

SIZING, SETUP  
AND SOLUTION  
DETAILS FOR

# SOLAR

POWERED  
CONSTRUCTION  
CAMERAS



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Each year, approximately 342 watts of solar energy falls on every square meter of Earth. Add it all up, and that's 44 quadrillion watts of electricity, billions times more than what the world currently uses.

It's an unfathomable amount of unharnessed power that has sparked growth for constructing environmentally-friendly buildings that utilize solar.

But solar power can be used long before a job's complete. Kickstarting a project with a solar powered construction camera can give

general contractors, developers and owners the opportunity to secure the site, monitor progress and document work at **any time — day or night.**

This guide explores what the construction industry needs to know to **take advantage of solar monitoring.**

## Fact vs Fiction: The Reality of Solar Power

According to the Solar Energy Industries Association, solar power is an economic engine **growing at an average of 25% annually**. While its popularity has increased, many misconceptions remain, especially around utilizing solar for digital tools or 24/7 documentation. The bottom line of solar is that it's more reliable, flexible and weather-resistant than many may think.

**FALSE:**  
**Solar power is too expensive.**

**Fact:** It's cheaper than ever to buy solar.

In 2024, commercial costs to deploy solar power declined by more than 12%, hitting historical lows for costs. Federal tax credits let businesses claim 30% of their solar system costs as a tax credit (until 2033). This has made solar more popular than ever, with commercial solar power outpacing electric-capacity production in 2023 for the first time in 80 years.

**FALSE:**  
**Solar power doesn't work at night.**

**Fact:** Solar-power can be used at any time.

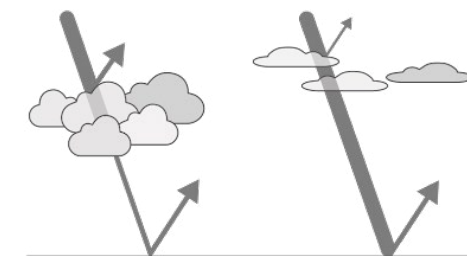
The key to solar is storage. Solar panels collect energy from the sun, and that energy must be stored. Solar systems connect to a rechargeable battery. It's the battery that actually provides the source of power. When you have a high-storage capacity, the energy harnessed in the day can then be used at any time.



**FALSE:**  
**The weather makes solar power unreliable.**

**Fact:** Solar power can still be generated on cloudy days.

Seasonal changes and the weather does impact solar power, but it's not as detrimental as you may think. Since solar panels include batteries to store electricity, your solar system can run without direct sunlight for various periods of time. Even cloudy days can still generate solar power, as not all clouds block the sun's rays. Higher clouds are thinner, allowing solar rays to shine through.



**FALSE:**  
**Solar power isn't worth it for monitoring short-term projects.**

**Fact:** Turnkey solar solutions make it as easy as plugging in a camera traditionally. Solar panels are a great solution for projects that need temporary power because they come pre-built, are portable and can be used again for different projects. Purchasing solar panels for cameras can be an investment that pays for itself over time.

**FALSE:**  
**Solar panels don't last long.**

**Fact:** Solar panels are designed to last for decades.

Photovoltaic cells, which are the rectangles you see on a panel, can harness power for decades. As energy storage capacities increase, panel lifetime will go beyond the current 25 year average. Since the panels are made from tempered glass, they have a higher-hardness rating and are resistant to cracks and scratches.

**"We use solar cameras to track progress, create marketing materials with the time-lapse and view the jobsite remotely."**

