



kumukit<sup>TM</sup>

Hybrid Solar Electricity

Solar Made Simple.



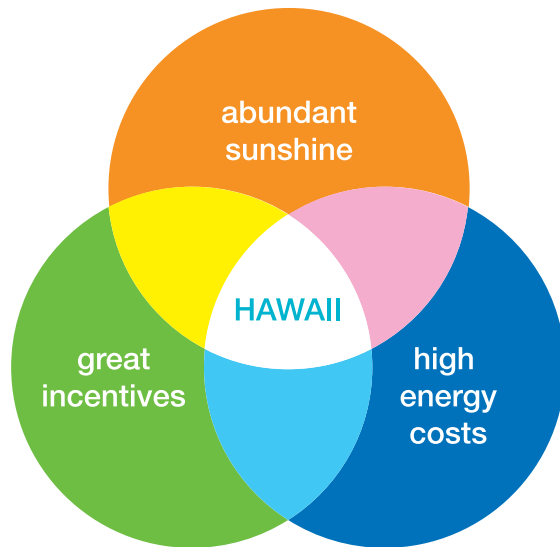
Our residential sustainable energy solution is named KumuKit™ honoring the Hawaiian word for origin, source, beginning and starting point—kumu. Your KumuKit™ is a starting point for you to begin harnessing the sun, our most powerful source, and to realize a more sustainable future.



HAWAII **ENERGY** CONNECTION™  
sustainable energy solutions

## you're in the solar sweet spot

"The financial benefits of PV are often more favorable in Hawaii than any other state," according to the Interstate Renewable Energy Council.



## Welcome to the way forward.

Fueled by a passion to accelerate the adoption of renewable energy in Hawaii, our locally owned company has become a nationally recognized solar integrator, dedicated to affordable energy solutions. For homeowners our popular KumuKit™ PV systems are right-sized to achieve peak energy production, maximize available incentives, and ultimately shrink your electric bill. KumuKit™ systems now employ the latest technologies to optimize energy usage with Smart Energy Management. Powerblocks™ Smart Storage helps you store and utilize the solar energy you produce more effectively, and provides you with an emergency power source. We'll work with you to design a customized KumuKit™ system that's ideal for your home and budget. Get our no-pressure, no-obligation written quote. You'll be surprised how affordable solar can be. Get connected. Join Hawaii's clean-energy KumuHui.

*We're Eco-Friendly, User-Friendly, and Just Plain Friendly.*

Steve Godmere and Chris DeBone, Owners, Hawaii Energy Connection



OPTIMIZED ENERGY PRODUCTION

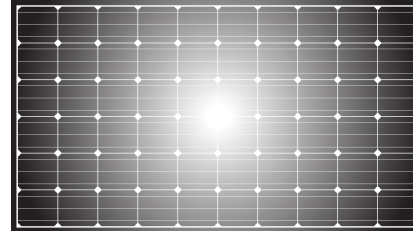
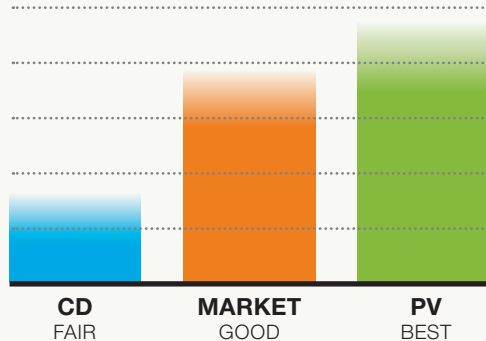


OPTIMIZED ENERGY USAGE

## Solar is a Great Investment

Enjoy a lifetime return on your investment. Solar consistently outperforms all other conventional investments. KumuKit™ systems still typically have the strongest return on investment in the industry.

### RETURN ON INVESTMENT



## A Hybrid Solar Solution

A **hybrid solar PV system** combines the convenience of a grid-connected PV system with the extra peace-of-mind of battery backup. Using the latest advanced Powerblocks™ energy management technology, a hybrid system generates and stores PV energy during the *peak sunshine hours* of the day, and then automatically draws it back into your home for use during the *peak usage hours* in the evening and night—greatly reducing your energy costs. In the event of a power outage, you'll have backup electricity to power your most important household devices.

