

Cornelius
Electrical Contractors

 **ENPHASE®**



Cornelius

Electrical Contractors



We are a small, family-owned business committed to providing exceptional service to Brevard and Indian River counties and surrounding communities.

We honor our first responders, military and seniors with ongoing discounts.

Our quality workmanship, solid materials, technical expertise, and attention to detail have distinguished us in the field for over 19 years!



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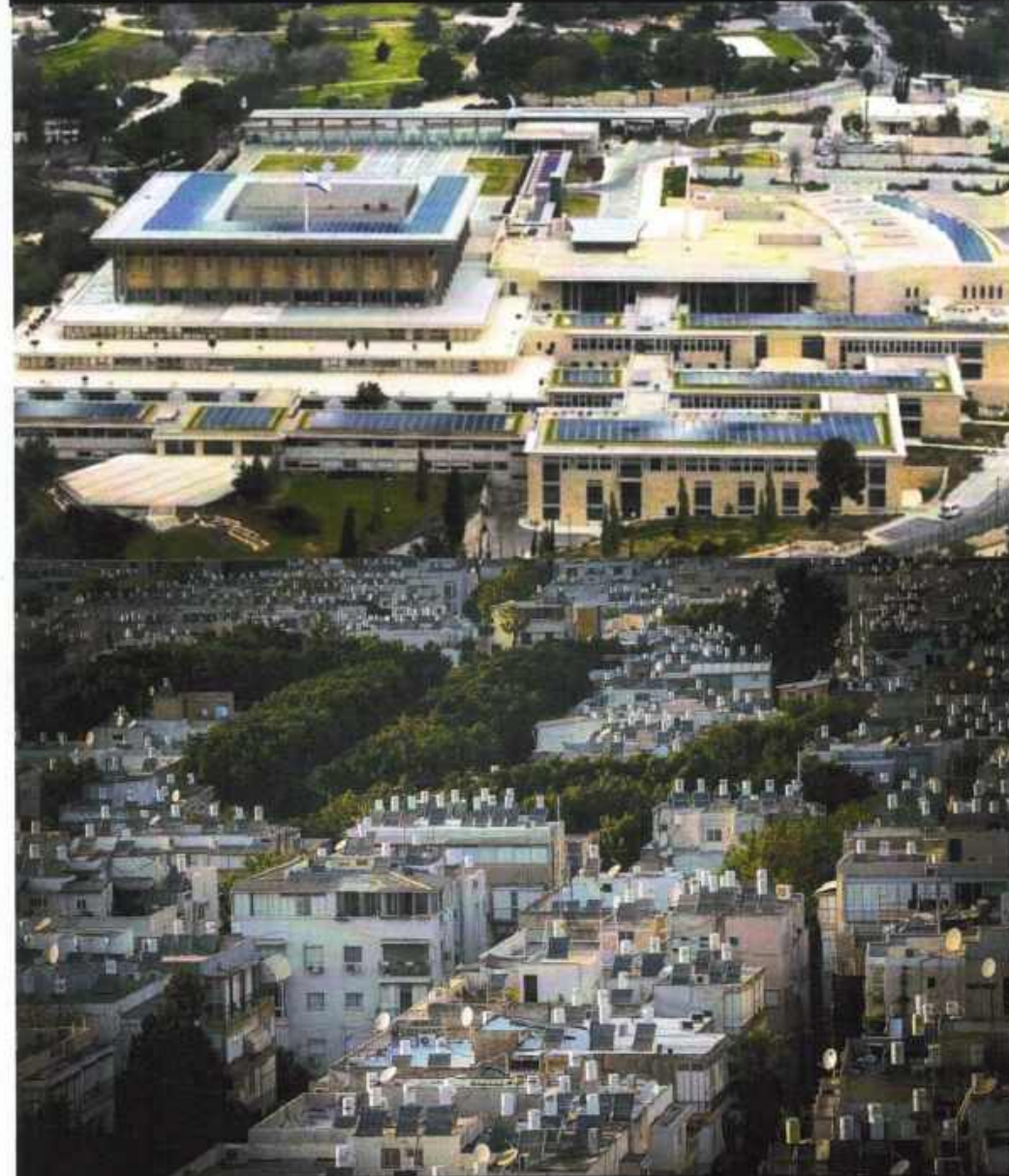
- Statistics
- Questions & Answers
- Meet Enphase Energy
- Meet the Enphase Energy System
- Meet the Enphase App
- Meet Enphase IQ8 Microinverters
- Meet Enphase IQ Batteries
- The Enphase IQ8 advantage
- The Enphase IQ Battery advantage
- Getting started

Additional resources:

- Data sheets and installation guides
- Brand, messaging, and product photography
- EIN advantage

HERE ARE THE **FACTS.**

Israel Went **SOLAR** In 1961



Israel Passed A Law To Require Every Home To Switch To Solar Hot Water Heating And Began Gaining Energy Independence. Israel Realized In The 1960's That They'd Limited Natural Resources. If They Started Buying Oil From The Arab Nations, Like Everyone Else, They Would Be Giving Money To their Enemies. That Didn't Sound Like A Good Plan So They Made It Mandatory That Every Home Install Solar. Today They're Leading The World In Solar Technology Over 90% Of The Homes Have It.

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HERE ARE THE **FACTS.**

Hawaii Goes **SOLAR** In 2010



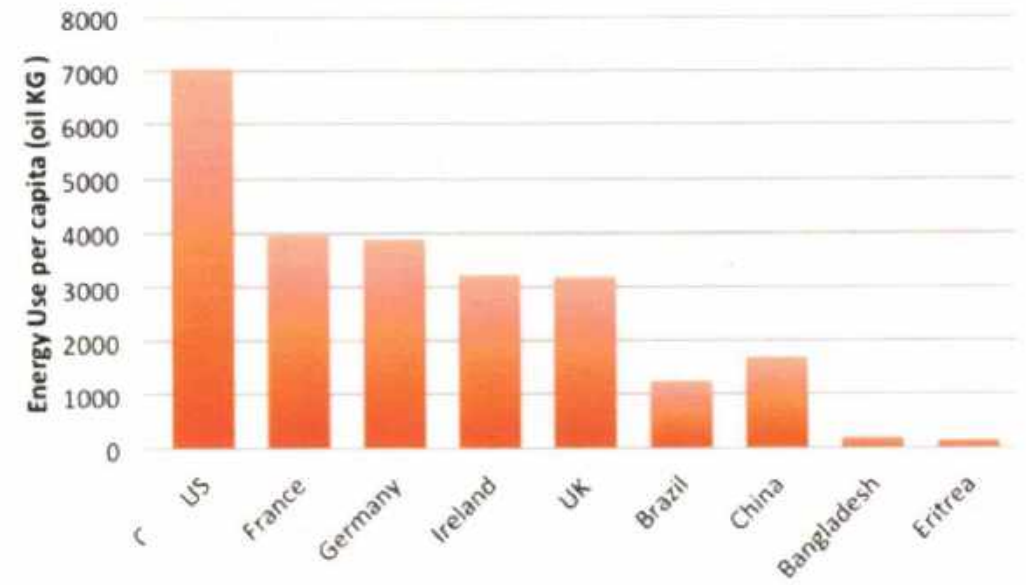
Hawaii Has Become The First State To Require Homeowners to install Solar Hot Water Heaters In New Homes. The Bill Was Signed Into Law By Republican Governor Linda Lingle. Since 2010 You Can No Longer Buy, Sell, Or Gain A Certificate Of Occupancy Without First Installing A Solar Hot Water Heater.