— **ICONICA**, full service commercial construction

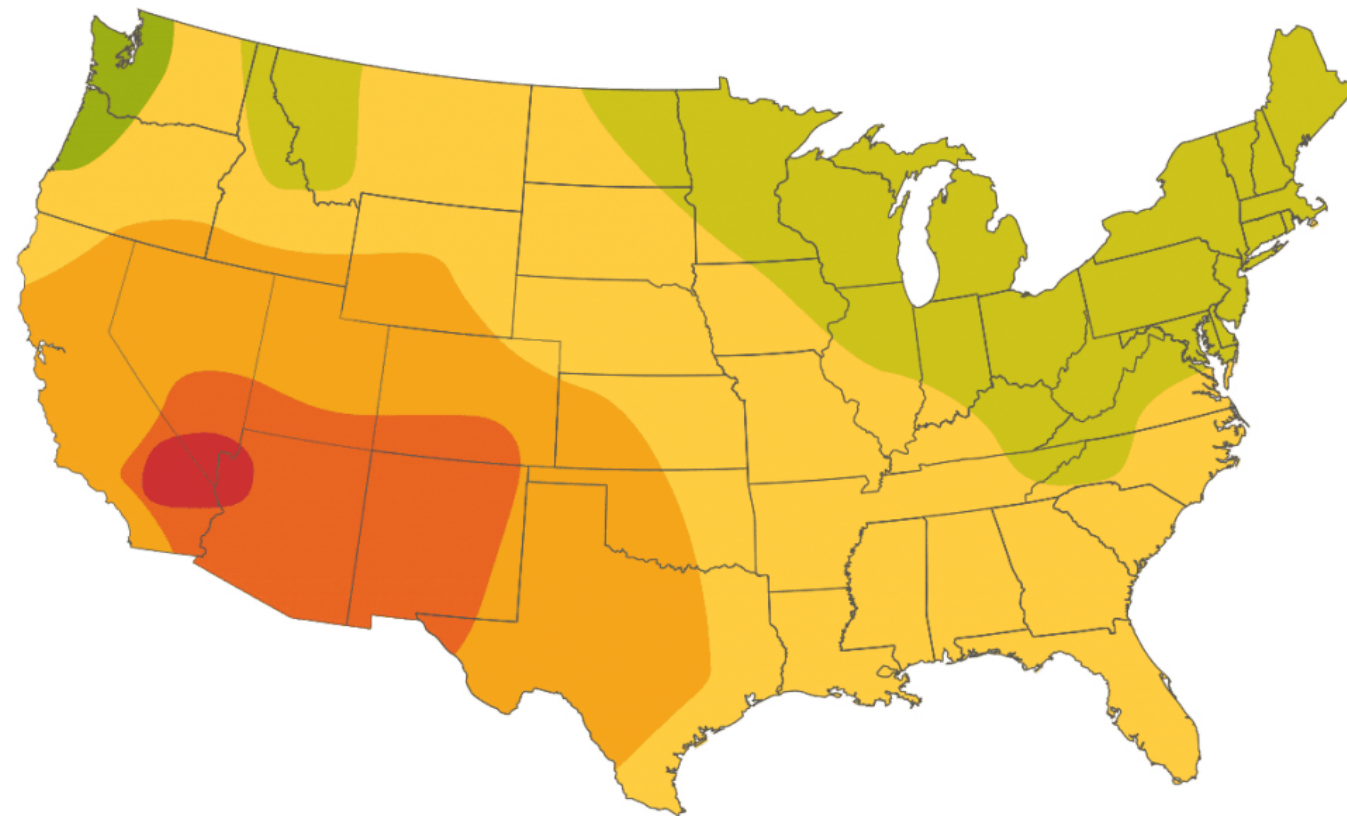
## Solar Wattage Calculator

There are two key components to understanding the best solar camera option for construction projects.

1. Location
2. Camera type

Solar can be used anywhere in the world, but does vary based on the location of a project. The Earth's shape and axis means that the sun rises progressively later from the east to the west, and daylight hours vary as a result.

**Location and peak sun hours are the biggest factors in determining panel size and wattage needed.** An area may get 8 hours of sunlight in a day, but that's not the same as "peak sun". Peak sun is based on the sun's intensity levels; which can determine what type of panel you need. One hour of peak sun can equate to 1,000 watts of solar energy. This often means smaller panels can be used as solar energy is generated at a faster rate in high-sun locations.



Peak Sun Hours



The second factor for calculating solar needs comes down to the type of camera used.

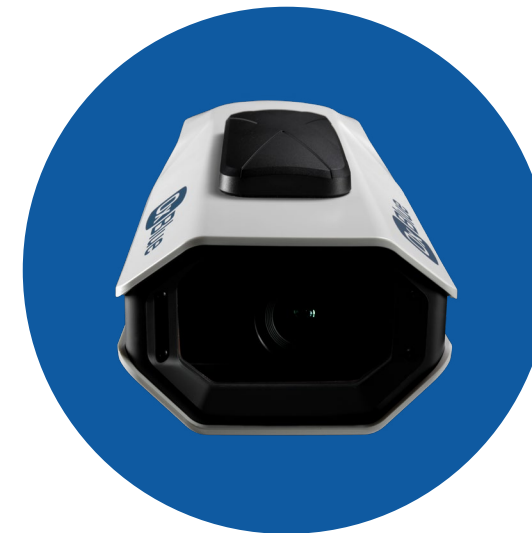
Solar-camera manufacturers offer different models with various levels of power consumption. OxBlue specifically offers highly energy-efficient construction cameras, including one of the world's most solar-efficient options.