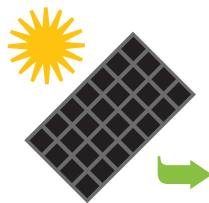
**Powerblocks** ™  
POWERED



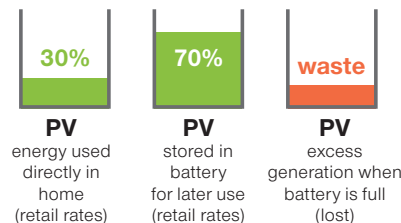
**Right-Sizing your system is key.  
Don't buy more PV than you need or  
waste the power you generate.**

## THE RIGHT SIZER™

Knowing the right PV system size for your home is a big deal. With the recent changes to solar interconnection, it is more important than ever. Purchasing an oversized system for your home can cost you thousands of dollars for extra panels and battery capacity, and even more when excess energy goes unused. Taking into consideration your unique situation—tax credit appetite, roof space, budget, and electricity usage,—we'll use our *exclusive* RIGHT-SIZER™ tool to design a customized solution with “good, better, and best” options that balance the cost of the system and the amount of savings you'll enjoy.



### Monthly PV Production + Usage



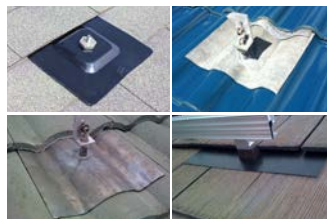


## KumuKit™ Quality + Expertise

We build quality into every KumuKit™ with top-tier PV panels, superior micro-inverter technology, professional roof flashings, and innovative energy management—all installed by our qualified installation crews. With our Done Right Guarantee, worry-free warranties, web-based system monitoring and dedicated local service and support, you'll be assured you chose wisely.

### PROFESSIONAL INSTALLATION

KumuKit™ installers are qualified professionals. You can expect great attention to detail, quality craftsmanship and respect for you and your home.



### SECURE MOUNTING WITH WATERTIGHT FLASHINGS

We professionally flash all roof penetrations. Our roof flashings are the best in the business.

*watertight flashings for all types of Hawaii roofs*



### SUPERIOR MICRO-INVERTER TECHNOLOGY

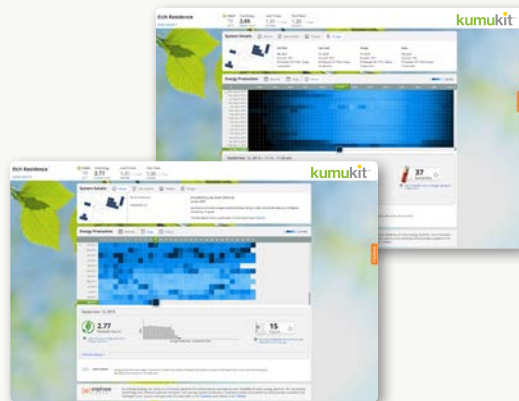
Micro-inverters are superior to central inverters, harvesting up to 16% more AC electricity. With micro-inverters, if a solar panel or inverter fails, the system continues to perform; with central inverters, the entire system stops working.

### TOP-TIER PANELS

We suggest our maximum efficiency LG® MonoX NeoN™ panels. When combined with micro-inverters, these premium panels offer one of the highest AC electricity production per square foot in the industry. LG® offers a 25 year power warranty.



OPTIMIZED ENERGY PRODUCTION



### SYSTEM MONITORING

KumuKit™ systems allow you to monitor your system in real-time via your web browser. You can track your system's performance on an hourly, weekly or monthly basis. Real-time monitoring instantly exposes any problem with your system. You'll be able to see an aerial view of your solar array(s), view a summary of your energy production, and see how you are reducing your carbon footprint.



## YOUR ENERGY DASHBOARD

Simple cloud-based energy management. Compare your energy production with your energy usage. Easily reconcile your electric bill. Optimize consumption of the solar energy you produce. Take advantage of the best times use power from the grid. Monitor loads in your home. Find the energy hogs in your home. Control battery usage. Manage critical loads on emergency backup. It's your power, your way.

## OPTIMIZED ENERGY USAGE

## KumuKit™ Quality + Innovation

At the convergence of energy and technology; E-GEAR's line of renewable energy interconnection products:

### ACXIS® AC CIRCUIT COMBINER

This innovative communication filter optimizes your PV system's power line communications and isolates your system from potential cross-talk or line interference.

### SMART ENERGY MANAGEMENT CONTROLLER

Smart energy management that does it all—optimizing PV energy production, usage and export. Easy and secure web-based user tools provide monitoring and intelligent system control.

### POWERBLOCKS™ HOME ENERGY STORAGE

A scalable solution that uses the latest battery technology to optimize PV energy usage, provide smart storage, and an emergency backup for your home.



