



Aug 4, 2020

Daniel Chambers,

On behalf of GRNE Solar, I want to thank you for the opportunity to submit a proposal for an On Site Solar Energy Generation Solution for Shape Master Tool. GRNE is headquartered in Illinois and we are proud of our Illinois / Midwest roots. We like to take care of "our people" and we take this opportunity to heart.

Solar is an interesting proposition. Solar itself is a fairly simple concept. However, the process of getting solar is not as simple as people think. I have found that the more we can educate our clients and potential clients about the process in the beginning, the better the experience for everyone involved. GRNE Solar's education process is based on honesty and transparency with all aspects of the proposal, the pricing, and the process. We do our best to get people like your self in a position to make the best decision about solar.

The proposal that we have put together for you gives you a comprehensive view of the solar process and gives you insight into what the process will be like if you choose GRNE Solar to be your solar vendor / partner. The effort and time we put into our proposals is an example of the commitment that GRNE makes to our clients from the beginning to the end.

I look forward to any additional questions that you may have about solar energy, the solar process, and GRNE.

Thank you for your interest in GRNE Solar.

Eric Gronwick





SOLAR ENERGY PROPOSAL  
**SHAPE-MASTER TOOL COMPANY**

AUGUST 4, 2020

# PROPOSAL OUTLINE

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- Executive Summary
- How Solar Works
- Why Solar
- Why Solar Now
- Why GRNE Solar
- Company Qualifications
- Commercial Project Team
- Featured Projects
- Your Customized Solar Solution
- Equipment Specifications
- System Care
- Timing Considerations
- Future Expansion
- Marketing and Public Relations
- Your GRNE Solar Team



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# EXECUTIVE SUMMARY

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On behalf of GRNE Solar, thank you for the opportunity to respond to your inquiry into an on site solar energy system.

Throughout our eight years of service and over 6 gWh of power generated, we have become leaders in the solar industry. Our mission and vision for the company is to align with the pathway that our clients are playing a role in. We are deeply dedicated to our customers and are relentless in ensuring satisfaction on each project. We have even taken it upon ourselves to educate communities by hosting numerous Solar Educational Sessions for communities and private inspector training facilities.

We are excited about the opportunity to work together because we have the experience to deliver renewable energy solutions that will demonstrate innovation, creativity, and leadership with environmental conscientiousness and fiscal responsibility. GRNE Solar has assisted clients in developing solutions that reduce utility costs and tackle sustainability initiatives.

Contained in this proposal packet is GRNE Solar's offer for the deployment of solar energy. We are grateful for your consideration and look forward to working together.

