County tax payer money. Mr. Leatherman stated that the design phase is moving along, probably 30% complete. It was stated that they will be in attendance at the Middletown Planning Commission workshop meeting this week as well. Mr. Diggs submitted a letter to the Board asking that all fees (building permit fees, site plan review fees, water & sewer tap fees) associated with designing and construction of the new Middletown Fire Company be waived.

Commissioner Bussard motioned to waive all fees (building permit, site plan fees, water & sewer tap fees) be waived, seconded by Dietrick. Motion carried 6-0.

ANNOUNCEMENTS

ADJOURNMENT

With no further business to come before the Board, the meeting adjourned at 8:15 p.m.

- *Joint Meeting – TB & PC* *Monday, August 5, 2013* *6:30PM*
- *Planning Commission Workshop* *Wednesday, August 14, 2013* *7:00PM*
- *Planning Commission* *Monday, August 19, 2013* *7:00PM*
- *Parks & Recreation* *Tuesday, August 20, 2013* *7:00PM*
- *Water & Sewer Committee* *Wednesday, August 21, 2013* *7:00PM*
- *Main Street Board* *Thursday, August 22, 2013* *7:00PM*
- *Town Meeting* *Monday, August 26, 2013* *7:00PM*

Respectfully submitted,

Ann Griffin
Office Manager



June 26, 2013

Mr. Andrew Bowen
Town Administrator
Middletown, MD 21769

Dear Andrew,

RER Energy Group ("RER") is proud to provide an illustrative proposal for a 386.1 kW solar photovoltaic array for the Town of Middletown. This proposal details RER's strength in providing access to the best design, equipment, installation services, pricing, financing options and monitoring services available for your solar energy project.

The key to this proposal is that RER is providing multiple financing options to allow Town of Middletown flexibility in taking advantage of the currently available grant and tax incentives for MD-based solar systems. Financing options include an innovative "Community" Power Purchase Agreement ("PPA") where the Town of Middletown management team, employees and other local community members are able to invest and participate in the economic benefits of the renewable energy. These options allow the Town of Middletown to select the path that best meets its energy cost reduction and capital spending goals, while benefiting from the energy savings and goodwill that comes from incorporating renewable energy systems into its operations.

RER will assist with all necessary processing work for the incentives available for the project. This includes the 30% Federal investment Tax Credit, Accelerated Depreciation Benefits and the Maryland Solar Renewable Energy Certificate (SREC) Program. RER has helped secure over \$12 million in project incentives for our clients.

This proposal is a budgetary proposal. The final size and cost will be determined after your utility and the Authorities Having Jurisdiction (AHJ) have reviewed detailed system engineering plans. RER will proceed with the review process upon the signing of an Agreement of intent, which would allow you to cancel the project if unanticipated costs arise from the review process. All anticipated costs are included in this budgetary proposal.

Please be assured of our commitment to provide the Town of Middletown with a high-quality and cost-effective energy production system. Your system will offer significant savings and satisfaction for many years to come. We applaud your interest in environmentally friendly energy, and look forward to working together to deliver a successful solar project for your facility.

Thank you for the opportunity to present this proposal.

A handwritten signature in black ink that reads "Jim Kurtz".

Jim Kurtz
President
RER Energy Group



Solar Economics and Financing Options

Solar Economics

Solar photovoltaic (PV) systems take advantage of the “free” energy that arrives every day when the sun rises. Once a system has been paid for, the variable costs are extremely small since fuel costs are zero and maintenance costs are minimal. The accumulated generation of energy over time leads to a low “levelized” cost of energy of approximately \$0.05 - \$0.06 per kWh for all of the energy produced by the system.

The question is how to pay for the upfront costs of solar, so that this low levelized cost of energy can be realized over a 30 to 40 year period. Multiple financing paths have been developed to address the capital needs of solar, and the currently available MD MEA grants and federal incentives make these paths very attractive. RER has also developed its own customized financing solutions tailored to the needs of non-profit organizations.

Solar Financing Options

Operating Lease

- Fixed Monthly Payment with No Upfront Cash Required
- Operating Leases require a High Credit Quality and can be hard to obtain. When available, these provide Attractive Low Payments since the Lessor Retains the Tax Benefits

RER Energy Group “Community” Power Purchase Agreement (PPA)

- No Cash Upfront and No Maintenance Costs
- Monthly Payments Based on Actual Energy Produced and Agreed Upon kWh Charge
- Save 20-30% Versus Current Energy Supply Options on Energy Produced by the Array
- Ability to Purchase the Solar Array at Set Periods
- PPA Provider Group Is Responsible For Capital Needs and Maintenance of the System
- Requires at least one corporate investor and/or individual(s) with the ability to utilize tax credits. The rapid realization of the tax credits provides attractive returns for them.
- Staff, Congregation and Affiliated Members can Participate in the Investment

Cash Purchase

- Provides High Net Savings but Low Return Rates since non-profits cannot utilize tax credits
- Internal Rates of Return (IRRs) of 3%-8% depending on the system size and location

Bank Financing

- Requires Cash Investments / Down Payments of 20% - 30% of the Project Cost
- Internal Rates of Return (IRRs) of 3% - 10% depending on the system size and location



Financing Options Comparison

	15 Year Operating Lease	10 Year Community PPA
<u>Town of Middletown</u>		
% of Current Energy Needs Provided	100%	100%
Reduction in Energy Bills - First Year	\$37,717	\$37,717
Reduction in Energy Bills - First 5 Yrs.	\$200,175	\$200,175
Reduction in Energy Bills - First 30 Yrs. (assumes 3.5% annual energy cost increase)	\$1,789,323	\$1,789,323
Annual Payment made by Town of Middletown to Investors (1)	\$51,393	\$28,288
Estimated Annual SREC Revenue, Net O&M Costs	\$31,378	\$0
<u>Solar Energy Generation</u>		
kWh Generated Over First 30 Years	13,677,630	13,677,630
Cumul. Cost / kWh - First 5 Years (effective cost to Town of Middletown)	\$0.03	\$0.06
Cumul. Cost / kWh - First 10 Years (effective cost to Town of Middletown)	\$0.05	\$0.06
Cumul. Cost / kWh - First 30 Years (effective cost to Town of Middletown)	\$0.05	\$0.05
<u>Market Energy Purchasing</u>		
Current Cost / kWh - Distribution and Supply Charges	\$0.077	\$0.077
Est. Cumul. Cost / kWh - First 30 Yrs. (assumes 3.5% annual increase)	\$0.131	\$0.131
Total Net Savings - First 5 Years	\$131,982	\$53,001
Total Net Savings - First 10 Years	\$215,298	\$122,469
Total Net Savings - First 30 Years	\$1,067,191	\$1,071,049
<u>Investor / Financing Entity Economics</u>		
Turn-key Project Cost Before Grants, Paid for by Investors		\$1,061,775
MD MEA Upfront Grant		(\$6,000)
Net Cash Investment Provided By Investors		\$1,055,775
<u>After Tax Incentives & Benefits Available to Investors - First 5 Years</u>		
Fed. Investment Tax Credit - 30% of Proj. Cost, 1st Year		\$318,533
Taxes on MD MEA Grant (Fed. & State.)		(\$2,520)
MD Production Tax Credit - 5 Years		\$20,611
SRECs (After Tax) - Maj. In 5 Years (1)		\$126,574
Accelerated Depreciation Savings - Over 5 Years (2)		\$393,388
Total Incentives & Benefits, After Taxes (3)		\$856,585
Total Incentives & Benefits as % of Net Cash Investment		81%
Net Effective Project Cost for the Investors (4)		\$199,190
Project IRR (Return Rate) Realized by Investors (With No Debt) (5)		7%
Project IRR (Return Rate) Realized by Investors (With 49% Debt) (5)		16%

(1) The Operating Lease Payment is fixed for 15 years. The PPA payment increases approximately 2.5% per year.

(2) Solar system costs can be depreciated over a 5 Year MACRS (Modified Accelerated Cost Recovery System)

Solar modules are warranted for 25 years, and systems are expected to last 30 to 40, or more years.

(3) Assumes 33% Federal Tax Rate and 9% State Tax Rate.

(4) Prior to any operations and maintenance costs, which are not listed here.

(5) Represents the Internal Rate of Return, or effective annual return on the initial investment.



Return on Investment (ROI) Operating Lease

Operating Lease Characteristics

An operating lease transfers the right to use the solar system, but not the ownership, during the lease term. Operating lease provisions include:

- The lessor (leasing company or bank) purchases the asset on your behalf
- The lessee (Town of Middletown) has use of the asset during the lease term
- The lessee records the operating lease as an operating expense on income statements
- At the end of term, the lessee has three options: purchase the system, return the system, or potentially extend the term of the lease

Operating Lease Economics

Cash Investment		\$0
Monthly Operating Lease Payment		(\$4,283)
Annual Operating Lease Payment (Fixed for 15 Years)		(\$51,393)
Year 1 Energy Cost Savings		\$37,717
Year 1 Solar Renewable Energy Certificates		\$44,085
Year 1 O&M & Performance Guarantee		(\$5,595)
Total Year 1 Cash Savings		\$24,814
	<u>Annual</u>	<u>Cumulative</u>
Year 2 Cash Savings	\$25,574	\$50,388
Year 3 Cash Savings	\$26,365	\$76,752
Cumulative Cash Savings - 5 Years		\$131,982
Cumulative Cash Savings - 10 Years		\$215,298
Cumulative Cash Savings - 30 Years		\$1,067,191



RER Community PPA Approach

RER Community Power Purchase Agreement (PPA) Option

Power Purchase Agreements (PPA) are used in situations where a site host does not desire to outlay the capital required to purchase a system, or is not able to take advantage of the tax benefits available through renewable energy projects due to being a non-tax paying entity, or not having sufficient near-term tax basis.

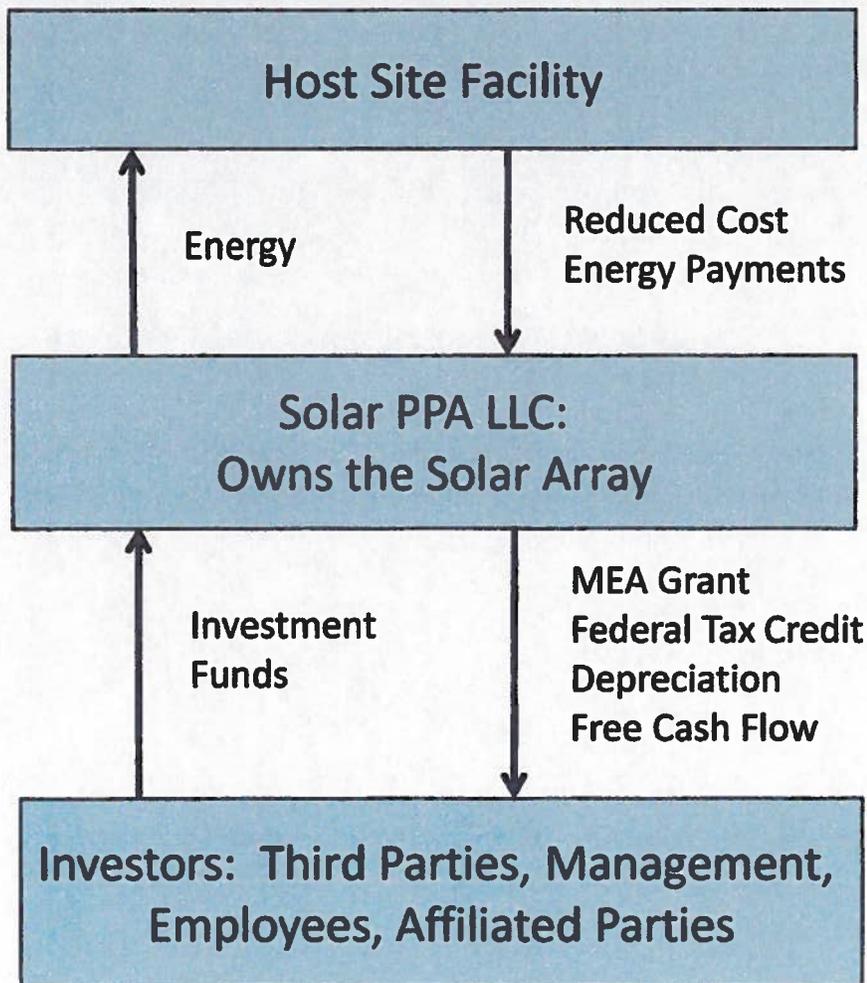
Town of Middletown would have no upfront investment requirement, nor any ongoing operations and maintenance obligations. Town of Middletown would simply enter into an agreement to purchase the energy produced by the solar array at a rate which is approximately 25% lower than your current energy price.