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HERE ARE THE **FACTS.**

With Only **5%** Of The Worlds Population American's Consume **26%** Of The Worlds Energy. **300,000,000** Americans And **7,000,000,000** People On Earth. Yet, Every Year We Consume Over A Quarter Of The **Worlds Energy.**

Energy Use Per Capita



www.economicshelp.org | Source: World Bank

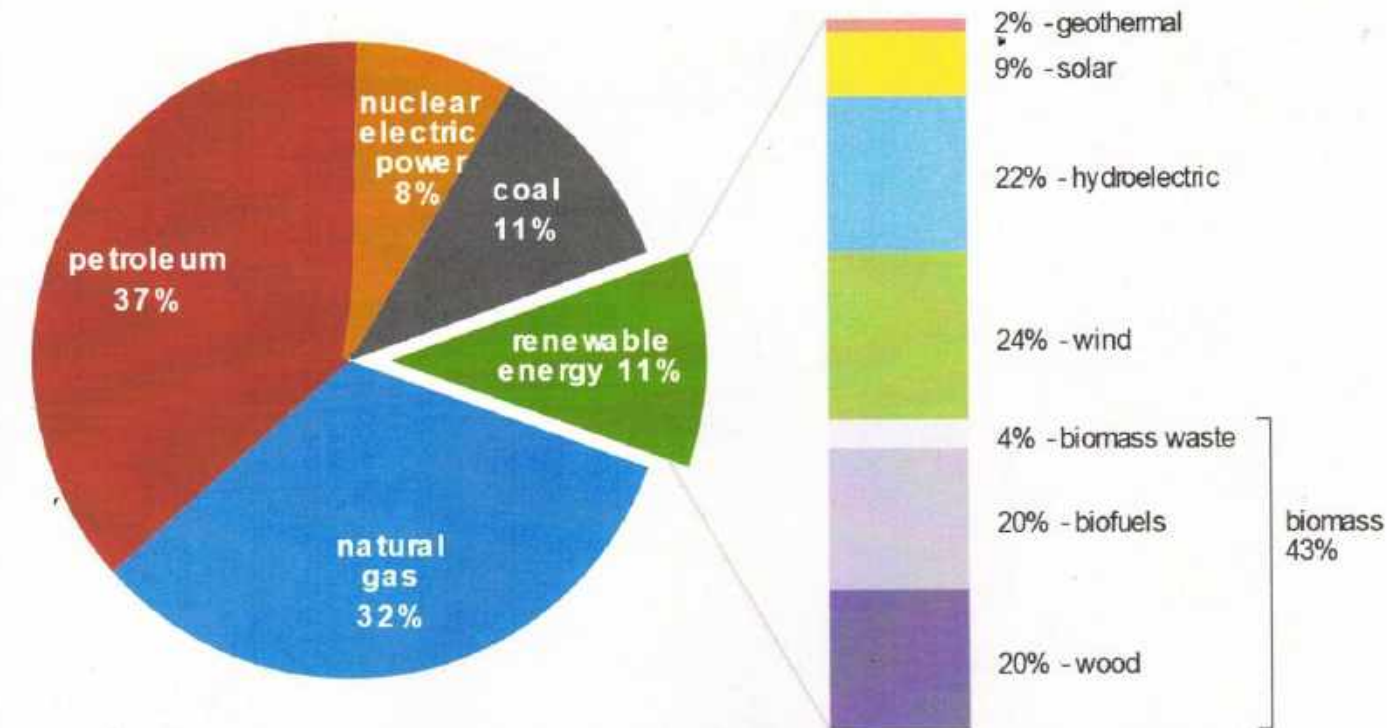
I'm Sure You Can Agree That We Have Wasted Far Too Much Energy In The United States For **Far Too Long...**

HERE ARE THE **FACTS.**

U.S. primary energy consumption by energy source, 2019

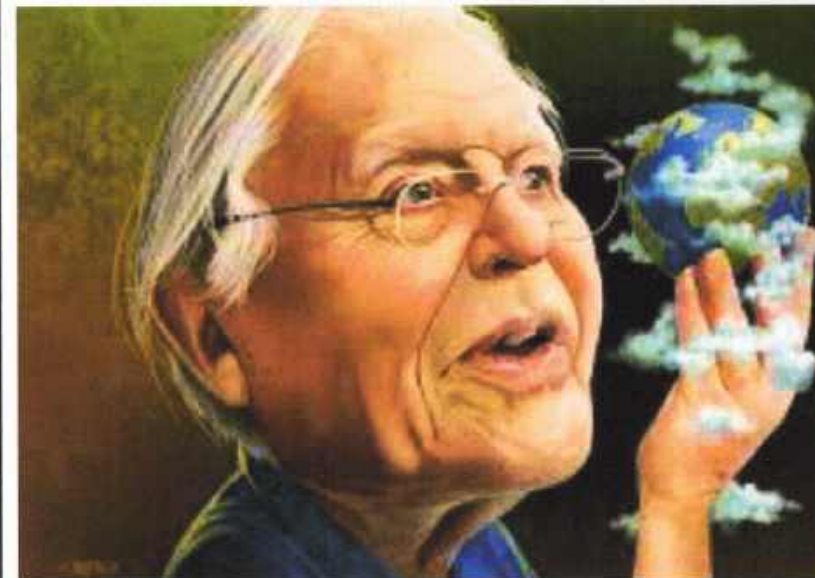
total = 100.2 quadrillion
British thermal units (Btu)

total = 11.4 quadrillion Btu



Note: Sum of components may not equal 100% because of independent rounding.

Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 and 10.1, April 2020, preliminary data