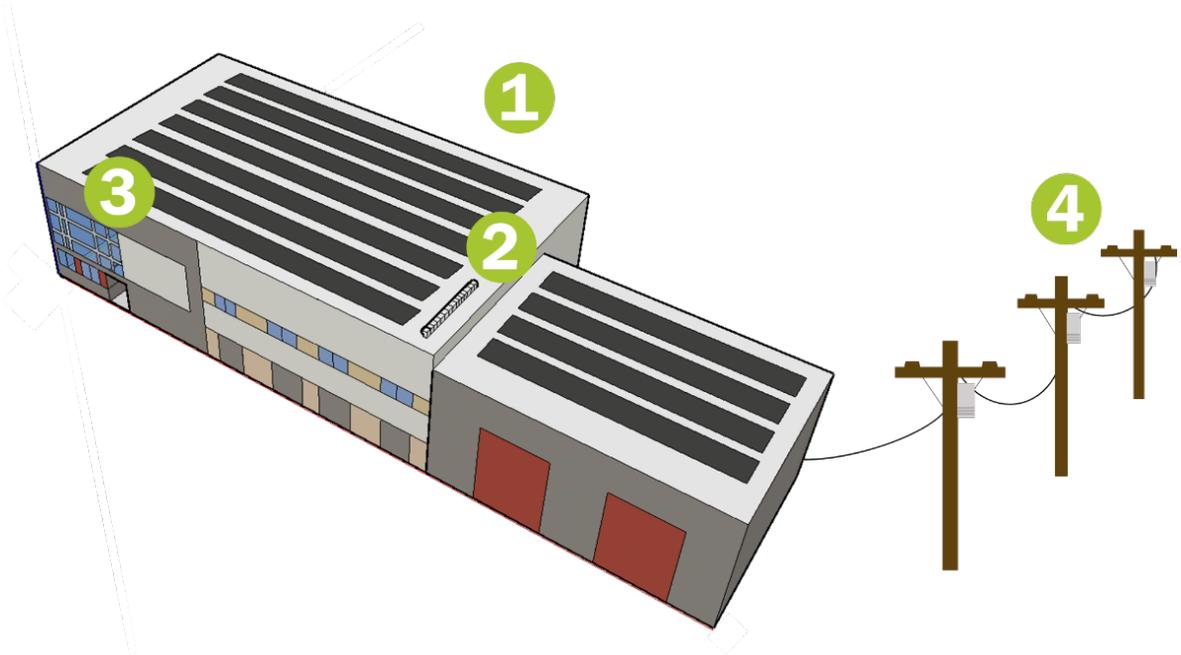
Best Regards,

Eric Peterman, CEO  
GRNE Solar



# HOW SOLAR WORKS

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1. Solar panels convert sunlight to direct current (DC).
2. The inverter converts DC electricity to alternating current (AC), which is usable power for your organization.
3. The electricity produced from your solar array is used directly for your organization.
4. Any electricity produced that is not used (overproduction) is sent to the grid and credited to you (net-metering).

# WHY SOLAR

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## Rising Energy Costs

- It is a well-known fact that energy costs have been on the rise for decades. More recently, the rising cost of electricity has been in the form of increased "Delivery" or "Demand" charges. When we analyze our client's electric bill as part of our due diligence, these delivery and demand charges can account for as much as 50% of the total cost of electricity.
- According to the U.S. Bureau of Labor and Statistics, electricity experienced an average inflation rate of 2.7% per year over the past 20 years (2000 to present). As a result, the cost of electricity has significantly outpaced overall inflation during the same period of time.
- According to MREA (Midwest Renewable Energy Association) and NREL (National Renewable Energy Labs), electrical costs will continue to rise and suggest an inflation rate of 2% to 5%.

## Environmental Factors

- The United States is one of the world's largest (per capita) electricity consumers. (source World Bank). From 1950 to present, the United States' annual electricity consumption has increased more than 10-fold and consumption is expected to continue to increase in the next decades.
- The #1 action we can take as a nation, and as individuals, to positively effect the health of our environment is to consume less energy, including electricity. Some of the top ways to accomplish this is by replacing older less efficient products with newer more efficient products such as automobiles, appliances, windows, etc.
- Along the same thought process, solar is a powerful way to reduce our carbon footprint by consuming less electricity produced from the traditional methods.

## Renewable Energy Goals and Mandates

- Increasingly there are self imposed goals and government mandates that call for a large percentage of the energy that is generated and or consumed to be from a renewable energy source. Most of the organizations that we meet with are impacted by these goals and mandates which can be significant and are usually in the 50 to 100 percent range. On-site solar energy generation is one of the best options to accomplish these initiatives.



# WHY SOLAR NOW

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## The Environment

Whether or not Global Warming is a "real" problem has been and will continue to be debated. Regardless of your thoughts on Global Warming, I think we can all agree that we would all benefit from making healthier choices - personal health choices and environmental health choices.

As mentioned earlier, the United States is one of the world's largest electricity consumers. One of the best ways that we as individuals can positively effect the health of our environment is to consume less energy produced from traditional methods (fossil fuels). Solar is a great tool for us to positively effect our "health". Why put off until tomorrow what you can do today!

## The Incentives

The solar incentives that are available are limited. They are limited with respect to the time that they are going to be available and they are also limited with respect to the amounts that are available.

Currently, you can expect to earn back 65% to 85% of the total cost of the system with solar incentives. If you would have purchased solar last year (2019), you could have earned back roughly 70% to 90% of the total cost of the system. If you wait until next year (2021), the incentives will decrease again to where you will earn back 60% to 80% of the total cost of the system.