A third party, Solar PPA LLC entity would own the array, along with the potential for "interested community parties" of Town of Middletown to provide some of the funding for the solar array. The parties would have access to the financial incentives associated with the project, including the Federal Investment Tax Credit and depreciation value. The PPA entity would also receive a long term cash stream from the electricity payments from Town of Middletown.

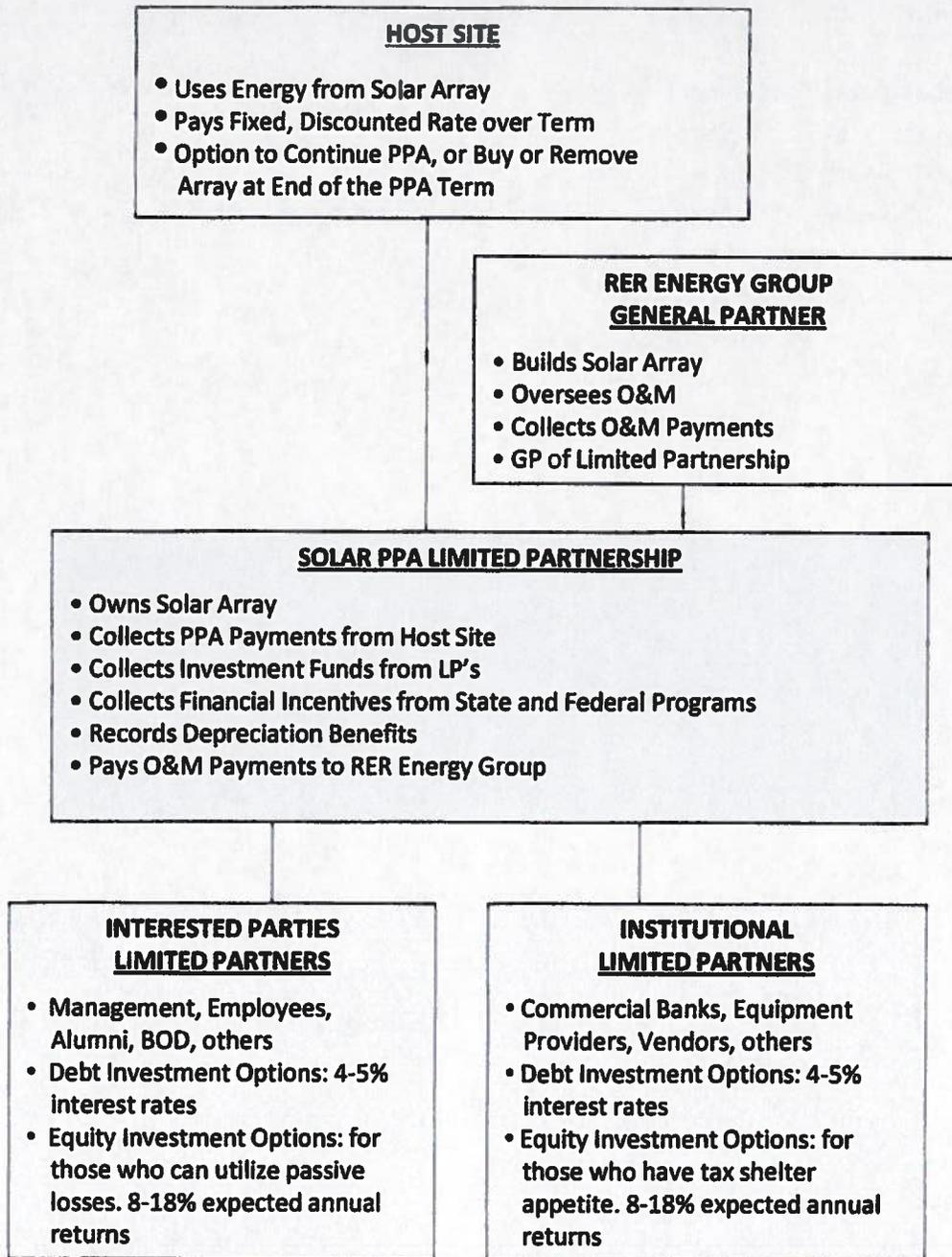
This ownership structure provides Town of Middletown with a predictable, reduced cost for the power generated from the solar array. Town of Middletown would have the option, but not the obligation, to purchase the array any time after the end of the 6th year of the agreement. For illustrative purposes, we have provided a scenario below, highlighting a purchase at the end of year 10.

The information below reviews the terms and economics of this structure and highlights how the approach can create significant value for all parties involved.

**Power Purchase Agreement (PPA)
RER Interested Parties Structure**



**Power Purchase Agreement (PPA)
RER Interested Parties Structure**





Power Purchase Agreement (PPA) Town of Middletown Economics

Town of Middletown PPA Economics Town of Middletown Elects to Purchase Array at End of Year 10

PPA Terms

Solar Annual Energy Production Estimate	489,831 kWh
Solar Annual Energy Production Est. as % of Consumption	100.0%
Current Energy Rate Cost Per kWh	\$0.077
PPA Energy Rate Cost Per kWh	\$0.058
PPA Discount to Current Rate	25.0%
PPA Energy Rate Annual Escalator	2.5%
PPA Period (Discretion of Town of Middletown, can be longer period)	10 Years
Anticipated Market Energy Cost - Year 10 (3.5% annual growth rate)	\$0.105
Known PPA Cost Per kWh - Year 10	\$0.072
Cost Per kWh Post Year 10 Purchase (free energy from the sun)	\$0.000

Project Economics & Savings

Turn-key Solar Array Project Cost	\$1,061,775
Upfront Cost to Site Host	\$0
Net Est. Energy Savings Over First 10 Years (after taxes)	\$122,469
Calculated Array Purchase Price at end of Year 10 (1)	\$202,101
Estimated Savings Years 11 - 30 (3.5% annual energy growth rate)	\$948,581
Internal Rate of Return (IRR) of Array Purchase (unleveraged)	37.6%
Net Est. Savings Over First 30 Years (Incl. Purchase Price) (2)	\$1,071,049
Energy Generated Over First 30 Years	13,677,630 kWh
Effective Cost Per kWh of Energy Generated Over 30 Years	\$0.053

(1) Calculated Purchase Price represents 19% of the original turn-key installation cost.

(2) Assumes Array Purchase is financed by a 10 Year Bank Note at 4% interest rate.



Power Purchase Agreement (PPA) Investor Group Economics

Investor Group PPA Economics

Town of Middletown Elects to Purchase Array at End of Year 10

Project Investment

Turn-key Solar Project Cost Paid by Investor Group	\$1,061,775
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Sources of Funds

Equity Investment – 50% (Affiliated & 3rd Parties)	\$530,888
MD MEA Grant – 0.6% (First Phase)	\$6,000
Debt Investment – 49.4% (Affiliated & 3rd Parties)	\$524,888
Total Project Cost	\$1,061,775

Less: Incentives and Benefits Over Life of Project

MD MEA Grants – 0% of Proj. Cost (after taxes)	(\$3,480)
5 Year Maryland Product Tax Credits	(\$20,611)
Federal Tax Credit – 30% of Project Cost	(\$318,533)
Solar Renewable Energy Certificates – 20% of Proj. Cost (after taxes)	(\$208,868)
Depreciation Benefits – 37% of Proj. Cost (5 Yr. MACRS Schedule)	(\$393,388)
Total Incentives and Benefits – 89% of Project Cost (1)	(\$944,879)
Net Effective Project Cost	\$116,896

Financial Return On Investment

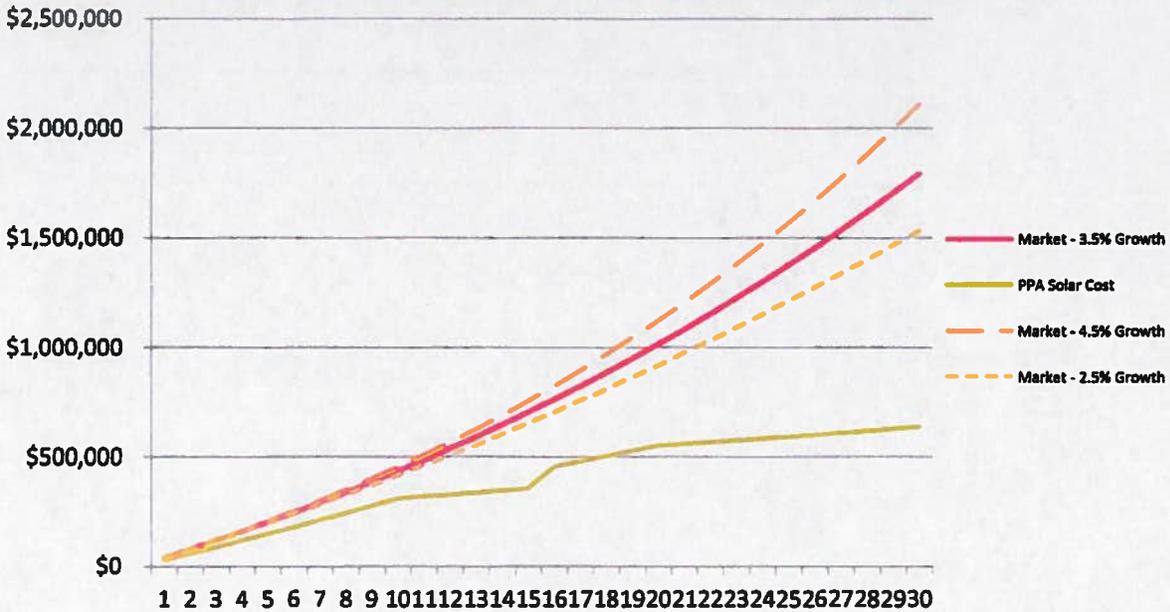
10 Year PPA Payments from Town of Middletown (after taxes)	\$179,548
10 Year Operations & Maintenance Costs (net of tax impact)	(\$37,633)
Interest on 4% Debt Note (net of tax impact)	(\$70,906)
Calculated Sale Price at End of Year 10 (after taxes)	\$117,219
Value Received (after taxes)	\$188,228

<u>Cash Flow Including Debt Payments</u>	<u>Initial Investment</u>	<u>Annual Returns</u>	<u>Cumulative Returns</u>
Initial Equity Investment	(\$530,888)		
First Year Return		\$500,706	\$500,706
Third Year Return		\$32,517	\$597,699
Fifth Year Return		\$12,334	\$623,084
Tenth Year Return		\$85,235	\$602,219
10 Year IRR (approx. annual return) for Equity Investors (2)			16%

(1) Assumes a Federal Tax Rate of 33% and a State Tax Rate of 9%.