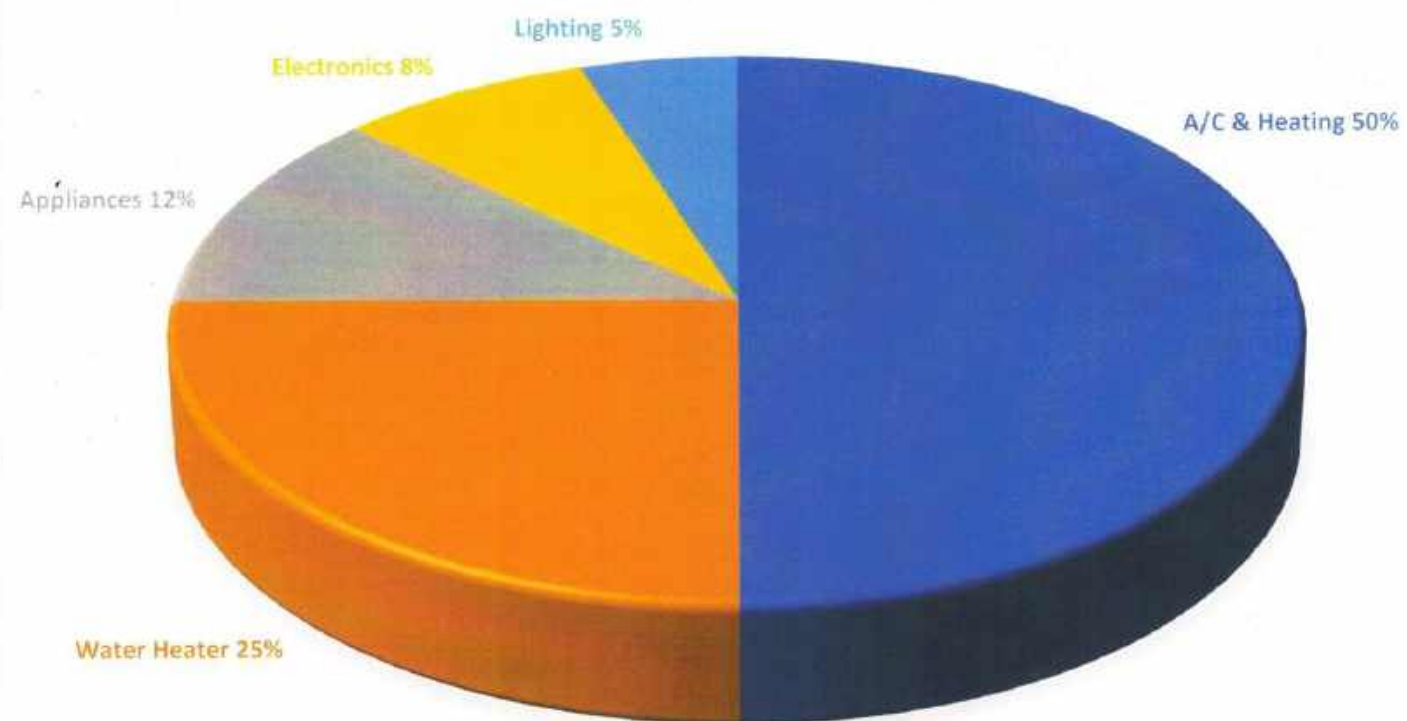


"For 30 Years Climate Scientists Have Warned Governments Worldwide That The Planet Would Get Warmer As We Continue To Burn Fossil Fuels And Release Carbon Dioxide And Other Green House Gases Into The Atmosphere. A Marked Change In Atmospheric Carbon Has Always Been Incompatible With A Stable Earth. By Burning Millions Of Years Worth Of Living Organisms (FOSSIL FUELS) All At Once As Coal And Oil We Have Managed To Do Serious Damage To Our Planet In Less Than 200 Years."

-David Attenborough

HERE ARE THE **FACTS.**

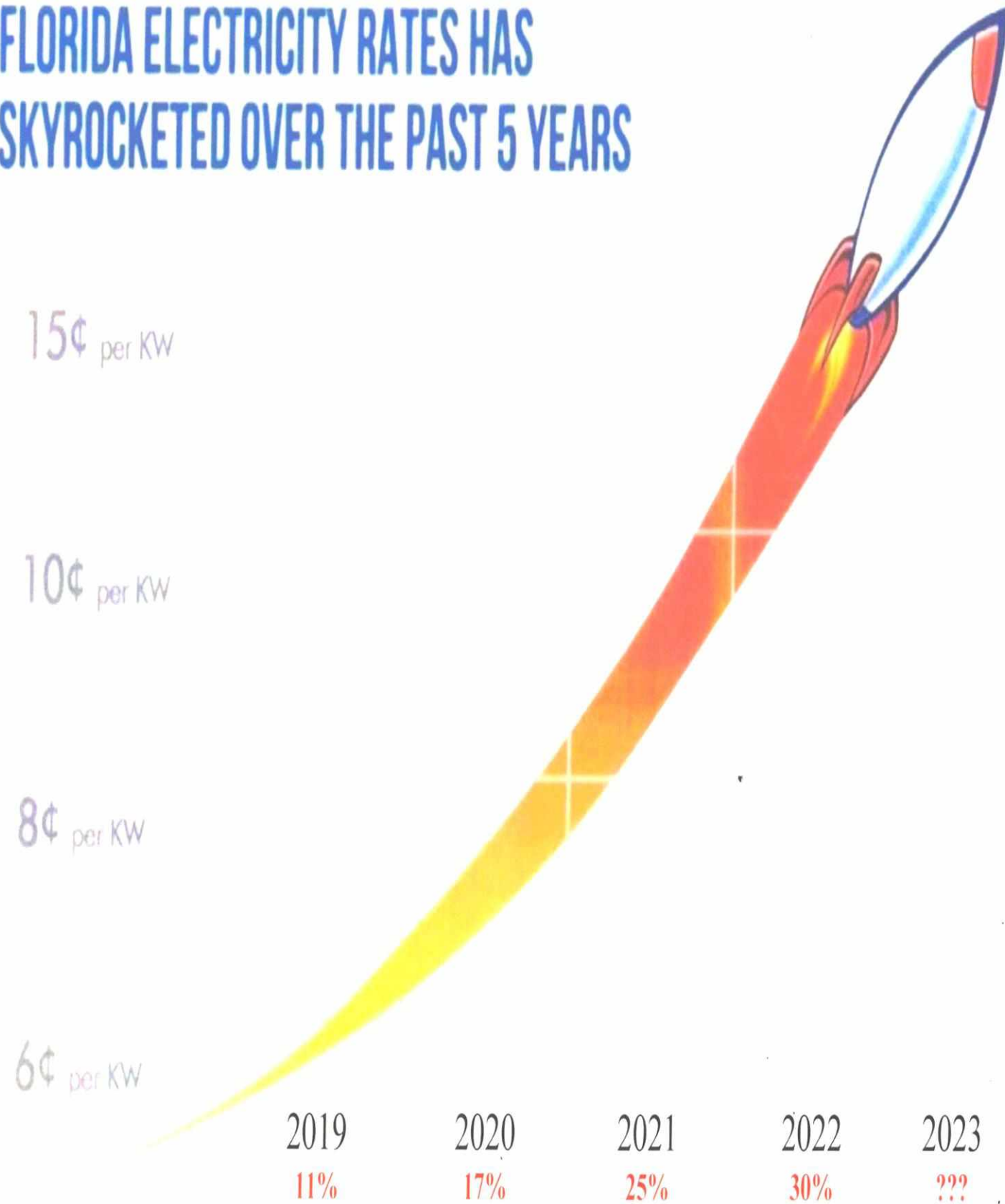
NOW THAT WE KNOW HOW MUCH **MONEY** YOU'RE SPENDING, LET'S SEE WHERE ALL THAT **MONEY** GOES...



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POWER PRICES

FLORIDA ELECTRICITY RATES HAS SKYROCKETED OVER THE PAST 5 YEARS



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Enphase Energy System:
make, use, save, and sell your
own power!

The IQ8 Microinverter -
Its IQ is off the charts!