If you are serious about solar energy, whether for environmental reasons and or for financial reasons, do not wait any longer. The benefits will not be this great ever again.

*\* We offer no money down payment options that will save you money and save the environment!*



# WHY GRNE SOLAR

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GRNE Solar is set apart from our competition. GRNE was recently named the #1 commercial and the #1 residential solar installer in Illinois. To grab the top spot in either category would be a great accomplishment, let alone both categories. GRNE has been around longer than any of our Illinois competitors. These accomplishments are the results of our past work and performance and they are in indication of what is in store for our future. However, I do not think that these are the best reasons why someone should choose GRNE Solar as their solar vendor / partner.

Making the decision to solarize your business is a big decision and not one that should be taken lightly. However, choosing your solar vendor / partner is even more important. I always emphasize to my clients and potential clients that choosing your solar partner is a 30 year decision. This is because the life expectancy of a solar energy system is 30 years.

With this in mind, it is important that your solar partner has a similar mindset and a plan to back it up. GRNE Solar is the “before, during and after” solar company. We not only serve our clients and our communities during the solar transaction, but before hand with education and after with service. As part of our solar agreements, we manage the solar incentive process for you (a 15 year term) as well as the warranty process (a 25 year term).

Similarly, when you choose your solar partner it is a good idea to understand who you will be working with during the 30 years. GRNE Solar is set apart from other solar companies because we are fully and vertically integrated. These are business terms to say that when you hire GRNE Solar, you will be working with GRNE Solar. GRNE will not only be selling you your solar energy system, we will be designing your system, acquiring all of the necessary approvals for your system (utility approval, permit approval, solar incentive approval), installing your system, managing your solar incentives, servicing your system as needed, and expanding your solar system in the future (additional energy production, electric vehicle chargers, solar battery storage).

Our goal is to provide all of our clients with a great solar experience from the beginning to the end.

# COMPANY QUALIFICATIONS

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GRNE Solutions LLC dba GRNE Solar was founded in 2012 and has proliferated since inception. Our Midwestern roots run deep as we are headquartered in Palatine, Illinois and have expanded to Elk Grove Village, Illinois; Indiana, Iowa, and Nebraska, which allows us to provide solar solutions for the entire Midwest. Collectively, we have over three decades of green construction, and renewable energy experience along with executive leaders to handle sourcing and financial matters.

With 50+ employees, GRNE Solar has the diversity and workforce necessary to navigate the fast-paced solar industry and take on projects of any size. Our staff is complete with licensed electricians, NABCEP certified installation professionals and associates, has completed rigorous OSHA training, and extensive experience in design engineering software. We work closely with our customers to ensure projects are completed to their unique satisfaction and community code requirements. We have proudly worked alongside communities to develop or refresh their solar code requirements and have developed curriculum for Building and Fire Code inspectors.

GRNE is well positioned to service the needs of our clients, as a core value of ours is customer service and operational excellence in providing design, installation, and service for commercial solar energy systems. We have put our expertise and thoughtful design layout into the proposal for you. In the following pages you will find our recommendations to maximize production while maintaining aesthetic appeal.

Operational expertise is achieved by training our staff and preparing them with the resources necessary to succeed in their respective roles. From office duties to installation crews, we are meticulous with the details and ensuring the project is completed the right way and promptly.

Throughout our eight years, we have developed a strong network of suppliers and streamlined processes that allow for reduced operational costs. We pass these reduced costs on to our customers and offer competitive pricing to ensure the best value to our customers. Our years of collaboration has garnered us an "extended team" in manufacturers, equipment, experienced staff, and community leadership that we must give credit to for assisting us. With our entire team, we have consistently demonstrated quick turnaround times and can meet the demands of the projects that come our way.





# COMMERCIAL TEAM

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## **Eric Peterman, CEO**, *NABCEP Certified PV Installation Professional*

Eric Peterman holds degrees of Industrial Engineering & Management Sciences and Economics from Northwestern University. Eric has a diverse business background which includes management consulting, business operations, as well as serving as an Executive Director for an educational nonprofit. Eric's background in strategic planning and process improvement helps to lead the GRNE Solar team to new successes every day.