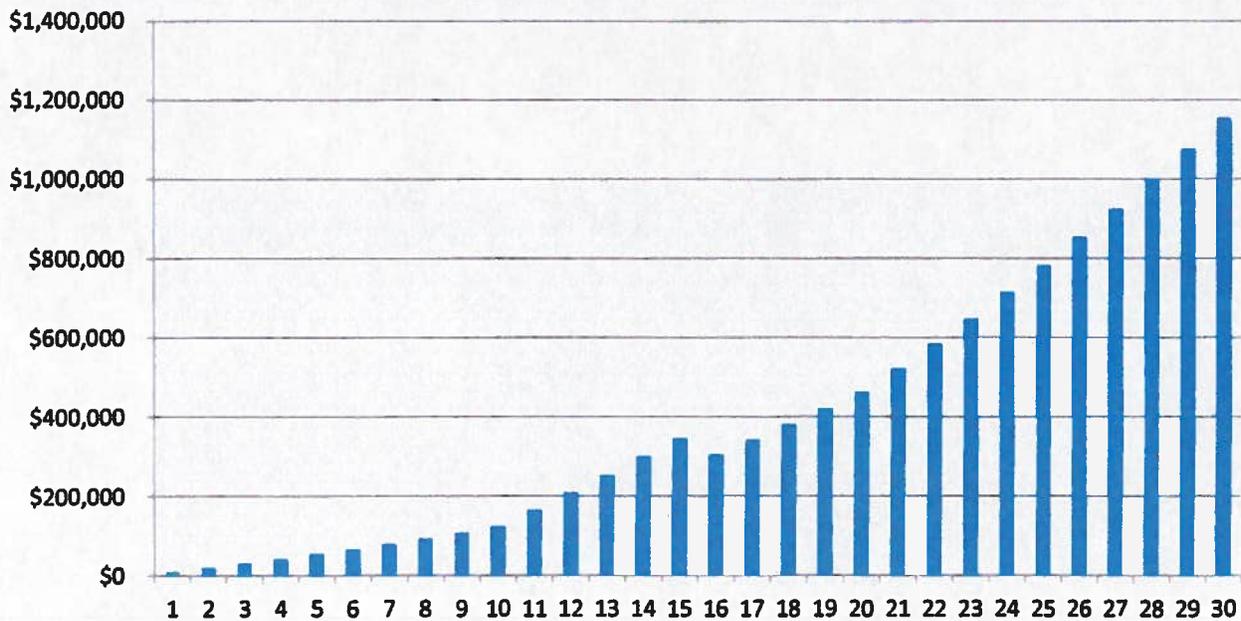
(2) Assumes 50% Equity Investment, MD Grant and Debt Amounts outlined above.

Cumulative Cash Outflow: Market Cost vs. Solar Cost (Pre-Tax)

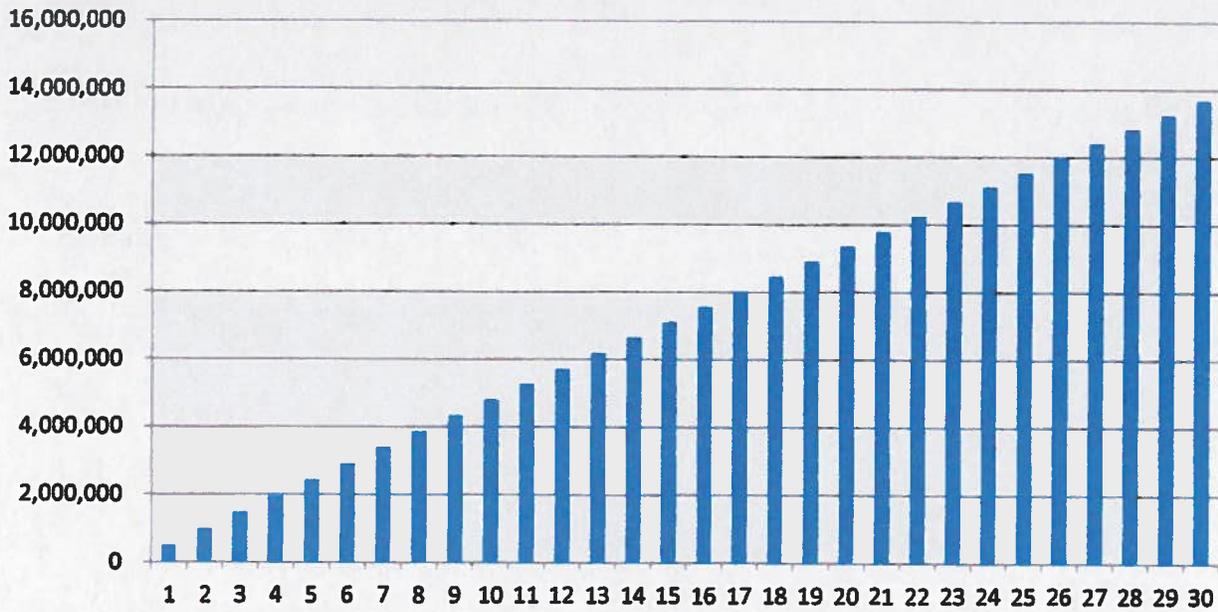


All charts assume the array is purchased in year 10 and is financed with a 4% bank note, payable over a 10 year time period

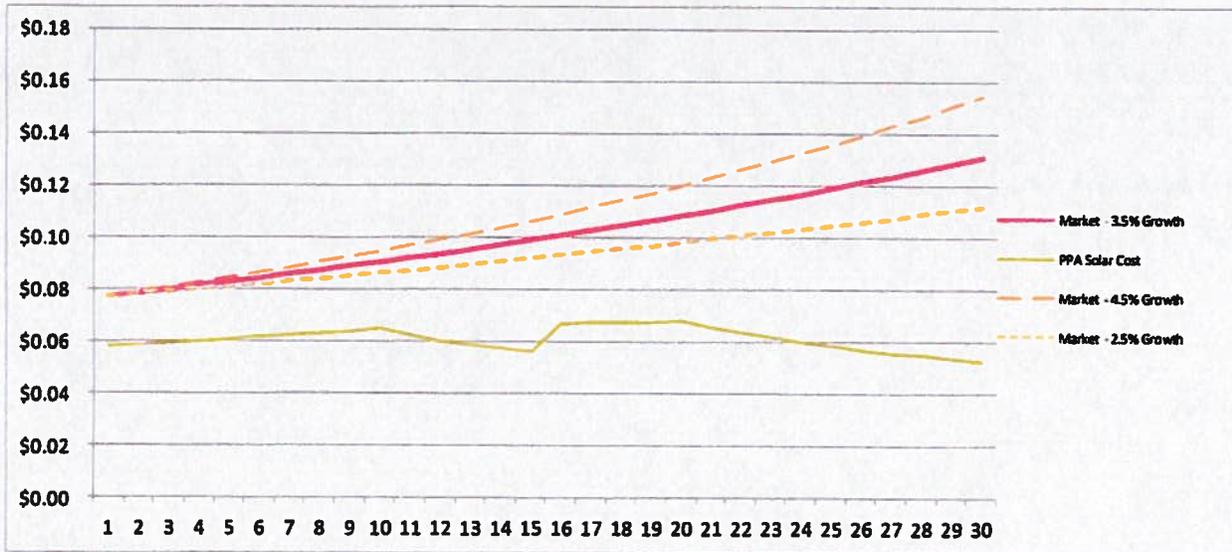
Cumulative Savings (After-Tax)



Solar Cumulative Production (kWh)



Cumulative Market kWh Cost vs. PPA Solar kWh Cost

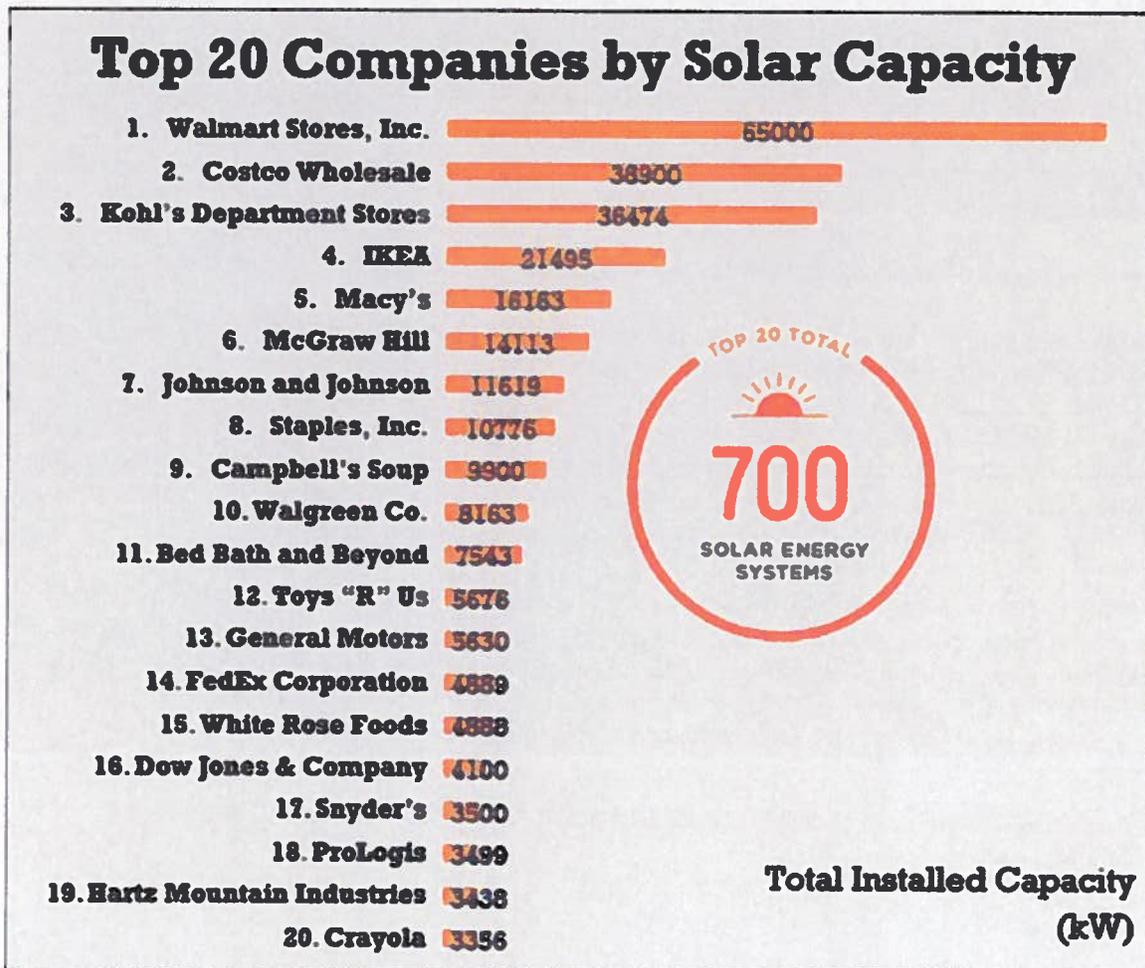


Power Purchase Agreement Basic Terms & Conditions

- 1. All state and federal grants and incentives, and depreciation benefits accrue to the PPA Provider.**
- 2. Financial due diligence to complete a project includes either audited, reviewed, or compiled financial statements for the last three (3) years (balance sheet, income statement, cash flow).**
- 3. PPA Provider Responsibilities**
 - A. Pay for the turn-key installation of the solar array**
 - B. Design and engineer the array**
 - C. Obtain all necessary permits**
 - D. Warranty of equipment and workmanship**
 - E. Oversee operations and maintenance of the system for the life of the PPA term**
 - F. Monitor the system performance and kWh output**
 - G. Adhere to standards set forth by OSHA**
 - H. Remove the system after the PPA term (provided that customer does not exercise its extension or purchase option)**
- 4. Site Host Responsibilities**
 - A. Purchase all electricity produced by the solar array during the course of the PPA term, at the agreed upon contractual rate**
 - B. Provide direct access to the facility and system for maintenance purposes**
 - C. Ensure that the solar array remains interconnected to the grid at all times**
 - D. Ensure that the facility is properly maintained at all times for the uninterrupted operation of the array**
 - E. Provide access to uninterrupted sunlight for the array at all times**
 - F. Provide internet data line and internet access during life of the PPA term**
 - G. Provide reasonable security for the array**
 - H. Add rider to insurance policy to cover potential damage to the array**

Companies Investing In Solar PV

Over 24,000 individual solar facilities and 2,300 MW of solar capacity have been installed by businesses, non-profits and government organizations throughout the U.S. as of mid-2012. During the first half of 2012, over 3,600 non-residential solar systems came online, an average of one every 72 minutes.



