



Affordable Clean Energy for Anyone, Anywhere™



**Efficient Solar EPC Project  
Completion VIA NUE Products**



## Hot Commissioning: NUE to Help Cross the Finish Line.

Hot Commissioning occurs at the very end of a project's completion cycle (approx. 98% completion). Delays at this stage can cost Solar EPCs upwards of \$100k a day in fines. Fines increase based on project size. Utilities' failure to get shore power online on time at the end of a project causes the majority of these delays. Utilities rarely provide pre-existing grid infrastructure because utility-scale solar fields require wide open unobstructed spaces that can most often only be found in remote areas.

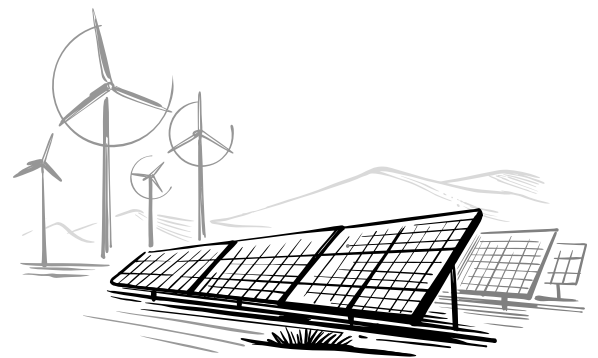
### Hot Commissioning Power needs include, but are not limited to:

1. Commissioning/Testing Inverters @PCS
2. Commissioning/Testing Tracking Devices @PCS
3. Component Performance Testing
4. Remote Wi-Fi/Internet and Communications

**NUE** products provide EPCs a cost-efficient, quick-deploy solution to meet hot commissioning power needs. They are user-friendly, pair easily with readily available solar panels on site, and are designed with hot commissioning in mind. **NUE** products also use pure sine wave inverters, which provide clean and steady power that doesn't risk damaging sensitive equipment. **NUE** products can be left running commissioning devices over long periods of time without the physical presence of a worker on-site. All **NUE** batteries have bluetooth monitoring direct from the BMS to help manage loads, recharging, and cycle life. Remote GPS tracking is available on request.

Designed with Hot Commissioning in mind, the **SunKit A351 EXT**, with its large 5kWh battery and robust 300W inverter provides a cost-effective, yet durable and Solar-UPS functional solution for the above loads. This unit can also accept up to 1000W of solar input, ideal for a 1 or 2 module configuration. The **NEMA3R** compliant outdoor enclosure.

This allows you to maximize available solar panels, recharging, and unit runtime. Its enclosure is both durable and features ergonomic transport handles so it can be easily moved where needed.



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## Multiple Purposes

From a quick glance, utilizing **NUE** products for hot commissioning to address liquidated damages stands out as the most obvious point of positive impact, particularly financially. However, per our case studies, trials, and user feedback, we have found that there are other applications in the project completion cycle where **NUE** products can make a positive impact providing mobile renewable energy. Why wait until the last minute to deploy our products when you can have them on site for the lifecycle of the project.

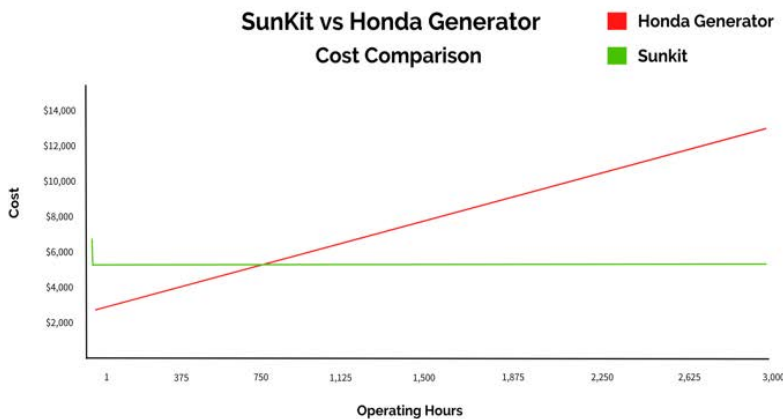
## NUE Products for Tool Recharging

Electrical and mechanical installers use battery-powered cordless tools.

