



SOLAR POWER FAQs

[What does the SIXINCH Solar Power Shade consist of?](#)

The SIXINCH solar power system consists of 4 basic components:

- A 90W photovoltaic solar panel
- A Li-NMC battery power storage unit (we call it a generator)
- Standard USB ports with protected housings
- Various specialized cables to convey power from the sun to your electronic device

[How much power is generated/ and how much is typically used by my phone?](#)

The Boulder 90 Panel is expected to generate between 360 and 480 watts per day if fully charging during peak hours. The average cell phone requires 5.4 Watts per hour. The average tablet 10 and the average laptop 40 Watts per hour.

[How reliable is solar power?](#)

Collecting power from the sun requires that the panel be kept outside and with access to direct sunlight. A solar panel collects the most power when positioned perpendicularly to the sun's direct rays. Given that the sun is sometimes obscured as the weather changes, and given that the earth moves relative to the sun as we traverse the seasons – the solar panel will not always collect power.

Solar panels still capture power from the sun even when not in direct sun light – just at a dramatically reduced rate. So solar panels are not necessarily efficient in cloudy conditions, but they are still collecting power.

This variability in sunlight is the reason why battery generators are essential to providing reliable power from sunlight.

[How durable are Goal Zero products?](#)

I'll answer that question with a question: how durable is Chuck Norris? No, but seriously, our products are designed to be your hero. We've designed the panels and power packs to be rugged and weather resistant. Our products are sent around the world to be tested in a variety of temperatures, elevation and humidity levels. We really wanted to say that the solar panel is water-proof, since we've seen the panels work while they are under water. But since we can't guarantee that outcome 100% off the time, we say they are weather-resistant. The panels do fine in the elements, from rainy season in Congo to snowstorms in Everest.

The panels can be scratched up, run over, left in the rain, and they'll still charge up your gear. The power packs are also water-resistant, but should not be submerged in water, in order to prevent rust in the junction box. The Venture 30 has an IPX rating of 6 which means you can dunk it, spray it, use it in the rain with no rubber plugs needed it is our most weatherproof of all the power packs.

What is the life span of the batteries and panels used in the Grove by SIXINCH system?

The Sherpa batteries have a life cycle of 2,000-3,000 cycles. The Boulder panels have a 20-year life span. End-of-life disposal of solar products in the US is governed by the Federal Resource Conservation and Recovery Act (RCRA), and state policies that govern waste. To be governed by RCRA, panels must be classified as hazardous waste. To be classified as hazardous, panels must fail to pass the Toxicity Characteristics Leach Procedure test (TCLP test). Most panels pass the TCLP test, and thus are classified as non-hazardous and are not regulated.

What type of battery did we select for use in the Grove by SIXINCH system?

The Sherpa 100 batteries are Li-NMC (Nickel Magnesium Cobalt). NMC is the battery of choice for power tools, e-bikes and other electric powertrains.

Once fully charged, how long will your power packs hold a full charge if unused?

If unused, power packs are typically capable of holding a full charge for 4-6 months. However, we highly recommend charging the battery every 3-4 months for a healthy lifespan. The Boulder 90 in combination with the Sherpa 100 will make this possible, year round, in North America. This is based upon an oversized array and a 15 degree up angle which is fixed.

Do I need any additional cables in order to use my power pack and solar panel?

No, all cables are included or incorporated for basic operation in the Grove by SIXINCH standard kit.

Are there any specific maintenance instructions for use in the Grove by SIXINCH system?

Simply make sure that the battery maintains its elasticity through periodic charging (which will occur when the Grove Lilly shade is properly positioned and the view to sunlight is unobstructed). The Sherpa may be plugged into an outlet if the panel needs to be disconnected for any reason.

How do I maximize the battery generator lifespan?

GOALZERO generators are batteries that require charging either through an AC power source or through solar panels. Generator batteries are damaged if allowed to run dry. Damaging the battery limits its capacity to store power and ultimately how long it remains useful to store power from the solar panel while the sun is shining. Generators are best connected to a power source as much as possible.

Generators can be kept outside in all conditions and still function – but temperature effects their performance. The colder the conditions the faster the battery will drain. We recommend that the generator unit itself be removed from the solar shade during the winter (for those regions where it's consistently cold during winter months), and kept connected to AC power to assure a consistent power flow when not in use. Keeping the generator connected to a power source is the single best way to assure long-term battery life.

I would like to activate my Goal Zero warranty. How do I do this?

Specifically for the Goal Zero portion of the Grove by SIXINCH system, visit <http://www.goalzero.com/support.html#product-registration> to fill out your information.

Where can I find product manuals for my Goal Zero equipment?

Visit <http://www.goalzero.com/support.html#product-manuals>.