Source: Solar Power World, November 2012

Growing Investor Base

What Does Warren Buffett See in Solar? By Elisa Wood, Contributor | April 11, 2013 Shining a light on the solar industry



What's the best way to gain insight into Buffett's thinking? Probably by watching his companies. And now, among his big insurance, chemical and utility holdings is a renewable energy company that is making some eye-catching moves. In its first 12 months in business, MidAmerican Renewables has acquired some of the largest solar projects in the world.

...solar prices have dropped to the point where they are attractive 'just on their own merit,' Caudill said

...Right now gas prices are at a 'very, very low' levels, he said. 'You can almost be assured energy prices will rise. When I say energy price I'm talking about electricity prices to consumers'.

MidAmerican Renewables early mover status is encouraging other traditional capital sources to put more money into solar investments', he said. 'We've already heard rumblings of others following. The follower effect is occurring because 'Warren Buffett has earned a stellar reputation for thorough due diligence and for investing in undervalued assets,' according to Bedell.

'Warren Buffett is one of the smartest investors in the world...said Rhone Resch, president & CEO of the US-based Solar Energy Industries Association. 'With his significant investment in solar, Buffett and MidAmerican are in terrific company, along with leading firms such as GE, GM, Google, NRG, Apple, IKEA, Wal-Mart, Walgreens, etc. Smart investors and corporations deploy/invest in solar not only because it's the right environmental choice - it's the right economic choice.'

<http://www.renewableenergyworld.com/rea/news/print/article/2013/04/what-does-warren-buffett-see-in-solar>

Source: Renewable Energy World, April 2013



Design Approach

There are many ways to design a Solar Electric project. The RER Energy Group approach focuses on the customer's needs and how to generate energy at the most reasonable costs based upon consumption levels and the specific characteristics of the local facility. To do this, we first isolate the current energy expense to use as our baseline, and then design a system tailored to the usage levels and facility.

Solar Electric Capacity

This preliminary proposal highlights the ability to provide approx. 100% electric needs via solar energy from the unshaded, unobstructed sections of your roof. We have taken into account leaving adequate access in and around ground mounted equipment for ease of maintenance. If you desire to generate more electric power from this location, we can discuss the feasibility of adding additional ground mounted arrays.

Turn-Key Solution

This proposal is a complete, turn-key solution, inclusive of:

- All components necessary to complete the project
- Permitting costs
- Installation and project management
- Clean up, removal and recycling of project debris
- Warranty, utility interconnection and MD MEA Grant Application and Production Reporting

Additional Features

- Each Solar Electric Array will be custom designed to compliment the building's construction and architecture.
- We use only the most highly trained Solar Electric engineers and designers to ensure your system meets or exceeds industry standards.
- System Design and Engineering completed by a NABCEP Certified Solar Installer.
- All RER solar systems are designed to last 30-40 years or more.

Equipment Specifications

RER selects only industry leading manufacturer components in order to maximize lifetime energy production. Preliminary engineering selections are as follows. Detailed specification sheets are available in the appendix.

- Solar Modules: Motech IM72 300 Watt UL Modules, or equivalent
- DC to AC Inverters: AE Advanced Energy AE 333NX Inverter, or equivalent
- Racking: Schletter FS Aluminum Ground Mounting System, or equivalent

Warranties

- Solar Modules: 25 years
- DC to AC Inverters: 10 years
- Racking: 10 years
- System Installation: 5 years

24/7/365 Monitoring

Your solar electric system will include a data acquisition system that will enable 24/7/365, web-based monitoring, allowing real-time access to the system's energy production levels from any computer and even hand-held communication devices. RER will also provide a monthly production report every year on the anniversary date of your system commissioning.

Additional Benefits

- A Solar Electric Array will block the sun's harmful ultraviolet rays from degrading the covered portion of your roof.
- Customers and Visitors will appreciate your effort to make an impact to help the environment. Employees typically get a morale boost when they see renewable energy being utilized.
- Purchasing an array sends a signal of long-term commitment to the organization
- Producing your own electricity reduces the United States' and our collective dependence on foreign oil and fossil fuels.
- You will save significantly on energy costs.



Solar Renewable Energy Credits

Solar Energy Renewable Credits (SRECs)

Each local electric utility company has a target amount of energy which must come from renewable sources, as mandated by the Maryland Energy Administration. This requirement is called a Renewable Portfolio Standard (RPS). Approximately 30 states throughout the U.S. have an RPS. Within the MD RPS is a Solar Share, or the amount of energy which must be comprised of Solar Energy.

SREC – Solar Renewable Energy Credits are a production based incentive. Every time the owner of a solar array produces 1,000 kilowatt hours of electricity as measured by a Revenue Grade Meter (which RER will install) the owner obtains one (1) SREC. The SRECs are sold to utility companies in order for the utility company to fulfill their RPS requirements. Owners of SRECs typically sell the credits through brokers to the utility company. RER will help you identify the best brokers to trade through, and the brokers would manage the entire process for you.

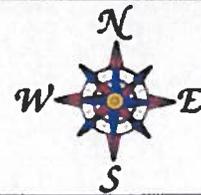


Ground Mounted Solar Array

System Size:
386.1kW DC
1,287 Solar Modules
(300 Watts each)
Annual Production:
489,831 kWh



Town of Middletown
7320 Holter Rd.
Middletown, MD





- Fence is installed at the edge of the property line with respect to the local property easements and right of ways
- Array is designed and installed according to the National Electric Code and local AHJ rules and regulations
- Arrays are oriented solar south to utilize the most of the solar window
- Inter-row spacing is minimal to improve system capacity and output within the designated property boundaries

<p>Town of Middletown 7320 Holter Rd. Middletown, MD</p>	 <p>RER Energy Group</p>	
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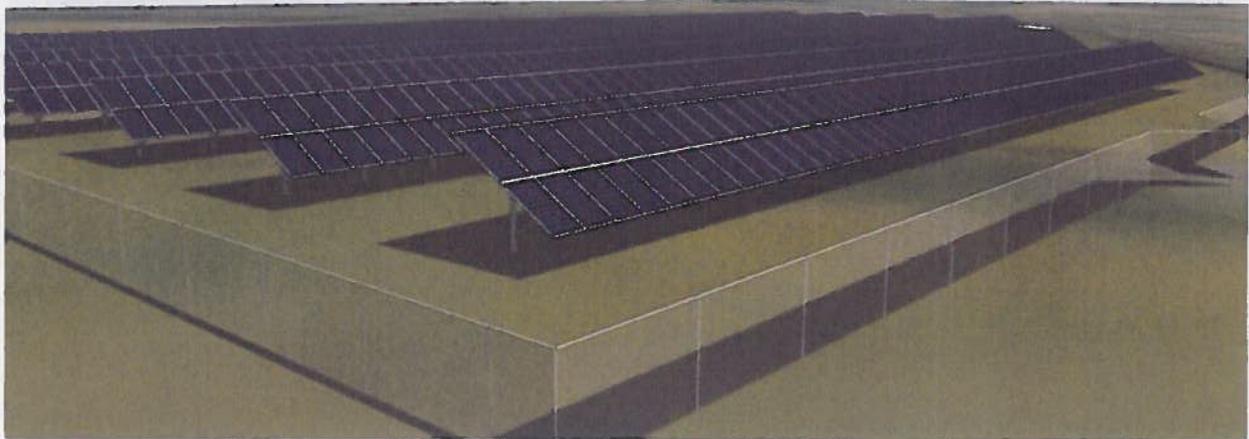
- Arrays are titled at 30 degrees to minimize inter-row spacing and to maximize summertime (largest solar window) energy harvest
- Aluminum and Stainless steel components protect the investment for years to come
- A 10 foot fence is installed around the parameter of the array for proper egress to construction and maintenance personnel
- Arrays are set back 20 feet from the fence line
- The fence offers security and protection to sensitive electrical components

Town of Middletown
7320 Holter Rd.
Middletown, MD



Preliminary Town of Middletown Elevation Layouts

Facing East

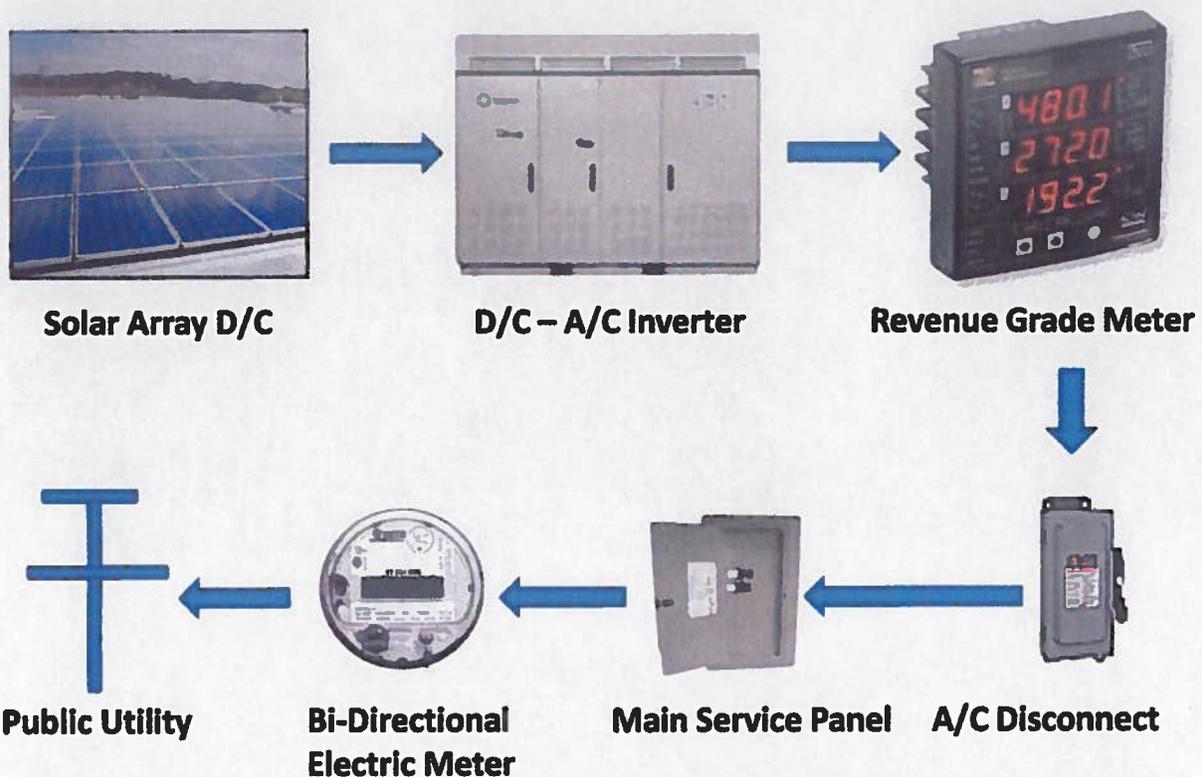


Facing West



Town of Middletown
7320 Holter Rd.
Middletown, MD





- When the sun shines on our solar array, the panels produce DC electricity.
- That DC energy is sent to an Inverter where it is transformed to AC (house current)
- We install a Revenue Grade Meter directly after the inverter to record every kWh of electricity your array produces. This number is to calculate your SREC Revenue.
- All public utilities require an AC disconnect on the outside of the building.
- From there the energy is fed to your Main Service Panel and is available for you to use to power your facility.
- Any unused energy is fed to the grid through a utility provided bi-directional meter. When you overproduce, your meter spins backwards!
- At the end of the month, you only get billed, or credited, for the difference.