Each camera has different levels of power consumption based on model and feature-usage. Because solar panels charge a battery that powers the camera, the solar panel also needs to capture enough energy to charge the battery completely in case of bad weather days.

This is where location meets use case: this calculation ultimately determines the panel sizes.

**“OxBlue was able to adjust our solar camera remotely during our critical shutdown period to increase image capture.”**

– Brasfield & Gorrie, full service construction company



**COBALT**  
HD camera with optional video on demand, artificial intelligence and time-lapse

Recommended Panel:  
MAX 60W Panel, any location  
- Helios  
- Stationary



**SAPPHIRE**  
Security video camera with optional threat deterrence equipment, live streaming

Recommended Panel:  
110W + - 400W+  
- Single Panel  
- Dual Panel Stationary  
- Trailer  
- Crank Mast

Power consumption may vary depending on feature-use.

## The World's Most Energy Efficient Solar Camera

Built to maximize energy-efficiency, Cobalt can operate on less than 1 watt of power without compromising performance — even when connected to solar-power.



## Cobalt: the Gold Standard for Solar Cameras

One of the world's most energy-efficient construction cameras is OxBlue's patented Cobalt Series. Unlike other time-lapse construction cameras, Cobalt includes a unique power-saving mode. When the feature is turned on, it utilizes less than 1 watt of power. Even when used at full power capacity for on demand video, **Cobalt uses less than 3 watts of power; significantly less than a lightbulb.**

Cobalt is the ideal solar camera solution, with built-in environmental controls that make it suitable for any climate. The award-winning camera offers the highest resolutions at an unbeatable level of energy-efficiency.



### Compatible Solar Stations:



Helios



Single Panel Station



Double Panel Station



Trailer Mounted Station



30' Telescopic Crank Mast

## Sapphire: Live video surveillance & security

Access your Sapphire camera on any device, from anywhere. Through OxBlue's web portal you can zoom in optically during live video streams. Get smart security features and real-time alerts. Motion detection is automatically included in every Sapphire camera, and focuses on true threats — filtering out bugs, birds, and distant traffic.

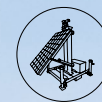


## PTZ Video Cameras

With our PTZ cameras, you can control the camera remotely. Take photos of 4 different camera angles every 10 min. for expansive panoramic images and time-lapses that cover a wide view.



Double Panel Station



Trailer Mounted Station



30' Telescopic Crank Mast



## Static Jobsite Video

Static models can use infrared illumination for heightened night-time visibility. These bullet shaped cameras also includes an optical zoom for live video.



Single Panel Station



Double Panel Station



Trailer Mounted Station



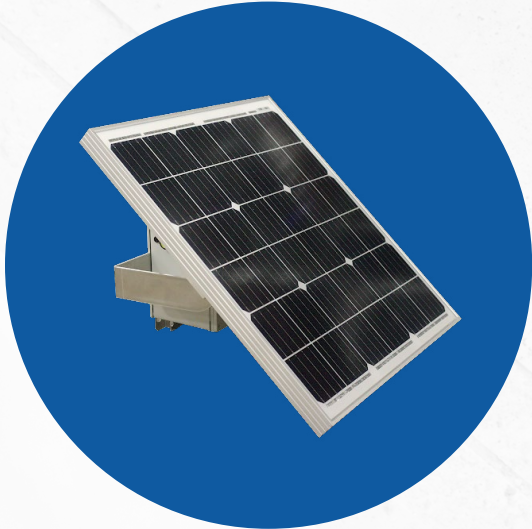
30' Telescopic Crank Mast

## Turnkey Solar Solutions

As the industry's leading construction camera services provider, OxBlue takes the guesswork out of solar power calculations. Our team of site analysts evaluate how much power each camera and features will use, the best panels based on region and take into consideration the unique needs of each jobsite.