EPC site workers need these tools to be easily recharged quickly and conveniently, which necessitates easy to access power, in an environment bereft of it. Some EPCs utilize containers to set up recharging banks. Currently, these are hooked to loud, fume-emitting, and gas-guzzling portable generators that are not designed with this use case in mind. In contrast, **NUE** optimizes the **SunKit 5050 EXT** with large tool bank recharging in mind; with cost benefits for users\*.

See below for a head to head analysis vs. off the shelf **Honda 2k Generator**.

## The SunKit Rapid ROI Payback



### The SunKit:

 Costs <b>\$3.18</b> per hour less to operate	 Leads to <b>770</b> hours (32 days) of operational payback period	 Has a useful life that is <b>5X</b> longer than a generator
 <b>22</b> lbs of carbon not released into atmosphere per gallon of fuel mitigated		

Solar EPCs will save time and money by employing **NUE SunKits** especially when rented from internal warehouses across multiple projects.

Moreover, using **NUE** products can improve worker productivity, save time, reduce paperwork, and reduce accident risk. All of these small benefits can lower the risk of the liquidated damages discussed earlier. Small improvements add up over time.

## Remove Fuel Logistics

Per our case studies, solar EPCs will typically utilize designated drivers' to refuel their generators. First, they have to spend significant periods of time every day or two to drive off-site significant distances to obtain gas. Once back on site, these drivers have to visit every individual generator to refuel them. During refueling, power is lost, slowing down work.

By employing **NUE** products, workers previously devoted to fuel logistics can be devoted to completing projects quicker. Moreover, **NUE** products provide power concurrently when they are being recharged with solar. Optimizing work sites and reducing time wasted, even at this minute level of detail, contributes to getting projects completed on-time and reducing damages.

## Health and Safety

### NUE products

#### Don't

- Require laborious safety paperwork to authorize use
- Emit fumes
- Risk hazardous spills
- Create noise

#### Do

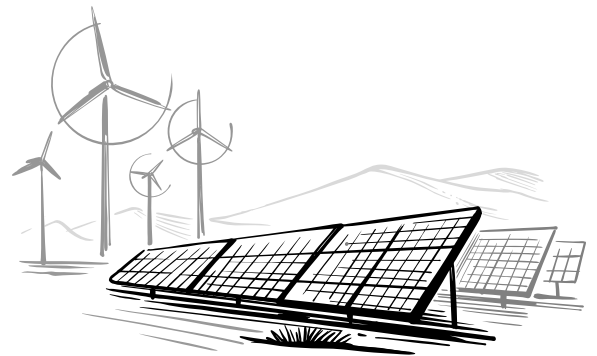
- Facilitate communication and clear thinking (thanks to noise reduction, per customer feedback)
- Have built in battery breakers to protect from short circuits
- Tier 1 quality cells

## Ease of Use

Lastly, per case studies, **NUE SunKits** take at most 1 hour to set up in this capacity and can be easily transported across installations in containers. Ease of transportation and installation is a major advantage of the **SunKit** across applications vs. larger power generation systems.

## Other potential applications on site

- SCADA Systems
- Wi-Fi
- Lighting
- Shade
- Computers
- Reduce fuel consumption and fuel logistics by switching these power draws to renewable energy



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## NUE and the Operating Environment

Specs are irrelevant if the solution cannot handle the environmental rigors and challenges facing utility scale EPCs.

Firstly, **NUE** designs products enclosure first unlike our competitors. We don't use custom plastic molds for our products like consumer-oriented companies. We focus on performance not appearance. All **SunKit EXTs** are built in aluminum enclosures that meet **NEMA3** standards. also protects from the desert dust that blights numerous sites. Custom plastic molds seen elsewhere can't handle extreme temperatures and do not protect from the elements. Our enclosures protect the durable internal components from blistering heat up to 115 degrees Fahrenheit. While charging requires above-freezing temperatures (due to our chemistry), **NUE** products will power loads all the way to 23 degrees Fahrenheit/-5 Celsius.

What do these temperature parameters mean for a worker or project manager? It means they won't need to spend Christmas Eve worrying if they will have to return to their site visiting remote tracking devices because their power source has stopped working. in the summer they won't have to risk heatstroke to make a hot commissioning deadline.