**AC Energy
&
Cost Savings**



Town of Middletown; 386.1kW Ground Mounted Solar Array

Station Identification		Results			
Cell ID:	0262374	Month	Solar Radiation (kWh·m ⁻² ·day)	AC Energy (kWh)	Energy Value (\$)
State:	Maryland	1	2.99	30135	2320.39
Latitude:	39.5 ° N	2	3.57	32166	2476.78
Longitude:	77.3 ° W	3	4.93	47663	3670.05
PV System Specifications		4	5.21	47253	3638.48
DC Rating:	386.1 kW	5	5.54	50381	3879.34
DC to AC Derate Factor:	0.820	6	5.90	50203	3865.63
AC Rating:	316.6 kW	7	5.54	48313	3720.10
Array Type:	Fixed Tilt	8	5.18	45156	3477.01
Array Tilt:	30.0 °	9	4.97	42430	3267.11
Array Azimuth:	180.0 °	10	4.39	40846	3145.14
Energy Specifications		11	3.14	29328	2258.26
Cost of Electricity:	7.7 c/kWh	12	2.68	25956	1998.61
		Year	4.51	489831	37716.99



Current Utility Bill Breakout

Town of Middletown : Middletown Burgess & Co

7320 Holter Rd. Middletown, MD 21769

PotomacEdison Account Number 110 082 303 279 - Dist. Charge (09/19/2012 to 10/22/2012)

	Total Bill	kWh Bill	kWh Consumption	Cost per kWh	Weighted Avg Cost per kWh
Distribution Charge (kW)	\$118.68				
Distribution Charge (kWh)	\$160.59	\$160.59	36,864	\$0.004356	\$0.004356
Electrical Universal Service Fee	\$41.18	\$41.18	36,864	\$0.001117	\$0.001117
Administrative Credit	(\$46.70)	(\$46.70)	36,864	(\$0.001267)	(\$0.001267)
Cogenerative PURPA Surcharge	\$382.71	\$382.71	36,864	\$0.010382	\$0.010382
Franchise Tax (kWh based)	\$22.86	\$22.86	36,864	\$0.000620	\$0.000620
EmPower MD Surcharge (kWh based)	\$11.80	\$11.80	36,864	\$0.000320	\$0.000320
Demand Resource Surcharge (kWh based)	\$22.86	\$22.86	36,864	\$0.000620	\$0.000620
MD Environmental Surcharge (kWh based)	\$5.53	\$5.53	36,864	\$0.000150	\$0.000150
Total	\$719.51	\$600.83	36,864		\$0.016299

PotomacEdison Distribution cost per kWh

\$0.016299

Washington Gas Energy Services - Supply Charge (09/19/2012 to 10/22/2012)

	Total Bill	kWh Bill	kWh Consumption	Cost per kWh	Weighted Avg Cost per kWh
Meter \$19318490					
Market Energy Purchases	\$2,095.35	\$2,095.35	36,864	\$0.056840	\$0.056840
MD Sales Tax (6%)	\$125.72	\$125.72	36,864	\$0.003410	\$0.003410
Total	\$2,221.07	\$2,221.07	36,864		\$0.0602504

Washington Gas Energy Services Supply cost per kWh

\$0.0602504

Total Distribution & Supply Charge per kWh	\$0.0765490
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Return on Investment (ROI) Purchase Option – 100% Cash

Net Project Investment

Turn-key Solar Project Cost Before Grants	\$1,061,775
MD MEA Grant	(\$6,000)
Net Cash Required for the Project	<u>\$1,055,775</u>
 Less: Incentives & Benefits After Taxes Over the First 5 Years	
Federal Tax Credit - 30% of Project Cost	\$0
Taxes on MD MEA Grant	\$0
Accelerated Deprec. Savings (5 Year MACRS Schedule) (1)	\$0
Total	<u>\$0</u>
Net Effective Project Cost	\$1,055,775
Financial Return on Investment	

First Year kWh Production Estimate	489,831
Current Electric Cost Per kWh	\$0.077
First Year Energy Savings	\$37,717
Solar Renewable Energy Certificates (SRECs)	\$44,085
Total First Year Net Savings	<u>\$81,802</u>
As Percentage of Net Effective Project Cost	8%
Project Payback Period - 100% Cash Investment	16 Years, 10 Mos.
Internal Rate of Return (approximate annual return)	5%
Total Net Savings & Benefits - First 5 Years (1)	\$394,052
Total Net Savings & Benefits - First 10 Years (1)	\$740,244
Total Net Savings & Benefits - First 30 Years (1)	\$1,928,344
Energy Produced Over the First 30 Years	13,677,630
Effective Cost / kWh of Energy Produced - First 5 Years	\$0.36
Effective Cost / kWh of Energy Produced - First 10 Years	\$0.16
Effective Cost / kWh of Energy Produced - First 30 Years	\$0.07

(1) Includes incentives and energy savings. Assumes 3.5% annual energy rate increase.

Good for the Economy and the Community

- **Reduce bill today, protect from inflationary energy prices tomorrow**
- **Increase the value of your property**
- **The sun's rays are always free and clean**
- **Completely sustainable; we have 4,500 million years in reserve**
- **No byproducts of solar energy, no pollution**
- **Reduce carbon dioxide emissions produced by burning fossil fuels**
- **On average 80% of a solar project cost stays in America**
- **Reduce dependence on foreign oil**
- **Reduce the electricity demand on the electrical grid during peak times**

Make a Positive Impact on the Environment

By installing a solar electricity system, Town of Middletown will be doing its part to reduce global warming, air pollution, natural disasters and ultimately preserve our planet.



The proposed 386 kW photovoltaic system is estimated to generate 489,831 kWh of clean energy each year. This clean energy would avoid 346 metric tons of Carbon Dioxide (CO₂) from entering into the environment.

489,831 kWh of clean energy is equivalent to any of the following:

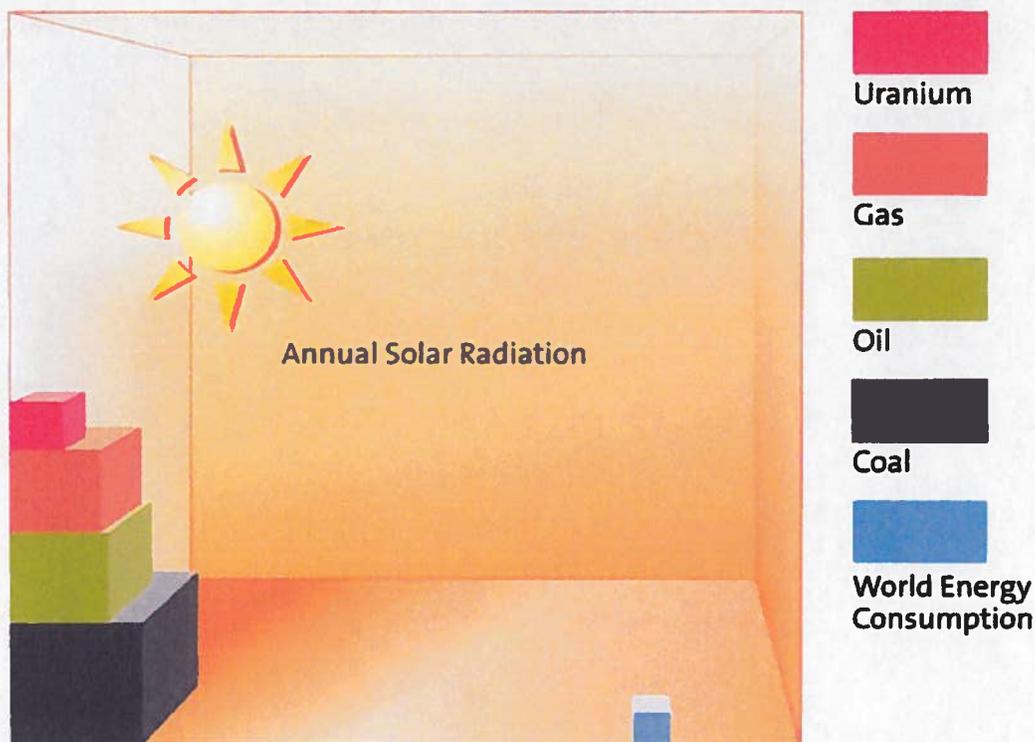
- Annual green house gas emissions from 72 cars.
- CO₂ emissions from 38,745 gallons of gasoline consumed.
- CO₂ emissions 804 barrels of oil consumed.
- CO₂ emissions from 5 tanker trucks' worth of gasoline.
- CO₂ emissions from the electricity use of 52 homes in one year.
- CO₂ emissions from all the energy use of 18 homes for one year.
- Carbon sequestered annually by 8,862 tree seedlings grown for 10 years.
- Carbon sequestered annually by 283 acres of U.S. forests.
- CO₂ emissions from 14,400 propane cylinders used for home barbeques.
- CO₂ emissions from burning 2 railcars' worth of coal.
- Greenhouse gas emission avoided by recycling 129 tons of waste.