An average electric bill of \$250 per month with a 2% annual increase will total over 25 years to \$96,003.10.



The average cost of a 10kw pv system \$40,000 with a 30% federal tax credit (\$12,000) brings the cost to \$28,000.

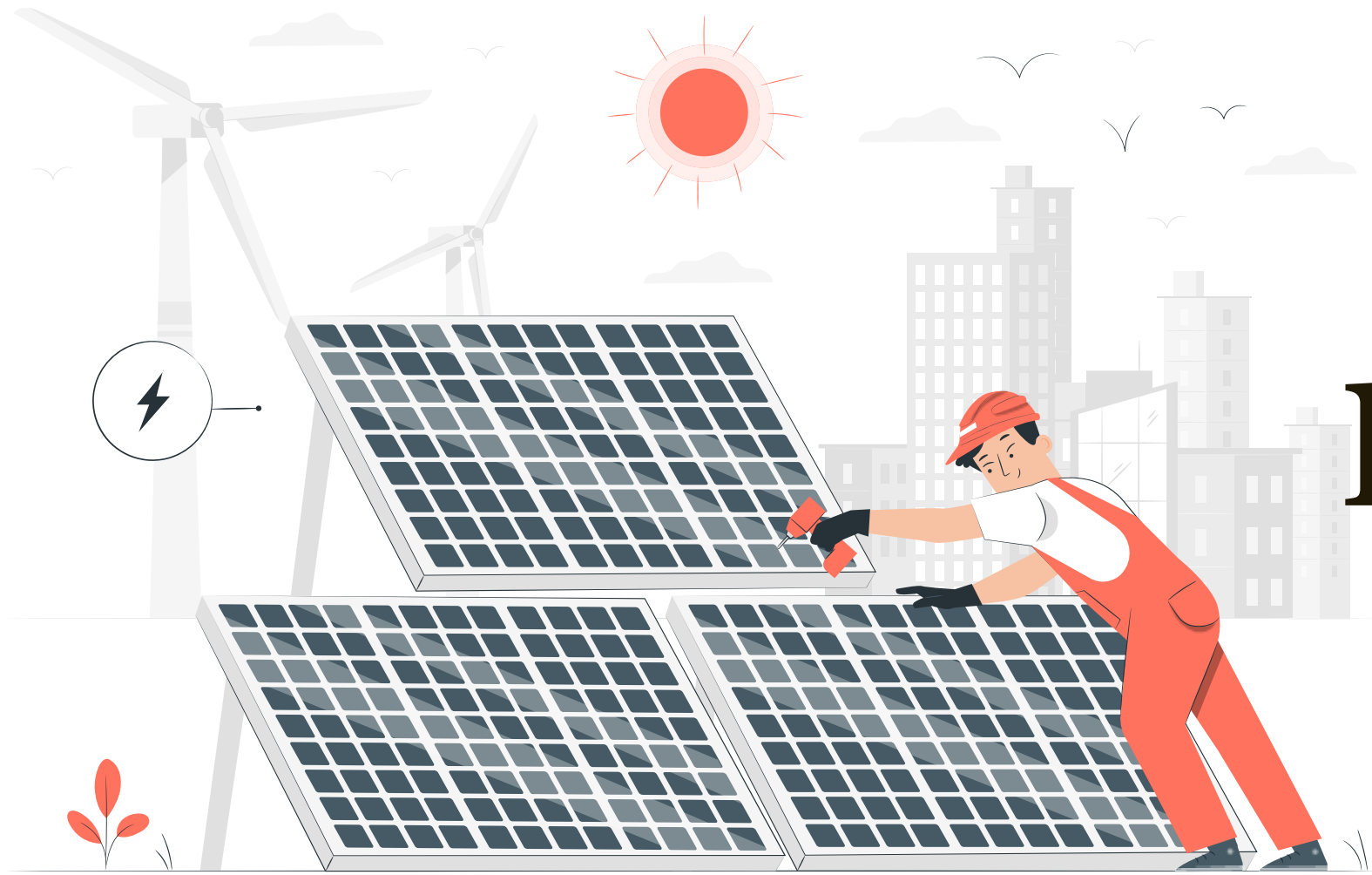


The savings over 25 years could be \$68,003.10



The Power of
Enphase

ENPHASE.