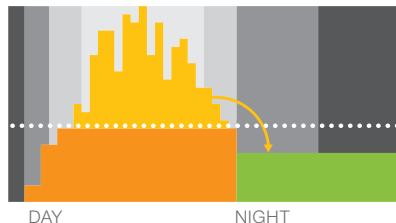




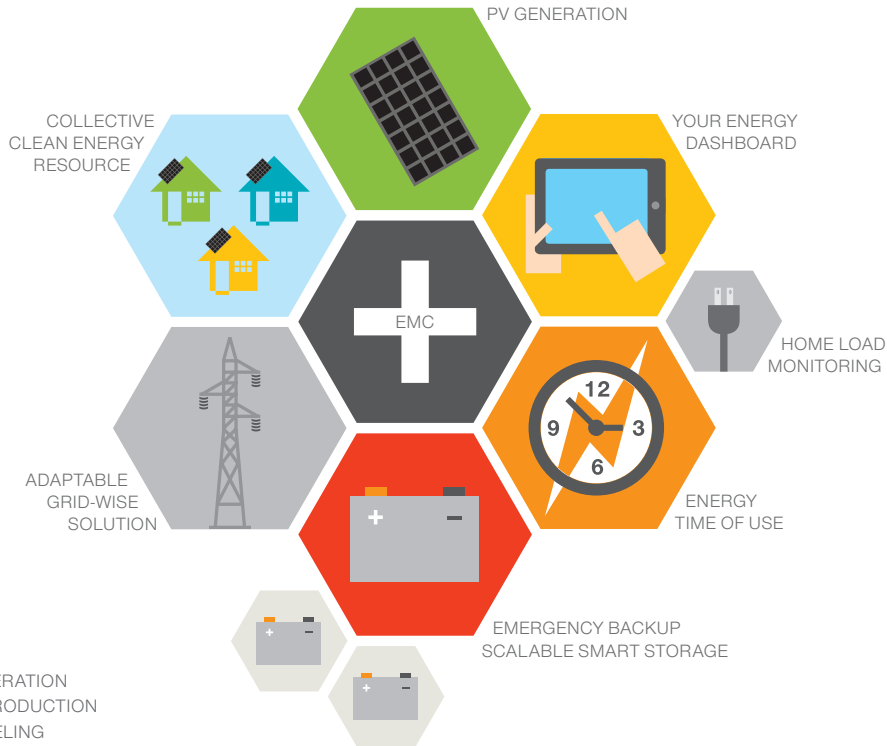
## Smart Energy Management

Smart Energy Management leverages your PV system's production through energy optimization and usage. Our *exclusive* Energy Management Controller (EMC) is a major advancement in Smart Energy Management, and is included with every KumuKit.™ In addition to providing benefits now, such as load monitoring and control, the EMC has the technology and intelligence *built-in* to meet ever-changing Utility policy in the future. The EMC essentially **future-proofs** your PV system.

PV ENERGY



- FIRM GENERATION
- EXCESS PRODUCTION
- LOAD LEVELING
- SMART EXPORT TO GRID OR SELF CONSUMPTION





## Powerblocks™—a whole new way to manage solar energy.

### ■ Smart Home Energy Storage.

A breakthrough in distributed energy resource management—our Powerblocks™ smart storage system enhances a PV system's abilities and allows you to store your own PV energy. The modular design allows for easy upgrade and incremental expansion. The automatic emergency backup power feature provides for critical loads such as lighting, medical equipment, refrigerators, phone chargers, etc. during an outage. Powerblocks™ can also adapt to future utility requirements, address changing home and grid conditions, maximize production and optimize overall energy efficiency.

System visibility is achieved through secure cloud-based tools with an intuitive Energy Dashboard interface that makes it easy to manage select home loads with detailed visibility and historical reporting capability. You can shift time-of-use costs to your best advantage, see where energy is being consumed, identify electricity hogs, set electricity reduction and savings goals, and monitor your progress.

### ■ Save the day. Power the night.

Generate power during the day and use it during the evening and night—when you need it the most.

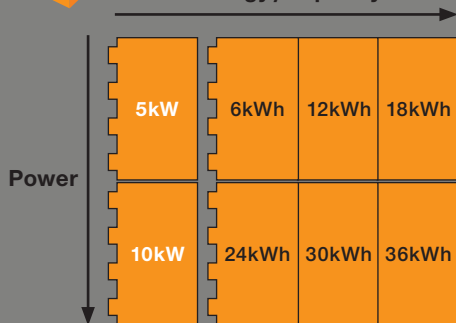
### ■ Go Grid Zero.

Grid Zero means the amount of electricity your home uses is about the same as the electricity your home produces with PV. A Grid Zero home remains connected to the Grid, for those times when electricity usage is more than usual.



## Building Block Concept

Energy /Capacity



**Power:** The power component of a battery system defines the maximum amount of power that can be transferred in and out of the battery at any given time.