## **Jess Baker, Principal**

Jess Baker has over a decade of successful experience in the construction industry. After graduating from the University of Nebraska with a degree in Business Administration Jess worked as a lead superintendent at a fabrication and design firm. In 2004, he started his own construction company and has built it into one of the premier home builders in Nebraska. Jess has been elected as a member of the board of directors of the Nebraska Green Build Council and is a Certified Green Builder as recognized by the National Home Builders Association. He is the mechanical brains behind GRNE Solar and has a strong passion for green energy initiatives.



## **Ed Howey, Director of Operations**, *NABCEP Certified PV Installation Associate*

Ed Howey holds a Bachelors of Fine Arts from Columbia College Chicago along with a specialized Solar PV Mastery certificate from Kaplan University. Ed has grown his position from installer to managing the day-to-day of the installation teams, permitting submissions, and overseeing design packets. Ed has found a way to merge his knack for creativity and organization through his position and is consistently finding new and innovative ways to get a project completed.



## **John Shaw, Commercial Site Lead and Project Manager**

John Shaw began his career in HVAC and construction in his home state of Nebraska. John has been in the solar industry and apart of the GRNE Solar team since 2012. Now an Illinois resident, John works on the installation of commercial solar projects throughout the Midwest. He has installed multiple megawatts of solar including ballasted and ground mounted systems. His knowledge of green-construction and carpentry provide John with the tools he needs to navigate each project and his teams as efficiently as possible.

# FEATURED PROJECTS



## NAPERVILLE PUBLIC WORKS

NAPERVILLE, ILLINOIS

System Size – 55.4 kW



## CITY, WATER, LIGHTS, AND POWER (CWLP)

Springfield, Illinois

System Size – 265 kW



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# FEATURED PROJECTS

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## **B-LINE HEIGHTS**

Bloomington, Indiana

System Size – 112.5 kW



## **SPRAYING SYSTEMS**

Glendale Heights, Illinois

System Size – 430.08 kW

# FEATURED PROJECTS

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## DURABLE PACKAGING INTERNATIONAL

Wheeling, Illinois

System Size – 2.3 MW



## TOYODA AMERICAS

Arlington Heights, Illinois

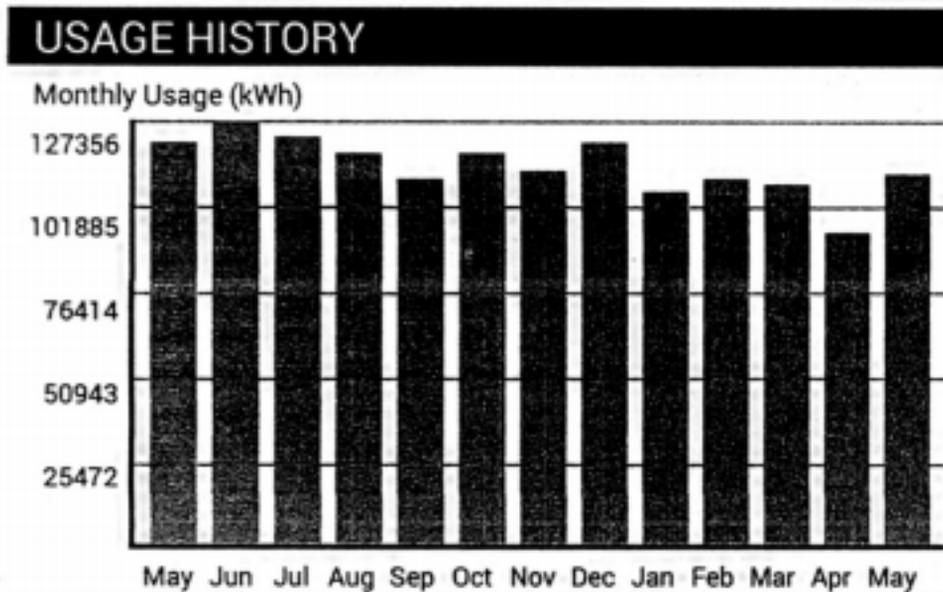
System Size – 1.4 MW



# YOUR CUSTOMIZED SOLAR SOLUTION

# PROJECT OVERVIEW

- Incorporate solar energy into the energy costs savings strategy
- Kirkland location has adequate land for a ground mount system
- Electric service and equipment TBD
- Electric usage calculated from 1 meter # 230043243
- Annual electric usage is 1,320,000 kWh (estimated)
- Avoidable electric supply cost is \$.06 per kWh (estimated)