Source: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

Solar: Abundant Long Term Source of Power

- Global energy consumption is growing at a rapid rate: 50% by 2035
- Traditional fuel sources are depleting and can have damaging environmental consequences
- The rest of the world is ahead of the US in developing renewable energy
- The sun provides 10,000 times more energy than we consume yearly

Power Reserve Capacity by Source



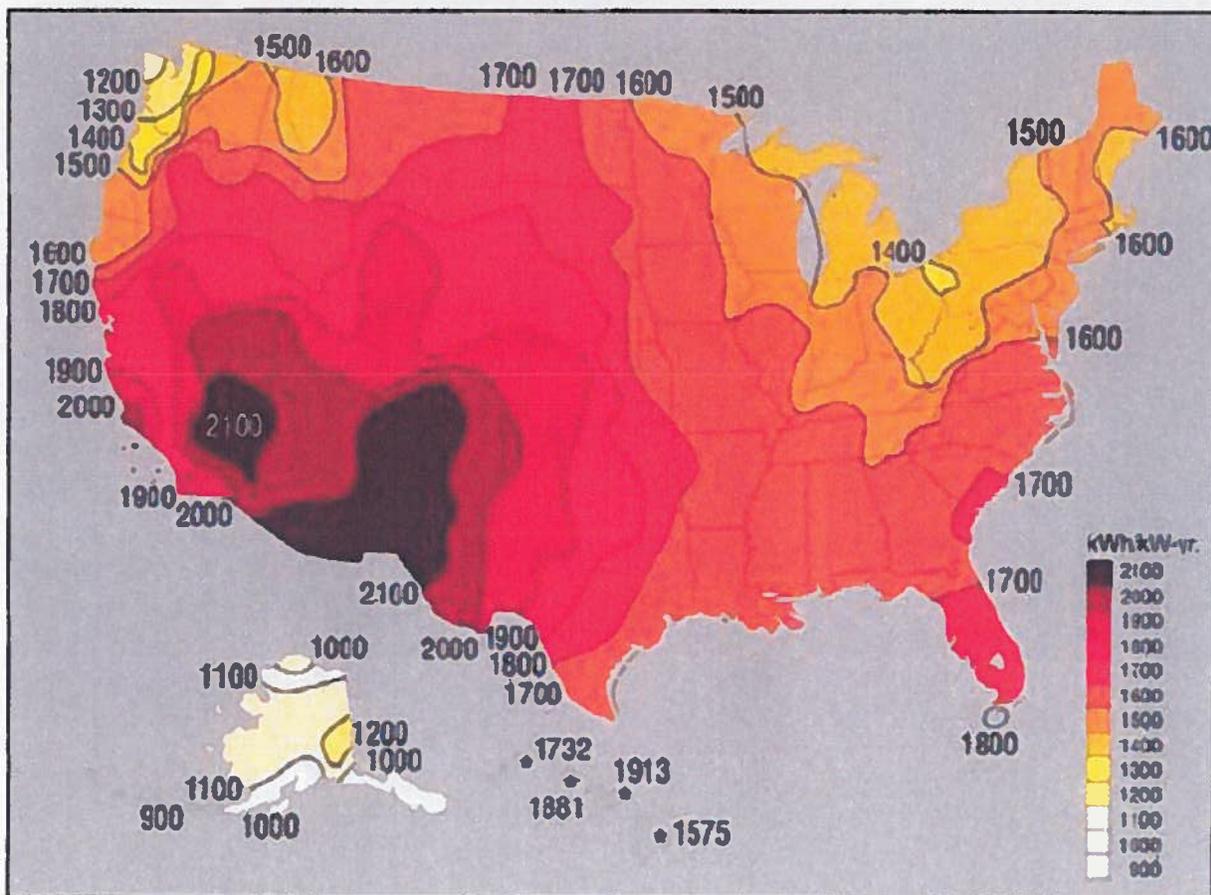
"I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that."

--Thomas Edison

Where's The Sunshine?

**The entire U.S. has sufficient solar exposure
for solar systems.**

Solar Energy Available in the US



Germany has significantly less solar exposure than the U.S. Northeast,



but significantly more solar systems and production.

Solar produced 40 percent of Germany's electricity demand this weekend

By Peter Bennett

28 May 2012, 16:44

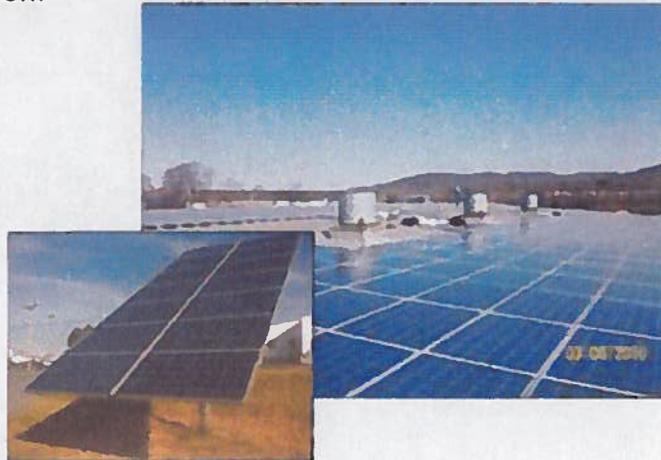
Updated: 30 May 2012, 11:40

After the disaster at Fukushima, Germany vowed to never install a new nuclear station again, immediately decommissioning eight plants. Instead it would turn to renewables to generate the energy required to run the country. Thanks to the early summer weather experienced over the weekend, Germany's solar power plants generated a record 22GW of power per hour at noon on both Friday and Saturday. In fact on Saturday, solar power in Germany provided almost 40 percent of the total power demand in the country. The 22GW figure, reported by the Head of Germany's renewable energy agency, Norbert Allnoch, accounts for almost half of national electricity demand and is equivalent to the power output of 20 nuclear power plants.

RER is helping to solve the region's energy problems by accelerating the adoption of renewable energy. Our team is committed to excellence in every aspect of solar project development and installation.

Reading Electric
Electromechanical Contractor
System Size: 144.9 kW

- Ground & Roof
- Yingli 230W modules
- Satcon Inverter
- S-51 Clips and PV Kit racking



Misco Products
Product Branding Company
System Size: 300 kW

- Yingli 230 W modules
- SMA Inverters
- S-51 Clips and Sunlink racking

Silberline Manufacturing Company
Global supplier of pigments for coatings,
paints, inks, plastics and textiles
System Size: 200 kW

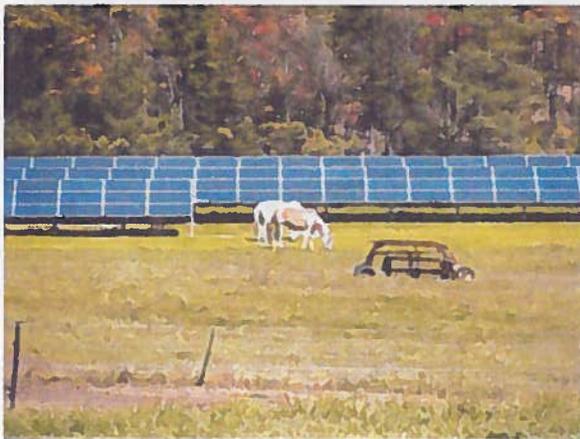
- Yingli 230 W modules
- Solectria Inverters
- S51 Clamps and PV Mount & Sunlink racking



New Age Industries
Manufacturer & Fabricator of Flexible
Plastic Tubing

Systems Size: 1,000 kW

- SolarWorld 245 W modules
- Solaron Inverters
- Sunlink ballasted racking
- 6th largest PV installation in PA.



Sikorsky Cement Products
Cement Products

Systems Size: 53.82 kW

- Yingli 230 W modules
- SMA Inverters
- DPW Pole Mount racking

Adelphi Kitchens & Cabinetry

Cabinet Manufacturing

System Size: 279.9 kW

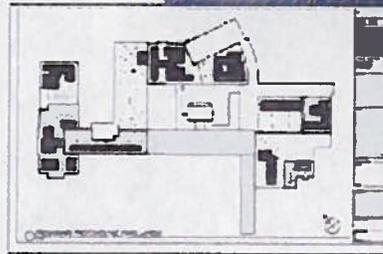
- Yingli 230 W modules
- Satcon Inverter
- Sunlink Ballasted racking



Phoenixville High School
Public School

Systems Size: 252 kW

- Kyocera 215 W modules
- Satcon Inverter
- Panel Claw ballasted racking



Lloyd Kurtz Farm
Dairy Farm

Systems Size: 47 kW

- Yingli 230 W modules
- SMA Inverter
- UniRac SolarMount racking

Tyson Motors

Electric Motor Repair

System Size: 25.38 kW

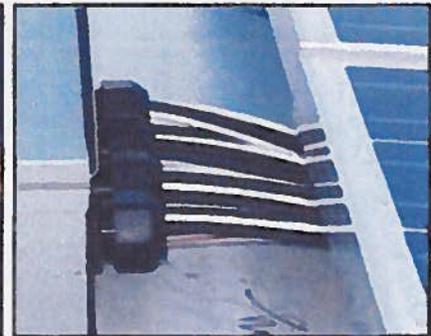
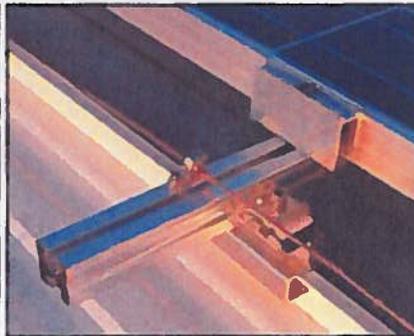
- Yingli 235 W modules
- SMA Inverters
- DPW Solar Pole Mount racking





Aerzen USA Corporation
USA HQ for German-based Blower &
Compressor Manufacturer
System Size: 205.8 kW

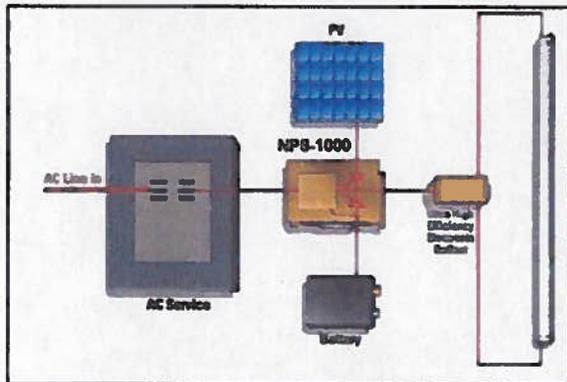
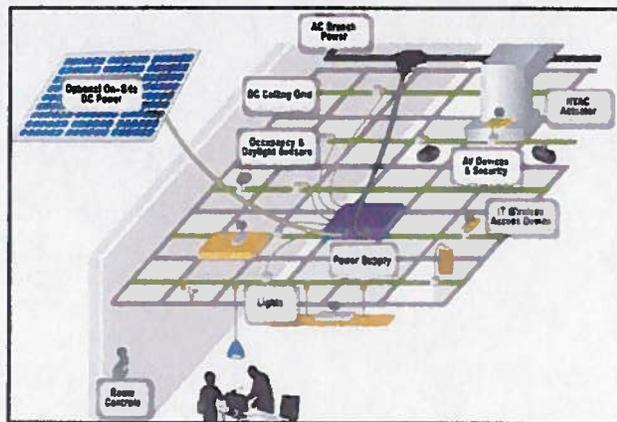
- Hanwha 245 W modules
- Timeline for installation 4 weeks
- Employee & Management Participation in RER Owned PPA



RER Energy Group is leading the integration of solar for the Pennsylvania State University Emerge Alliance 24 VDC Occupied Space and Micro-Grid Project. This project is adopting the standards set by the Emerge Alliance to utilize the energy savings and flexibility advantages of DC direct power systems. These systems avoid the inefficient and expensive conversion of energy from DC to AC when DC power supply sources are available and DC power is utilized by the end electrical devices, while at the same time integrating battery backup, AC grid or other sources for uninterrupted power supply when needed.