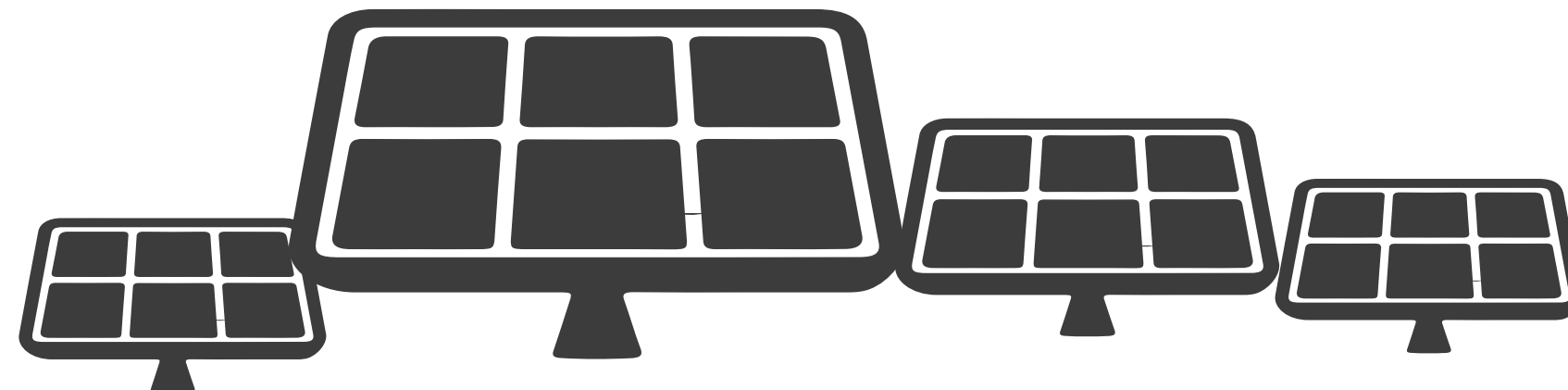


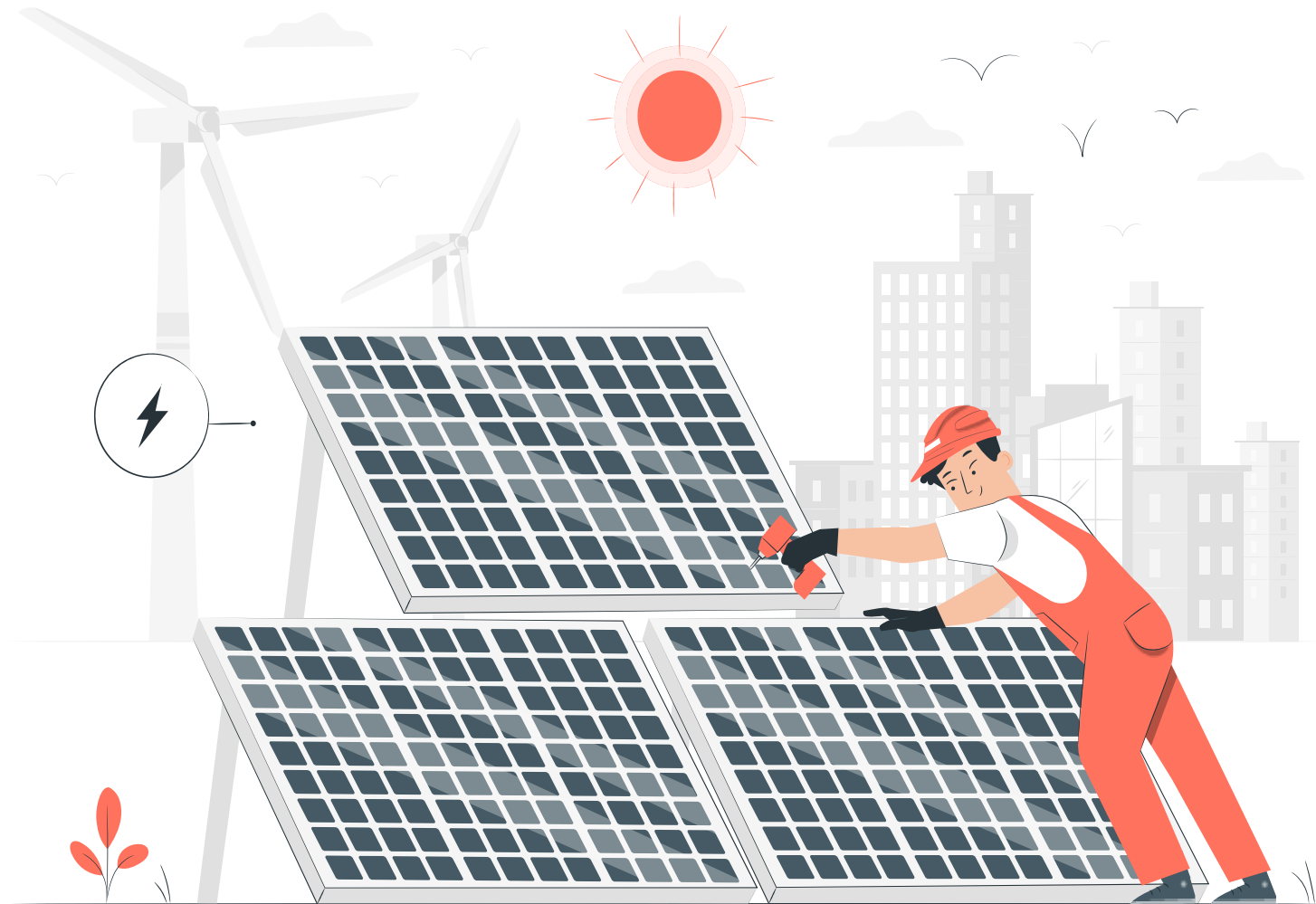
**Is there a
problem
putting
panels on
metal
roofs ?**

Problem with a metal roof?

ANSWER:

No, there are many different approved support systems for metal roofs.



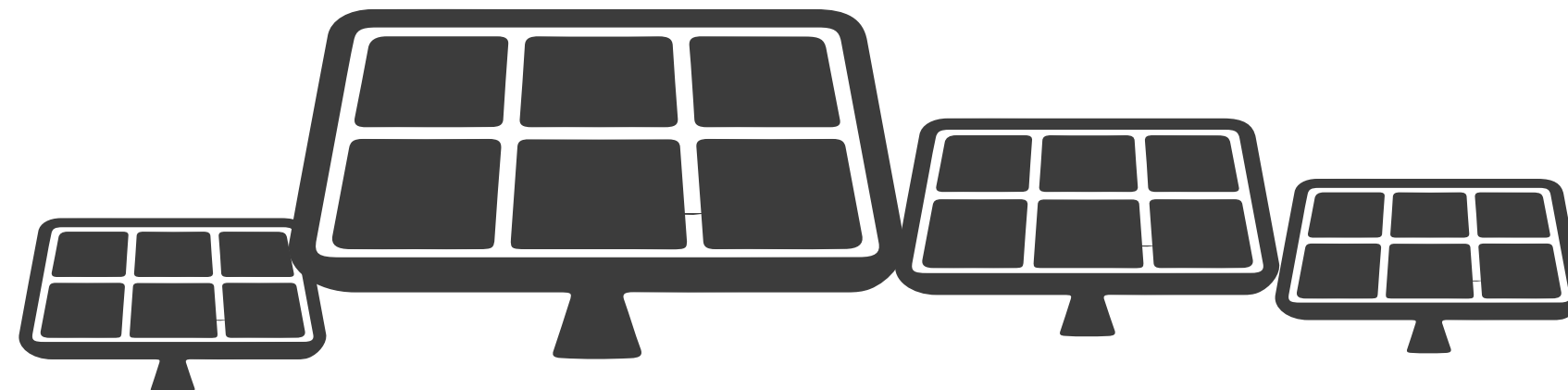


**Should I
replace the
roof before
putting on
panels ?**

Removing panels for a new roof?

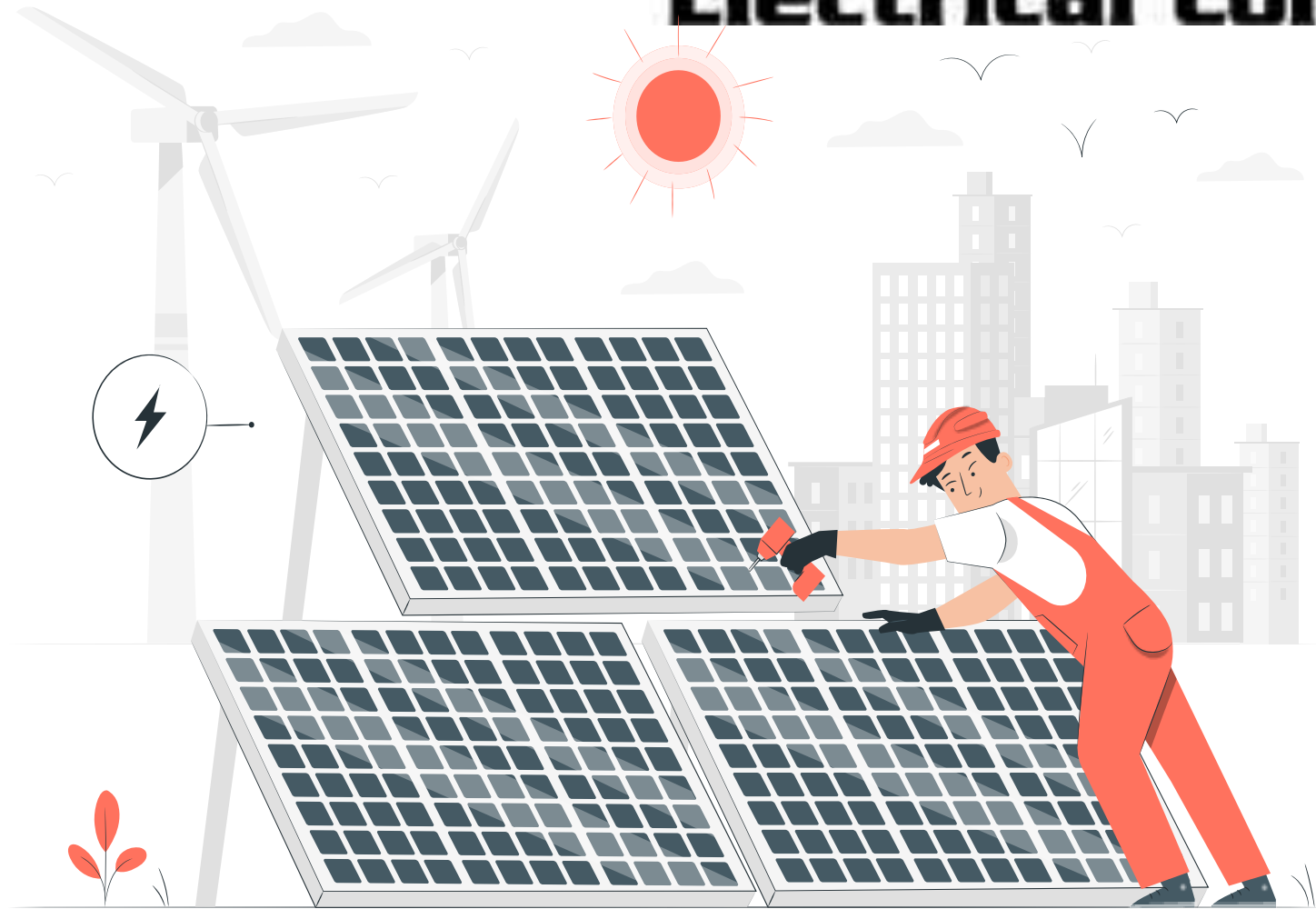
ANSWER:

Removing and replacing panels will cost
\$1500-\$6000.



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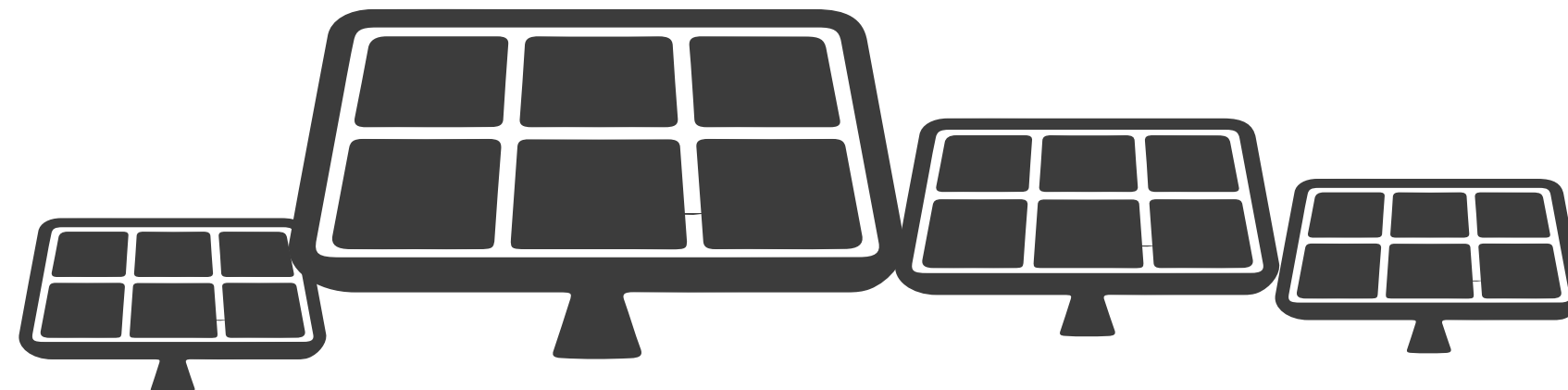


**What is
the max
kWh
available?**

Max kWh?

ANSWER:

None. Your limit should be on what you need only.





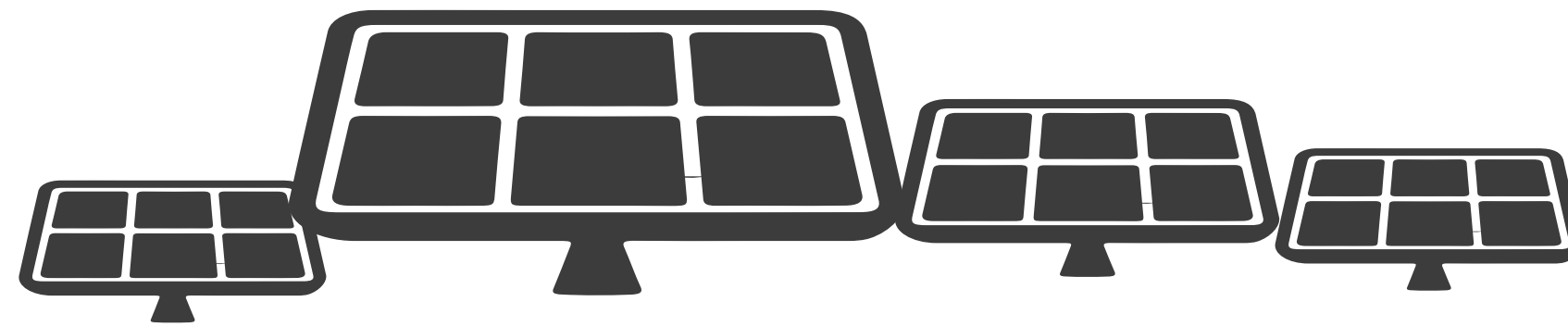
**Am I limited by
the number of
panels on the
roof ?**

Limited by the number of panels?