May 13, 2020 to June 11, 2020

Fixed Price - 112,033.344 kWh Total @ \$0.0546/kWh

\$6,117.02

**Total Current Charges**

**\$9,464.26**

# PROJECT SOLUTION

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- On site solar energy system sized at 1050 kW (DC) or 1.05 MW
- 2625 solar modules / Talesun 400 watts
- Ground mount installation / 35 degree pitch / facing due south
- System will produce 1,401,477 kWh per year (106 % offset)



# PROJECT Financials

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Total Cost	2152500
Price per watt	2.05
System size (kW)	1050
Qty of modules	2625
Watts per module	400
Annual production (kWh)	1401447
Annual usage (kWh)	1320000
Annual Offset	106%

Total cost	2152500
Fed tax credit	559650
Solar credits	609654
Depreciation (179)	457406
Inverter Rebate	262500
Net cost	263290

Annual electric savings (avoidable costs)	84087
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Payback (years)	3.1
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- \* Federal tax credit is calculated at 26%
- \* SRECS (solar credits) are calculated at \$37.91
- \* Depreciation is calculated at 25% tax bracket
- \* Inverter rebate is calculated at \$250 per kW
- \* Avoidable electrical costs are calculated at \$.06/kwh

## OVER THE NEXT 30 YEARS

### WITHOUT SOLAR

- \* YOUR COST OF ELECTRIC SUPPLY WILL BE \$3,749,092

### WITHOUT SOLAR

- \* YOUR COST OF ELECTRIC SUPPLY WILL BE \$262,290
- \* YOUR SAVINGS OVER 30 YEARS WILL BE \$3,486.802

- \* assumes cost of electricity will continue to increase 2.7% per year

# SOLAR EQUIPMENT

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With the increase in solar adoption throughout the country, solar equipment and supplies are in high demand. Do to our high volume, GRNE has established a great relationship with national distributors as well as the manufacturer themselves and have a great track record of procuring all of the equipment to meet the needs of our clients. We purchase our equipment in bulk and pass along the savings to our clients.

GRNE only uses the best solar equipment for our solar projects and clients. We keep a close eye on the Bloomberg Finance Tier 1 Solar Module Manufacturer list as the industry standard for quality solar modules and bankable products. We are committed to using quality components that are backed by the Bloomberg Finance Tier 1 manufacturer list that evaluates the strength and performance of BOTH the company and the product.

## **PV MODULE – TIER 1 SOLAR MODULE MANUFACTURER (25 year warranty)**

Typically there are about 10 Tier 1 solar modules included in the Bloomberg Finance Report. Because of our commitment to using the best solar equipment, we only use solar modules from this list of the top 10. Currently we have a strong relationship and track record with Talesun Solar, Hanwha Solar, and HT Solar to name a few.

## **INVERTERS - SMA AMERICA, CHINT CPS, SOLAR EDGE (12 year warranty)**

These 3 inverter manufacturers are industry leaders and provide GRNE with reliable equipment to run our solar energy systems. The inverter is the brains of the system so this is not the equipment to take chances with. These inverters are reliable, durable, and efficient - producing up to 98% yields of efficiency.

## **RACKING – IRONRIDGE (PITCHED ROOF) / ECOLIBRIUM (FLAT ROOF) / UNIRAC (GROUND MOUNT)**

Ironridge, Ecolibrium, and Unirac racking (mounting) systems are based in the U.S. and are the most trusted names in the solar industry. With extensive experience and installer feedback, these industry leaders have risen to the top of the market due to their reliability, durability, and streamlined designs.