Industry Collaborators

- RER Energy Group
- Penn State University
- Emerge Alliance
- Armstrong World Industries
- Nextek Power Systems
- TE Connectivity
- East Penn Manufacturing
- Canadian Solar
- Cooper Lighting Systems

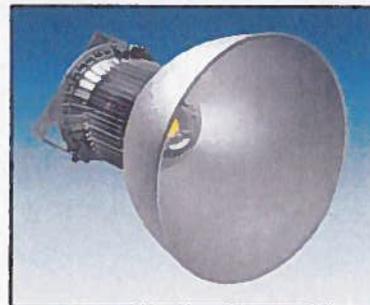


DC Micro-Grid Benefits

- Clean, Efficient and Less Expensive Power
- Highly efficient peak load management
- Easy conversion of AC grid power into DC power
- Easy conversion of AC lighting to DC-powered
- Highly efficient peak load management
- Complete continuity of supply through the seamless integration of rechargeable batteries
- Complete continuity of alternative energy sources such as PV, micro turbines and fuel cells
- Independence from Utility grid failure

DC Micro-Grid Cost Savings & Applications

- Up to 30% more efficient than most AC systems
- 20% more efficient than best AC systems for data centers
- Interior & Exterior Lighting
- Signage & HVAC
- Electric Vehicle Charging Stations





Thank you for the opportunity to propose a solar electric system. If you have any questions, or would like to discuss this proposal in greater detail, please contact:

Jim Kurtz
President
917-304-0762
jkurtz@rerenergygroup.com

Christopher Flynn
Vice President, Finance
570-575-2458
cflynn@rerenergygroup.com

Chris Dellinger
Renewable Energy Project Developer
240-469-5771
cdellinger@rerenergygroup.com

www.rerenergygroup.com



IM72+ Photovoltaic Modules

IM72+ Series Photovoltaic Modules

Peak Power: 300-310Wp

Features

- 72 MOTECH multicrystalline solar cells connected in series
- Positive power tolerance of 0 to 4.99 Watts improves system performance
- Industry-leading module efficiency: maximum efficiency of 16.9%
- For grid-tied applications
- Designed for 600V or 1000V systems
- Tested up to 5400Pa for maximum load resistance
- Progressive Power Warranty guarantees 80.7% of rated power at 25 years
- Manufactured globally with world-class quality standards

Quality, Reliability, and kWh Yield

MOTECH modules are powered by industry acknowledged high performance, reliable MOTECH silicon cells. 20 years of experience in solar module engineering and design, along with rigorous durability and performance tests, ensure reliable lifetime performance and maximum kWh yield.

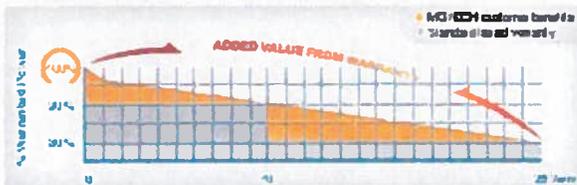
American Recovery and Reinvestment Act



Modules manufactured at our Newark, Delaware facility qualify for projects that are required to meet the "Buy American" clause of the American Recovery and Reinvestment Act (ARRA).

25-Year Progressive Warranty*

- 25-year progressive power warranty
- 10-year warranty on materials and workmanship



POWERED BY
MOTECH
SOLAR CELLS



Certifications & Standards*

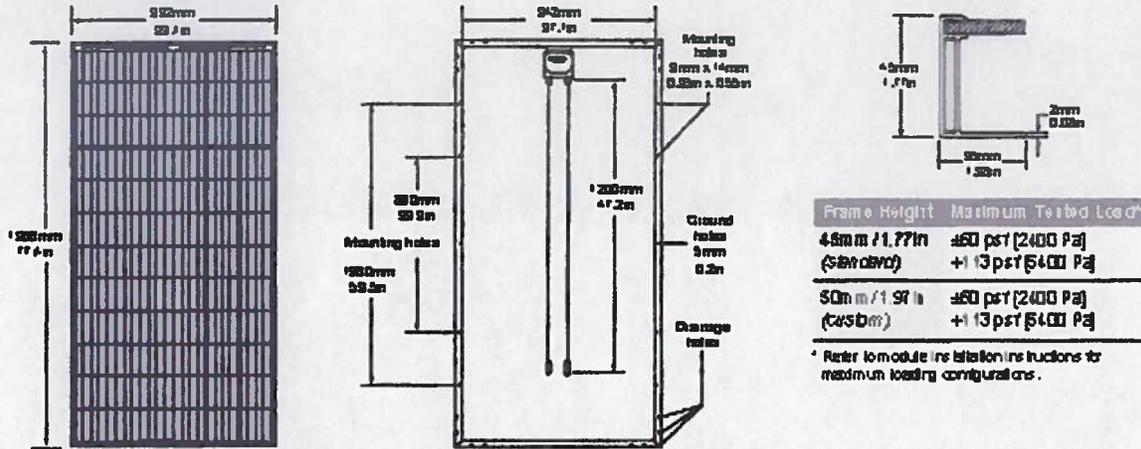


Application Class A
Safety Class 1

Intertek
ECC 12-9
ECC 1120

Intertek
UL 1709

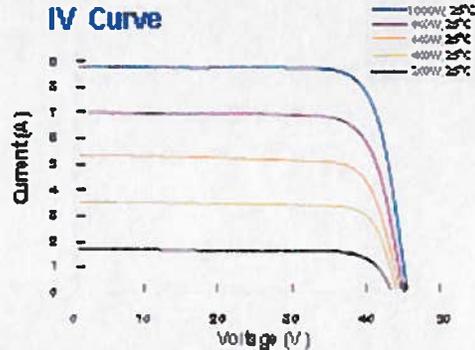
Physical Characteristics



Physical Design Properties

Weight	59.3 lb (26.9 kg)
Glass	4.0mm low iron, extra clear, tempered, anti-reflective coated PV glass
Hailstone Impact Resistance	1" @ 50 mph (25 mm @ 80 kph)
Junction Box	IP65 rated, UL 600V/IEC 1000V Certified** **UL 600V Class 2 options available
Output Cables	4.0mm ² Unshielded PV Wire, 1200mm (47.2in), MC4 Compatible Connectors

IV Curve



Electrical Performance

Module Model Number	IM72CS-300-Y12 E45	IM72CS-305-Y12 E45	IM72CS-310-Y12 E45
Peak Power Pmax (Wp)	300	305	310
Efficiency (%)	15.4%	15.6%	15.9%
Test Conditions			
	STC	NOCT	STC
Max. Power Voltage Vmpp (V)	37.25	33.78	37.30
Max. Power Current Imp (A)	8.05	6.47	8.31
Open Circuit Voltage Voc (V)	45.22	41.54	45.22
Short Circuit Current Isc (A)	8.63	7.00	8.30

Electrical Performance Parameters

Isc Temperature Coefficient	α (%/°C)	+0.07 ±0.02	Max. Series Fuse	15A
Voc Temperature Coefficient	β (%/°C)	-0.34 ±0.01	Max. System Voltage	600V, 1000V
Pmax Temperature Coefficient	γ (%/°C)	-0.46 ±0.02	Normal Operating Cell Temp. (NOCT)	45°C ±2°C
Efficiency Reduction at 200W/m ² , 25°C		<5%	Limiting Reverse Current (Ir)	8.5A

IV parameters are given in Standard Test Conditions (irradiance of 1000 W/m², AM1.5, cell temperature 25°C). All measurements are guaranteed to be within the NOCT ±2°C standard at 200 W/m², 20°C ambient, and may vary from typical values as a function of irradiance and temperature. Module efficiency is given as a typical value and is not a guarantee.

IM72CS1742 Rev B Aug 2012

MO TECH AMERICAS LLC a Division of MO TECH Industries, Inc.

751 Lake Drive Newark, Delaware 19702 USA
 Tel: 1-302-814-1300
 Email: module@mo-techamericas.com

www.mo-techsolar.com

AE ADVANCED ENERGY

AE 333NX

(Formerly known as Solaron 333)

Reliable inverter solution with higher efficiency for large commercial and utility-scale projects

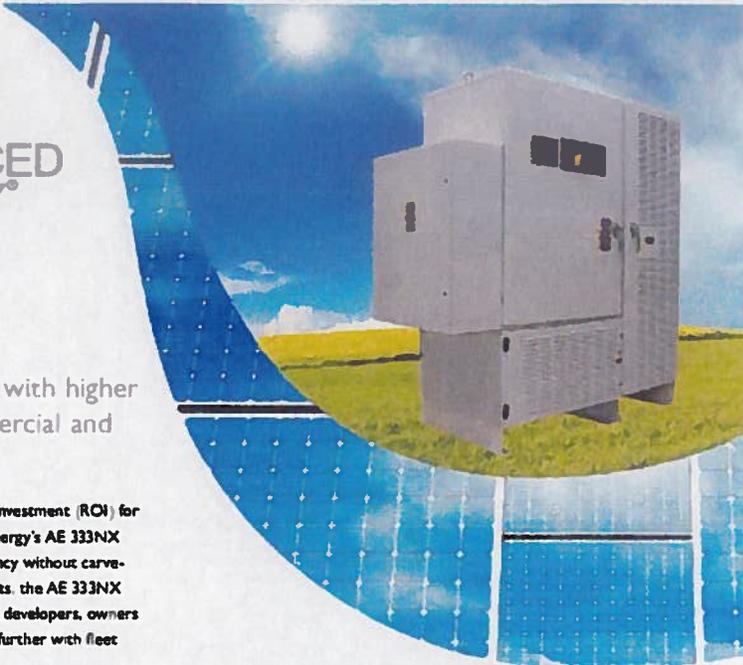
Achieve higher, faster PV system return on investment (ROI) for large commercial projects with Advanced Energy's AE 333NX inverter. With a true 97.5% weighted efficiency without carve-outs for auxiliary power or other adjustments, the AE 333NX generates more power and value for project developers, owners and financiers. Energy harvest is maximized further with fleet availability in excess of 99%.

Eliminate the need for enclosures even in harsh environments with its robust, outdoor ready design that reduces upfront balance of system (BoS) costs. Plus, being the lightest inverter per kW as well as having the smallest footprint per kW means the AE 333NX is simple to maneuver and put in place ensuring your project stays on schedule. The stable, high-voltage, transformerless engine allows several units to be connected in parallel to a single medium-voltage transformer reducing the upfront balance of system (BoS) costs and improving LCOE. No step-up transformer and fewer medium-voltage transformers are required when you select AE inverters.

AE's product development process ensures the Service and Reliability departments are involved to simplify ongoing operations and maintenance (O&M). The AE 333NX design is used in a variety of environments from the high desert mountains to the Pacific tropics. It runs reliably day in and day out with a NEMA 3R construction and a completely sealed electronics cabinet, that is continuously cooled by a self-contained, liquid-to-air system.

SCADA connectivity, collecting and storing a wide range of inverter real-time data, and connecting to many third-party data services is achieved with the integrated data monitoring solution included at no additional charge.

AE Solar Energy is a US based company.



The AE 333NX is backed with a complete 5-year warranty so there are no surprises during the warranty period. An extended 20-year warranty is available as an option. The AE warranty options provide peace of mind and are backed by the best service and support team in the business.