Durability isn't just a matter of enclosures, internal components matter. All **NUE** products utilize UL listed Tier 1 cells and batteries with **6,000 cycles at 80% DoD**. This extends product runtime and thus value for repeated users. We use **Lithium Iron Phosphate (LiFePO4)** chemistry which has a higher thermal runaway point than Nickel Manganese Cobalt and other Lithium-Ion chemistries use in electric vehicles (i.e. it takes much higher temperatures to catch on fire).

### The NUE For-EPC Product Line

- All of these systems, when combined with panels, are eligible for 30% tax credits because they have >5kWh of battery storage capacity.
- They are all OSHA compliant lockout/tagout for safety and security.



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## The Sunkit

A unit durable enough for 365 24/7 power with a **NEMA3** enclosure and hybrid inverter. 5kWh of safe **LiFEPO4** batteries included. All models can be expanded up to 25kWh through daisy-chained battery extension modules. Easily serviceable and quick-installed cabinet system that functions as a solar UPS. Can take up to 5kW of PV input.

### A351 EXT Model

Included small built-in 300W inverter optimized for remote power and small loads for hyper-extended runtimes for applications such as remote monitoring and telemetry.

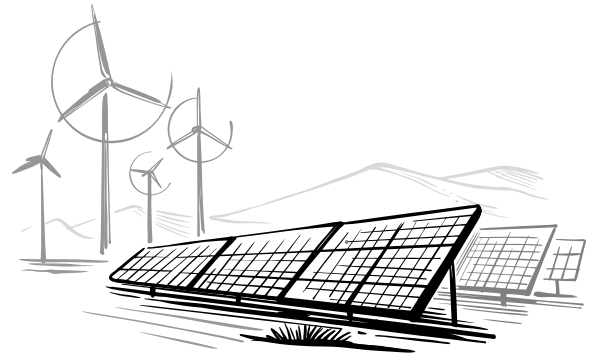
### 5050 EXT Model:

5kW hybrid inverter for larger loads or multiple loads at a time. Perfect for multiple-use deployments on site.



## The SunCon: The Ultimate NUE for EPC Power Station

While **SunKits** pair very well with existing team assets, for a premium EPC on-site power experience, **NUE** offers the **SunCon**. The **SunCon** serves as a ready-built solution that can be dropped on site with built in solar panel recharging, batteries, and AC power arrays optimized for EPC power draws and built out of a standard 20ft by 8ft standard shipping container. This massive power station in a box services as a power Oasis throughout the project lifecycle: tool recharging, communications, hot commissioning, etc.



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# The NUE Mentality

- 1. Deliver to Specifications:** Specifications are important but can be misleading.
  - a. Our users tell us that **NUE's** products perform as billed, while others fall short of what they claim in battery capacity, ruggedness, etc.
- 2. We customize for professional user groups using professional grade components:**
  - a. The majority of portable systems on the market are built for OCCASIONAL use.
- 3. We use Industrial designs:** We pay attention to the details, not just the exterior features of our products.
  - a. Industry standard components like Anderson Powerpole connectors
  - b. Fire retardant cases
  - c. Battery breakers
  - d. UL-listed Tier 1 cells
- 4. We listen to customers:** We actively solicit - and incorporate feedback - from our users to improve our products to best suit their needs. (examples: **SunKit** quick-off door, ergonomic carry handles, integrated PV racking, active cooling in Suncase, lock out tag out features, etc.)



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## FAQs

### **«What if I am building overseas? »**

- We offer 110V and 240V products. NUE products have been deployed outside the USA in Ukraine, Madagascar, Malawi, South Africa, Austria, and Estonia.

### **«I love your products, but I need to ensure more runtime? »**

- All of our medium and above products can pair with our 5kWh battery extension modules. In addition, for situations without sun, all of our products can be quickly charged off of regular diesel generators. You will still be using less fuel than powering your loads directly off of the generators.

### **«Is this all you offer? »**

- While these are the most “EPC-ready” NUE products, we are proud to be one of the few one-stop shops for battery+solar generators from 1kWh to 80kWh, 1kW to 20kWs. Check out our website at [www.newuseenergy.com](http://www.newuseenergy.com) for more information, case studies, and product information.

### **«What’s the NET CO2 in making a SunKit? When is the NET CO2 break even? »**

- Per our calculations, a total of 350 kilos of CO2 are produced during the manufacturing process. This results in a carbon break-even point of 35 hours or 1.5 days vs. carbon created in manufacturing the SunKit.