# SYSTEM CARE AND MAINTENANCE

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As an industry leader, GRNE is always looking for ways to improve our products and services. This past year, GRNE has launched the first ever solar service division. To our knowledge, we are the first solar company in the Midwest to have a dedicated service division. This sets us apart from our competition and reinforces our dedication to being the “before, during, and after” solar company. This service will enable GRNE to maximize the positive impact that both existing and future solar energy systems will have on the environment and people’s lives.

Solar energy systems do not require a lot of maintenance and or upkeep. From time to time (like most things in life), problems arise and solar systems need to be serviced. Most of the issues that occur are technical in nature and can be resolved remotely through our remote monitoring and communication system.

In addition to being available to resolve problems with solar energy systems and equipment, GRNE can be retained to pro actively care for and maintain solar energy systems for our clients. The following are some of the specific services that we offer through our O & M agreements.

**REMOTE MONITORING SYSTEM (DAILY):** GRNE will install an internet-based data acquisition system (DAS). This system will allow GRNE Solar to monitor the system and identify low power remotely.

**ON-CALL SYSTEM SERVICE TECHNICIAN (AS NEEDED):** Throughout the systems’ operations, GRNE Solar will designate an on-call technician to monitor the system remotely, track changes, respond to power outages, and visit the system site to troubleshoot and resolve issues.

**SYSTEM INSPECTION (ANNUALLY):** On an annual basis, GRNE Solar will perform an intensive inspection of the system site which will include an inspection of solar modules, mounting system, inverters, electrical connections, and electrical panels,

# TIMING CONSIDERATION

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## Estimated Timeline

- 5 to 10 months from solar contract signing to solar energy production
- 1 month for due diligence (engineering, prep for Utility IA)
- 1-2 months for interconnection approval
- 1 month to secure SRECS (Solar Renewable Energy Credits)
- 1-2 months to secure permits and final authorizations
- 2-4 months for deployment and installation

## Incentives

- Safe Harbor Strategy – Commit to Solar in 2020 to secure tax incentives
- Act now to secure solar credit (SREC) funding



# FUTURE SOLAR CONSIDERATIONS

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As we have stated before, GRNE Solar is your “before, during, and after” solar company. When it comes to your future solar inquiries and needs, GRNE Solar will be here to assist you.

**Solar System Expansion:** In the future, you may need to expand your solar energy production at an existing location and or at a new location. GRNE Solar will be able to help you determine the best option to increase your solar energy production.

**EV Chargers:** Other future solar needs may include adding EV (electric vehicle) charging for your employees, clients, etc. As your trusted solar company, GRNE will be able to assist with this as well.

**Solar Storage:** One of the fastest growing areas of solar is solar storage (batteries). The industry is making a lot of advancements with solar storage and in the future you may want to add a solar battery to your system. Solar storage is an excellent solution to lower your electric “demand” costs as well as a solution for back up energy during power outages. Again, GRNE will be here to help you with this and any other solar needs that you have.



# GETTING THE WORD OUT

GRNE Solar offers collaboration in Marketing and Public Relations with larger projects as requested and where appropriate. We can partner with your organization to highlight the solar project initiatives, “before, during, and after”, from construction to completion. Together we would develop collaborative marketing efforts to reach objectives.

The determined objectives would influence the marketing plan, however strategies that have shown proven results with the audience of GRNE Solar include, but not limited to:

- Collaborative social media posts and a dedicated website space to introduce the projects and provide frequent updates including:
  - Interviews with leadership members, Board Members, and City Officials about the impact of the project as well as the organization
  - Photos and drone footage of construction
- Press releases distributed to editors throughout relevant media outlets
- Generate handouts or verbiage to include within a newsletter
- Invitation to the public to visit the site on specific dates and speak with the GRNE Solar team about the project
- Signage displayed with details and benefits of the project
- Upon energized, we can provide links to the system production and get it displayed for public view
- Host a ground-breaking or ribbon cutting ceremony. During these events, press and leadership would be invited to generate excitement around the project and its impact.





# YOUR GRNE SOLAR TEAM

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We appreciate the opportunity to collaborate with you and we look forward to serving you as a great partner on your solar energy project.

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*GRNE Solar – The before, during,  
and after solar company!*