**Energy:** The energy component defines the usable amount of energy that can be stored in the battery for later use.

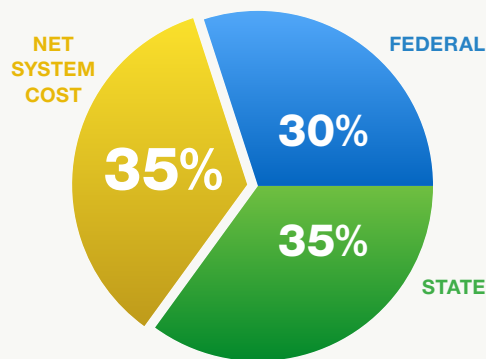


### ■ Your Power. Your Way.

Take charge of the solar power you generate. Make your home a powerhouse with a PV system and Powerblocks™, designed to be simple, intelligent, adaptive, interconnected, monitored, controlled, and gridwise.

## Available Tax Credits



Now is the perfect time to buy solar and take advantage of the generous tax incentives.



## Easy Financing

Our easy financing options change everything. Every month, you pay an electric bill that is tied to rising energy costs. With a KumuKit™ Photovoltaic system, you'll start saving money on your electric bill immediately. With our financing, you essentially use that savings to invest in a KumuKit™. Part of what was once a monthly expense will instead contribute to a valuable asset, with an annual return that far surpasses most traditional investments. Bonus: As utility rates increase, so will your savings and return. Your KumuKit™ actually saves you more with each passing year!

We will provide you with information for all available loan options, so that you can choose the best option for you.

	Solar PV System Purchase	VS	20 Year Solar Lease/PPA
Tax Incentives	You get the available State and Federal tax incentives.		Your tax incentives usually go out-of-state to the solar leasing company.
Cost Savings	Your energy costs will be <b>considerably less expensive</b> .		Your energy costs will only be <b>minimally less expensive</b> .
Ownership	Payback on your KumuKit™ system is still the best in the US. You will then OWN the system, allowing you to enjoy FREE electricity for the rest of the life of the system. You'll also benefit from the added value to your home.		Be aware of long-term contracts, paying more in lease payments than your system is worth. If you sell your home, the buyer will need to qualify to assume your contract. At the end of the lease, you will need to negotiate ownership, a new contract, or removal of the system.
Sustainability	 <p>When you purchase, 100% of your alternative energy contribution stays in Hawaii and recirculates back into our local economy, ultimately supporting Hawaii's families. You retain the rights to your tax incentives and enjoy all of the savings for the energy produced.</p>		 <p>Solar Lease/PPA installations burden our local infrastructure. Signing a solar lease contract not only gives away your tax incentives and the majority of the energy savings you produce to outside investors, it may also jeopardize future tax incentives for Hawaii's families.</p>

## The KumuKit™ Process is Simple

From our no-pressure energy analysis to our easy-to-understand proposal, and right through to your installation, we make solar simple. There's no need to worry about all the paperwork. We take care of it all, including installation permits, any applicable homeowners' association applications, and all the forms required by your electric utility. Feel free to ask a question. Our friendly, dedicated service and support staff are always ready to answer or help with a system issue.

*We handle all the paperwork!*



Join our growing KumuHui—more than 40% of our business comes from referrals by other satisfied KumuKit™ owners.

## Service + Support

We have dedicated mobile service technicians on call for dispatch to your home in the event of a system problem. Our KumuKit™ Response Unit staff is also available by phone, email, and text messaging for help with other issues, such as your web-based monitoring system.

**KRU** 1  
TECH TEAM



## Utility Grid Interconnection

### SELF-SUPPLY

Self-Supply solar customers do not export energy to the Utility grid. Batteries are linked to PV systems, storing any excess PV energy for use later in the day. Energy needs beyond PV production and batteries can continue to be drawn from the grid. Self-Supply installations will be approved under an expedited review by the Utility!

**KumuKit™ PV systems designed for Self-Supply** are paired with **Powerblocks™**. Systems are right-sized to your home's energy usage to offset your electric bill to your greatest advantage. Smart Energy Management technology does it all—optimizing PV energy production and usage. Powerblocks™ are a modular energy storage system that allows for incremental expansion to match your needs and your PV production—Go Grid Zero!



Solar Electricity

Powerblocks ™  
POWERED

Get our no-pressure, no-obligation written quote.  
You'll be surprised how affordable solar can be. Get connected.  
Join Hawaii's clean-energy KumuHui.



[kumukit.com](http://kumukit.com) 808-524-7336



HAWAII **ENERGY** CONNECTION™  
sustainable energy solutions

LOCALLY OWNED. NATIONALLY RECOGNIZED

Hawaii Energy Connection LLC  
99-1350 Koaha Place  
Aiea HI 96701

Contractor #C31046

We install KumuKits™ on all islands!