**“The OxBlue cameras do well using solar power. We’ve added solar stations that have done well even during the monsoon season where we get very heavy winds,”**

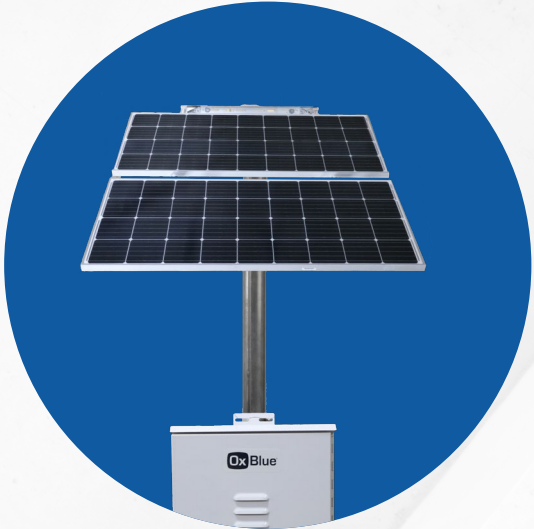
– Compass Datacenters



- Helios**
- Most compact and lightweight battery and panel combo
  - Attaches to existing poles or hardware
  - Perfect for Cobalt cameras
  - Great for high vantage points



- Single-Panel Station**
- Panel and battery cabinet combo
  - Mounts to existing poles or hardware
  - Strong power output and storage
  - Great for high vantage points
  - Locking cabinet
  - Compatible with threat deterrence hardware



- Dual-Panel Station**
- Panel and battery cabinet combo
  - Mounts to existing poles or hardware
  - Powerful output and storage
  - Great for high vantage points
  - Locking cabinet
  - Compatible with threat deterrence hardware lights/alarms



- Trailer Mounted Station**
- Portable, hitch trailer system
  - Top-tier power storage and output
  - Tamper-proof cabinet
  - Portable hitch system
  - 60mph Wind Rating
  - Compatible with threat deterrence hardware



- 30' Telescopic Crank Mast**
- Crank up or down for weather or relocation
  - Top tier power storage and output
  - Tamper-proof base, locking support columns
  - 60mph Wind Rating
  - No ballasts needed
  - Compatible with threat deterrence hardware

# Turnkey Solar Solutions

Solar options are pre-built and shipped ready to go, with relatively-fast installation times.

Your dedicated customer support agent will monitor peak sun hours and remotely adjust features and functions during the shifting seasons as needed.

- Every solar solution includes:**
- Battery backup
  - Anti-tamper locking cabinets
  - Internal digital display
  - Pre-configured and out-of-box ready

**“When we worked with the OxBlue customer support team, they responded immediately and helped us with our solar setup and getting a wide-angle view without issue.”**

– Dartmouth-Hitchcock Medical

**Helios**  
45-50 Watt Panel  
+ 10AH Battery

Low-profile single-panel that can attach to pre-existing pole

**Includes:**  
Power cable, mounting plate, band clamps

**Avg install time:** 45 min

**Single-Panel Station**  
45-180 Watt

Panel and battery cabinet that attaches to a pole

**Includes:**  
Power cable, mounting hardware, return shipping instructions, battery cabinet, solar battery, hardware box

**Avg install time:** 1.5 hrs

**Dual-Panel Station**  
220 + Watt

Large panel and cabinet that attaches to a pole

**Includes:**  
Power cable, mounting hardware, return shipping instructions, battery cabinet, solar battery, hardware box

**Avg install time:** 2.5 hrs

**Trailer-Mounted Station**  
400 Watt

Mobile-solar trailer that can fit any size panels

**Includes:**  
Guy lines, guy line assembly, wheel chock, removable hitch, lockable storage cabinet & battery box, padlock & keys, wheel lock

**Avg install time:** 45 min

**30' Telescopic Crank Mast**  
220 + Watt

Solar telescopic crank mast that can fit any size panels

**Includes:**  
Power cable, mounting hardware, return shipping instructions, battery cabinet, solar battery, hardware box

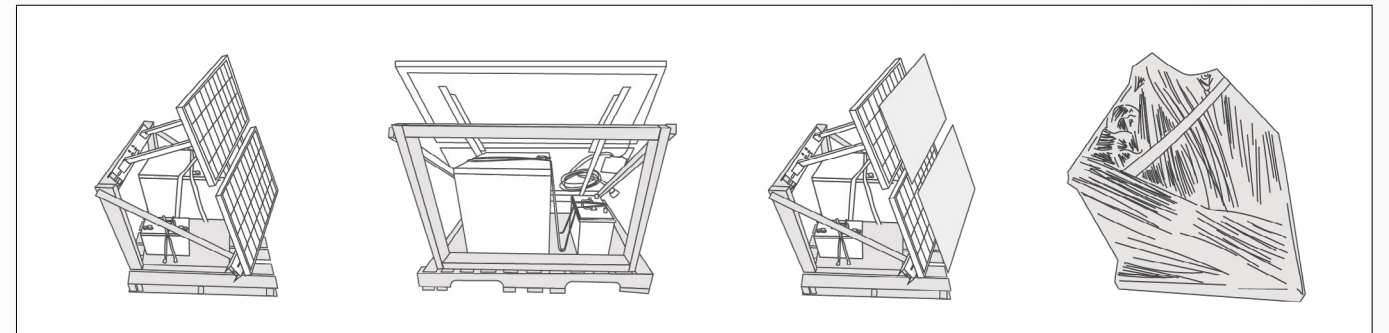
**Avg install time:** 1 hr





## Universal Do's and Don'ts of Solar Power

No matter which solar option is chosen, here are some common rules to follow:



### **DO: Always place with panel facing true South**

Solar panels need to capture as much peak sun as possible. Facing South guarantees maximum sun exposure. Panels must be at an angle to capture the sun as the Earth rotates.



### **DON'T: Place panels in the shade.**

Solar panels can handle most clouds because UV rays can still penetrate through them. But shade blocks the sun, and any objects or leaves on a panel can render the photovoltaic cell ineffective.



### **DO: Rely on solar to power your cameras**

While peak sun hours vary by location, there are different panel sizes and solutions that can help capture as much energy as possible in a short timeframe.



### **DON'T: Plug in multiple devices**

Panels for solar powered cameras are specifically shipped according to the power usage of the device. Using the solar solutions to charge other batteries or devices can cause serious damage to the storage capacity. Only connect solar power to the camera it is made for.

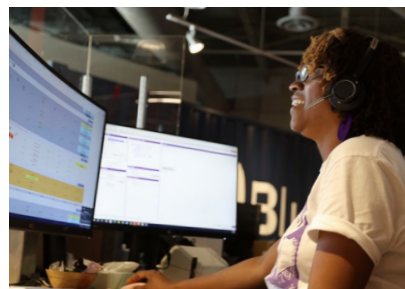


### **DO: Carefully package panel system for relocation or return**

While solar panels are made of tempered-glass, excess weight and improper protection can render the solution ineffective. When moving a solar solution or returning it, make sure to protect the panel, pad empty space, and shrinkwrap to prevent jostling.

## Turnkey, hassle-free construction visibility – with the ratings – and clients – to prove it

Partner with the gold standard for on demand jobsite access. OxBlue's the premiere provider for construction camera services. Here's just a few reasons why clients choose to stay with us year-after-year.



### Superior Solar Power Products

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### Industry's Most Specialized Support Staff

OxBlue has the largest, highest-rated and extensively-trained customer support teams for construction camera services.

### Higher Standards of Quality

Our state-of-the-art – in-house production center means we have a superior level of quality control, consistency and assurance.



### Tailored Functionality and Features

With experience on thousands of jobsites all around the world, our system is based on solving real problems clients face every day.



### Decades of Innovation

We were one of the first to use wireless cameras, now we're leading the way with unique artificial intelligence data sets that can't be replicated.



### Support for Builders Risk Insurance

Our tamper-proof security systems, advanced motion detection and rapid response times provide support for Builder's Risk Insurance requirements.



"OxBlue solar cameras provide amazing time-lapses and images. We have our cameras embedded on our website. Everyone I've shown it to says it's amazing"

— Brunacini Co.



"When I used another camera provider, I constantly had issues and no dedicated support. Working with OxBlue's team, I get an immediate answer and solution."

— IG1 Communications



"The cameras not only help protect us from theft and faulty insurance claims but they also help lower our insurance premiums for having site monitoring during construction."

— Peachtree Hotel Group



"When a hurricane hit our project, our OxBlue camera was still standing. When it was later hit by lightning, the OxBlue service team didn't hesitate to fix the issue."

— CBRE



"OxBlue solar cameras checked all the boxes needed for this project. High quality images, a durable solar setup that could withstand long-term deployment in challenging weather."

— National Wildlife Federation



"Using OxBlue was a pretty simple process. Even installing the solar cameras was quick. It's a very nice tool."

— Koetter Group

OxBlue, part of Hexagon, is a global provider of construction time-lapse, live streaming video and security camera systems. Since 2001, OxBlue has helped owners, developers and general contractors easily capture, understand and share jobsite progress. Providing high-definition cameras, artificial intelligence and an on-demand interface, OxBlue equips stakeholders with remote transparency into jobsite activity, safety, weather and other changing conditions. From buildings to infrastructure, 6,000+ clients trust OxBlue to monitor, secure and market their projects.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 24,000 employees in 50 countries and net sales of approximately 5.5bn USD. Learn more at [hexagon.com](http://hexagon.com) and follow us @HexagonAB.