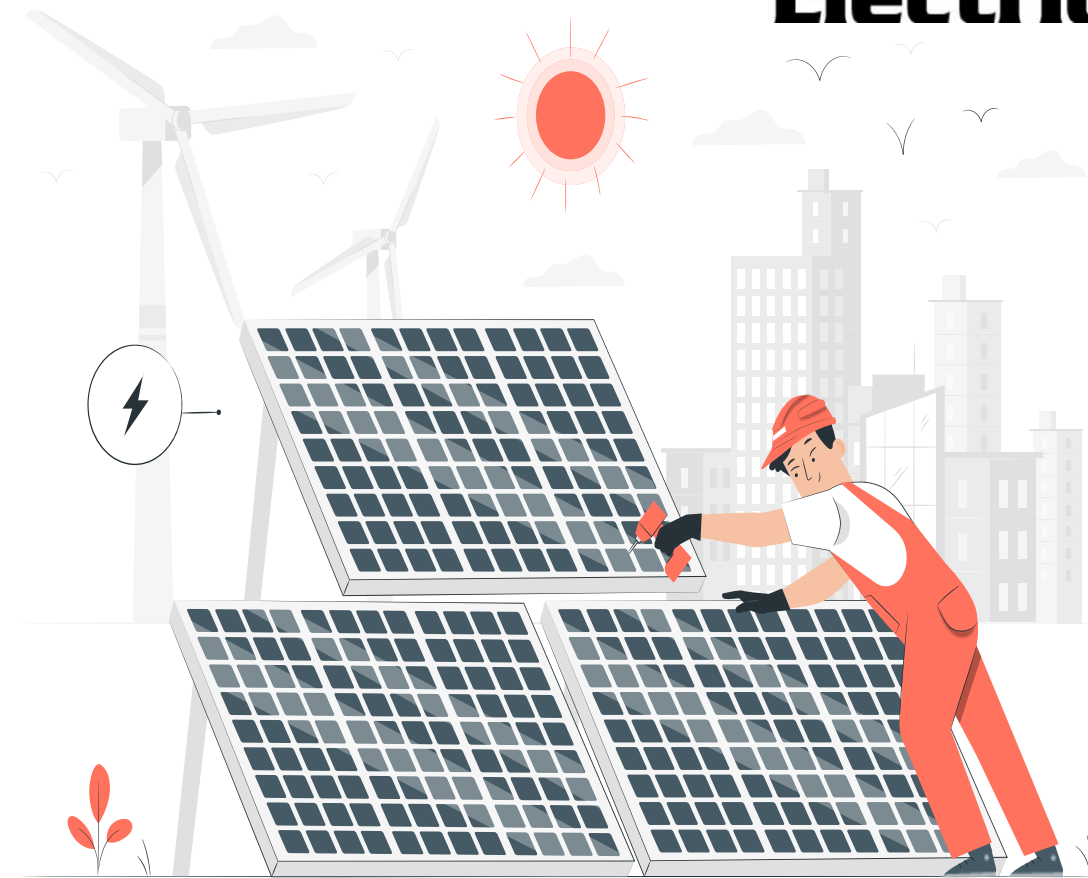
ANSWER:

Tier 1 – residential up to 11.764 kw limits insurance increase to the value of the solar only.

Tier 2 – above 11.764 kw requires a \$1million insurance umbrella plus to the value increase



**What is the
annual
maintenance
necessary
for inverters
and/or
panels?**

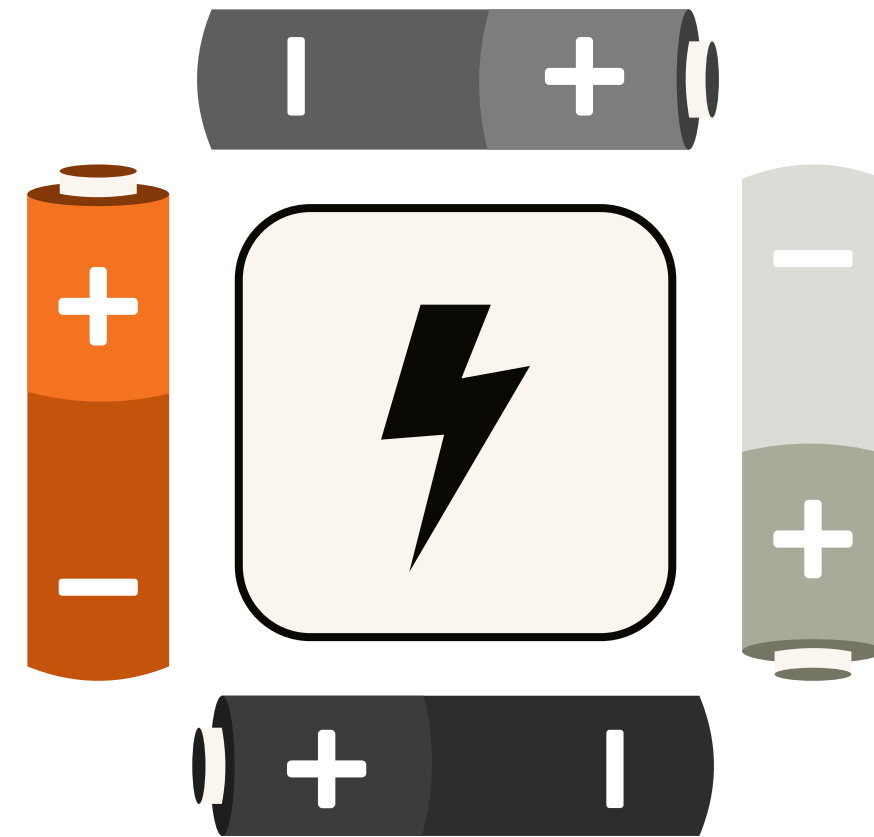


What is the
annual
maintenance
necessary for
inverters
and/or panels ?



About 2-4
times per
year

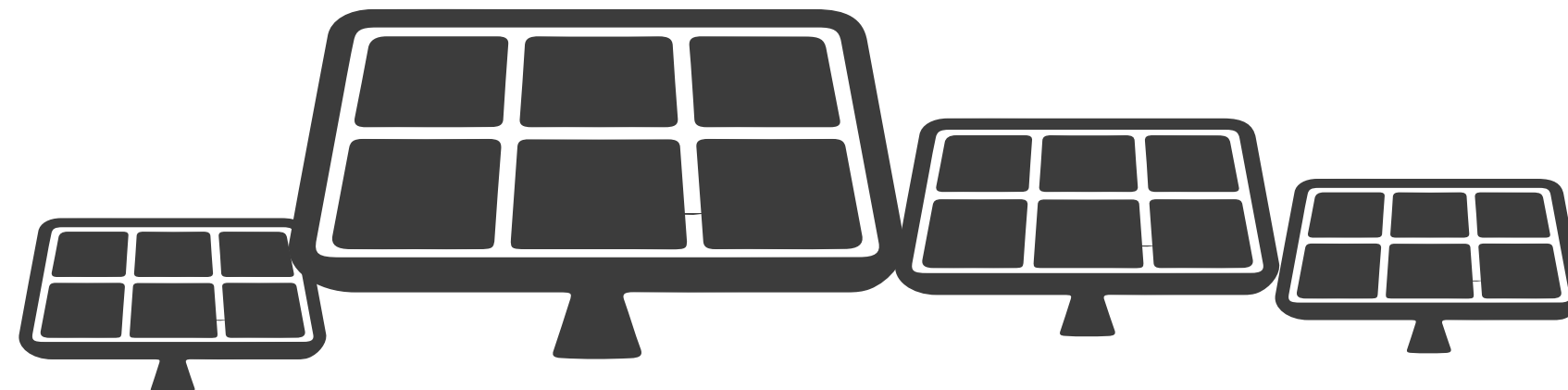
**What happens
if you have a
solar water
collector and
solar panels for
electricity ?**



Solar water collector and solar panels?

ANSWER:

You save money!





What are the current costs ?