Lower Operational LCOE

- Increased energy harvest with 97.5% weighted efficiency
- Increased availability with >99% monitored fleet availability
- Legendary service and response

Reduce BoS Component of LCOE

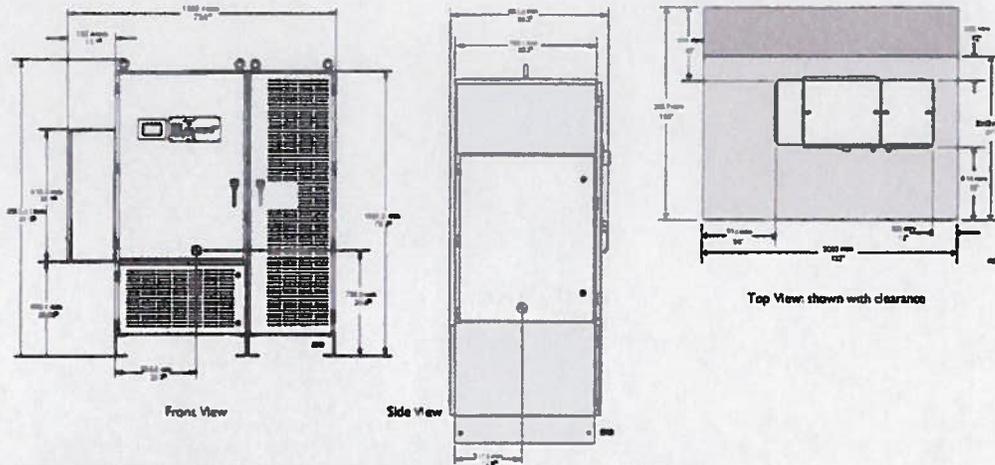
- Lightest weight per kW reduces shipping costs to the site
- Smallest footprint per kW reduces site preparation costs
- Parallel connections to a single, medium-voltage transformer

Minimize Ongoing O&M Component of LCOE

- Robust, outdoor-ready construction
- Simplify site maintenance with SiteGuard[®] (available option)

Take Control and Support the Grid

- Integrated data monitoring solution transmits inverter data for secure collection
- Integrated data monitoring solution receives and acts upon a host of utility level commands



AE 333NX Summary Specifications*

Weight	2045 lb (927.5 kg) unit weight, 2304 lb (1063.2 kg) shipping weight
Construction	Outdoor-ready cabinet design with electrostatically applied paint
Environmental Rating	NEMA 1R with sealed electronics cabinet
DC Input Power Connectors	Compression type terminal block with up to (4) 500 MCM wires (Cu or Al)
AC Output Power Connectors	Compression type terminal block with up to (2) 500 MCM wires (Cu or Al)
User Interface	Front panel LCD, keypad, and shut-down button, and web interface
Electrical	
Array Configuration	Separable dual arrays with 600 VDC strings
Maximum Operating Input Current	500 ADC Imp maximum, self-limiting in operation
MPPT Voltage Range	± 600 Vac maximum, ± 330 to ± 550 Vmp
Open Circuit Tm On Voltage	± 425 VDC default
Continuous Output Power	333 kW at 480 VAC
Operating Voltage Range	480 VAC ± 10%
Electrical Service Compatibility	3 phase, 3 wire, grounded Wye connection
Maximum Continuous Current	445 Arms (field adjustable)
Nominal Frequency	60 Hz
Total Harmonic Distortion	< 5% at 333 kW, 480 VAC
Peak Efficiency	98.3% (includes brown power such as all standby, controls, and housekeeping losses)
Weighted Efficiency	97.5% (CEC method)
Standby Losses	< 100 W
Inverter Controls and Monitoring	
Active Power Range	333 kW to 1 kW, remotely adjustable set points at 1kW increments
Communication Interfaces and Protocols	RS-232, RS-422, and RS-485, Ethernet, PCMCIA expansion slot
Inverter Monitoring Options	Modbus/TCP and Modbus/RTU
DCM Storage	Integrated inverter data monitoring solution, compatible with third-party services
DCM Storage	10 years at 1 minute intervals with SD card
Environmental	
Operating Ambient Temp Range	-4 °F to 122 °F (-20 °C to 50 °C)
Standby / Storage Temp. Range	-22 °F to 158 °F (-30 °C to 70 °C)
Cooling	Self-contained, closed-loop, liquid to air
Relative Humidity	0% to 95% non-condensing
Elevation	6562' (2000 m) maximum
Approval	
Agency Approvals / Regulatory Compliance	NRTL certified to UL 1741-2010 by CSA International IEEE 519, 929, 1547/1547.1 NEC Article 690 (compatible)

Subject to change without notice. Refer to user manual for detailed specification.

*Note: Not all performance window specifications can be achieved simultaneously. Performance varies per site. Consult your AE sales or service representatives for specific PV system design questions at sales.support@ael.com.

Options

- 2, 3 or 4-unit PowerStation
- Remote PV Tie
- 20-year extended warranty
- Inverter installation verification
- SafeGuard™ PM program
- SafeGuard Plus™ availability program
- SiteGuard O&M services



FS System™ Product Sheet



FS System

Features and Benefits

- ETL Listed
- High level of pre-assembled parts
- Proven extremely short installation time
- High quality and sustainable materials
- Easily accessible for ground and system maintenance
- Included certified engineering by professional engineer licensed in the location of the project
- Included soil tests and pull out tests on systems larger than 250 kW
- Options for in field adjustment, if needed

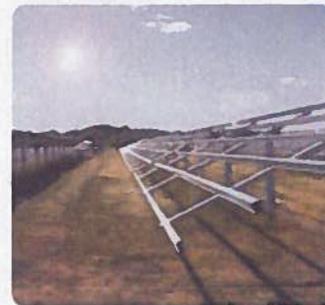


The Schletter FS Racking System has a proven worldwide product and installation history, with over 6 GW of ground mounted installations installed throughout the world with many FS installations ranking among the largest globally. Project specific system calculations and optimized material utilization address the ever increasing pressure to reduce costs in planning PV systems, taking into account balance of system (BoS). Complete structural calculations are provided for system design, while assuring compliance with current building codes and regulations.

With this established history and experience in ground mounted PV installations, the latest generation of the FS System offers a culmination of experience and the highest level of in-house pre-fabrication to date, while always maintaining the focus of making the overall cost of a PV system more competitive. **The result is an attractive system installed quickly, efficiently, and with the durability to last.**

Schletter stands behind the quality, durability and functionality of its products and services its customers with professionalism. Because of our commitment to customer satisfaction, all Schletter systems have a voluntary 10-year warranty.

For more information, please visit www.schletter.us or call (520) 289-8700.



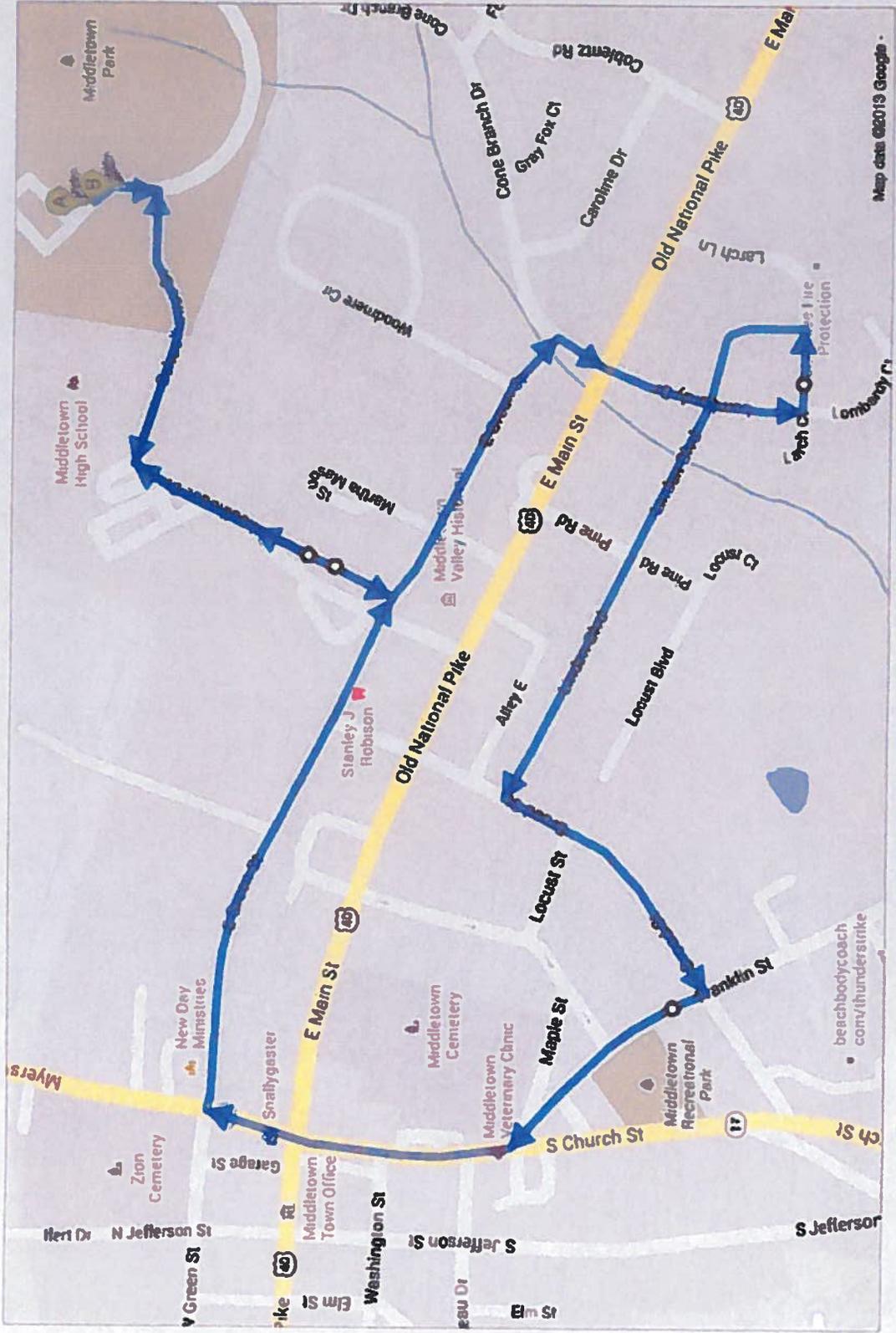


Technical Data

Material	<ul style="list-style-type: none"> Fastening elements, bolts: Stainless steel 304 and 316 Profiles (rails): Aluminum alloy 6105 T5 High life-expectancy, high residual value, no disposal costs Pile driven support posts: Steel, hot-dip galvanized with a G235 process <ul style="list-style-type: none"> Easy plant re-powering due to modular design
Logistics	<ul style="list-style-type: none"> Quick and simple mounting Maximum level of prefabrication prior to shipment
Construction	<ul style="list-style-type: none"> Can be installed on uneven terrain Simple adjustment options Cost optimized configurations for framed and unframed modules
Accessories	<ul style="list-style-type: none"> Cable channels, cable ducts Components for potential equalization/grounding Clamps for every type of module Fastening systems for large laminate modules (OptiBond system)
Calculations	<ul style="list-style-type: none"> 100% code compliant designs for any locality Third-party structural PE, stamped drawings and calculations Individual system structural calculations based on geotechnical report Individual system design calculations based on regional load values Design loads according to IBC 2006 or 2009 Patented profile geometries with optimum material utilization Verification of all construction components based on FEM-calculation Earthquake simulation, optional
Available Third-Party Services	<ul style="list-style-type: none"> Geotechnical soil investigation and analysis Ramming of foundations Optional: rack mounting Optional: complete module mounting EPC services PPA formation 
Terrain maintenance	<ul style="list-style-type: none"> Simple terrain maintenance due to single support <ul style="list-style-type: none"> Specification of module height above ground possible
Grounding, Potential equalization	<ul style="list-style-type: none"> Grounding options available Components for the internal potential equalization
Warranty and Certifications	<ul style="list-style-type: none"> 10-year warranty, optional 20-years

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