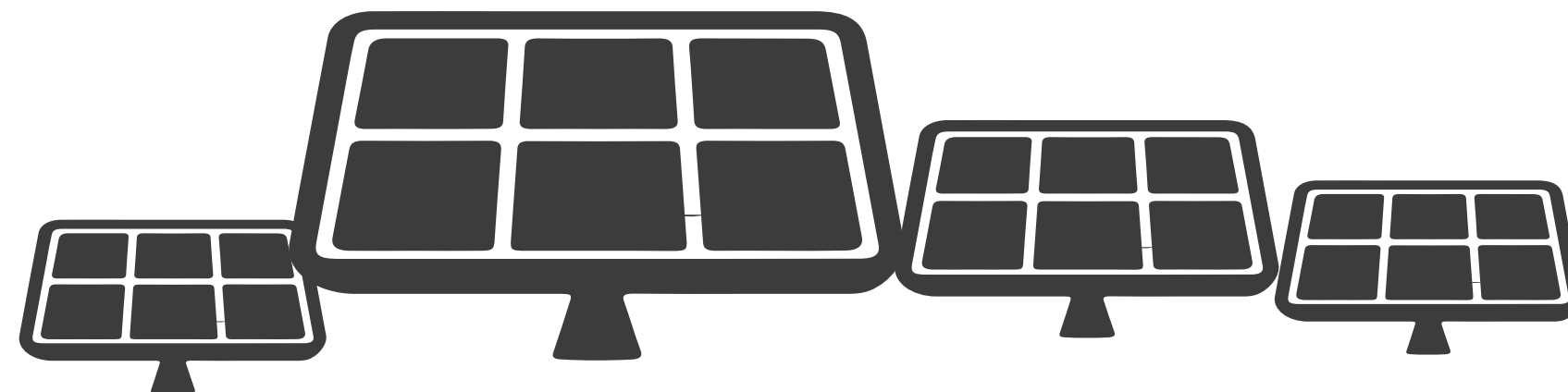
Current solar costs?

ANSWER:

The average cost would be for a 10kw system.

\$4 per watt

\$40,000-\$12,000 (30% tax credit) = \$28,000



What are the current tax breaks ?

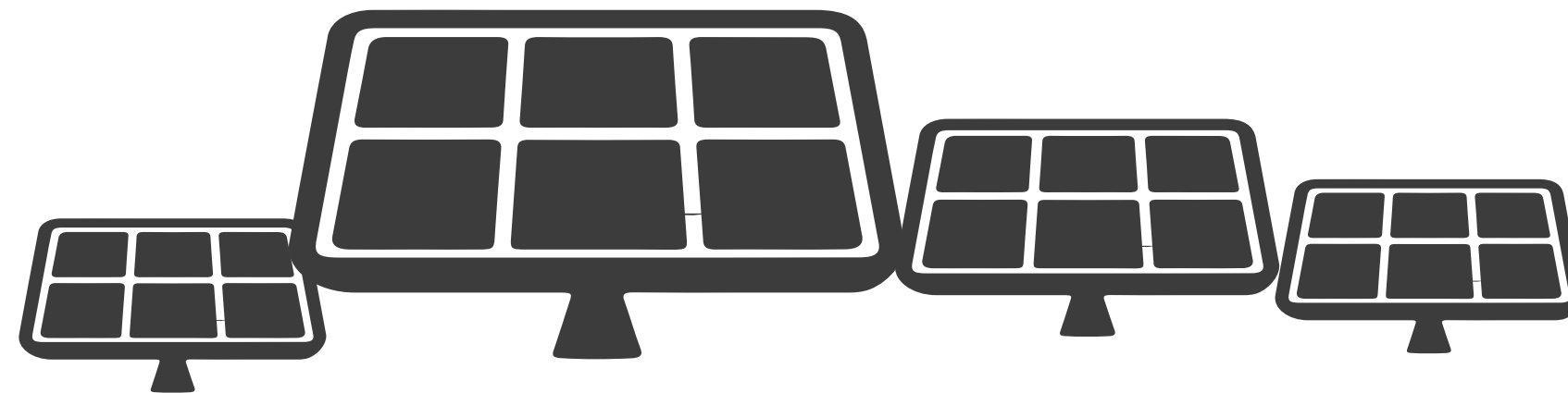


Current tax breaks?

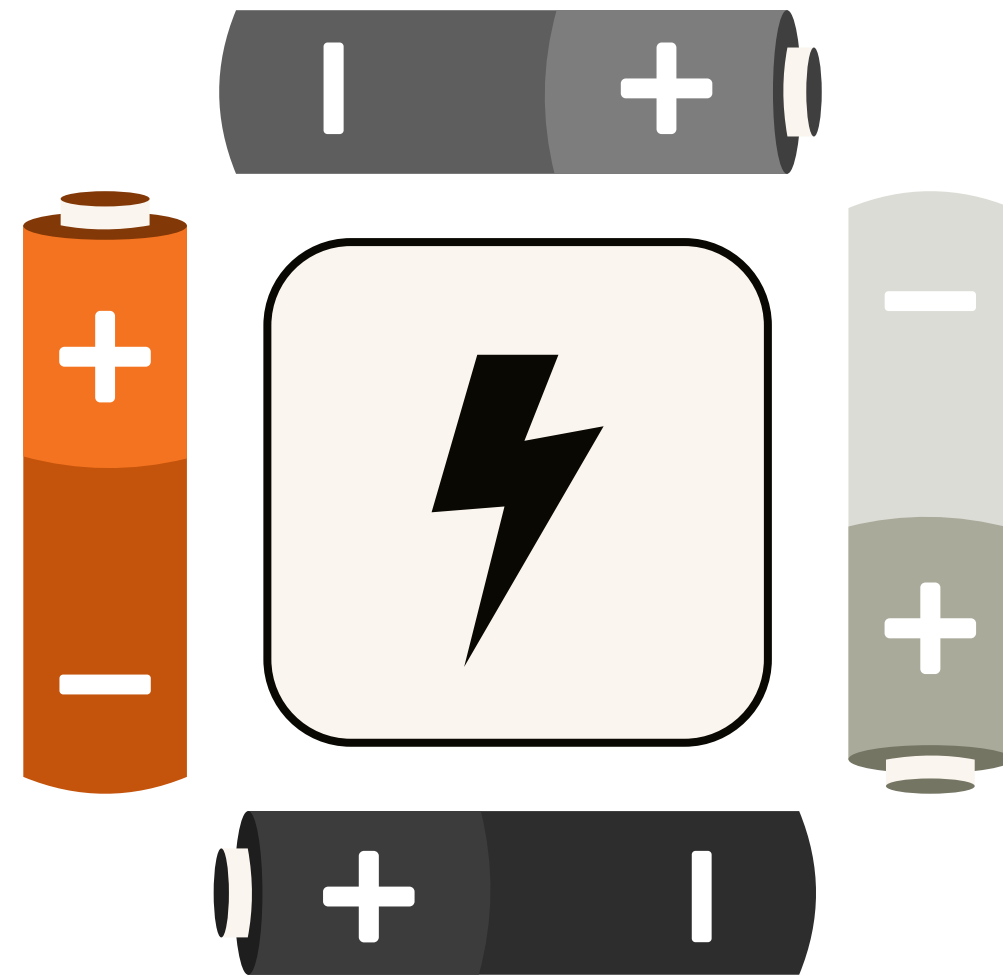
ANSWER:

2022-2032

30% Tax Credit off the entire
solar project.



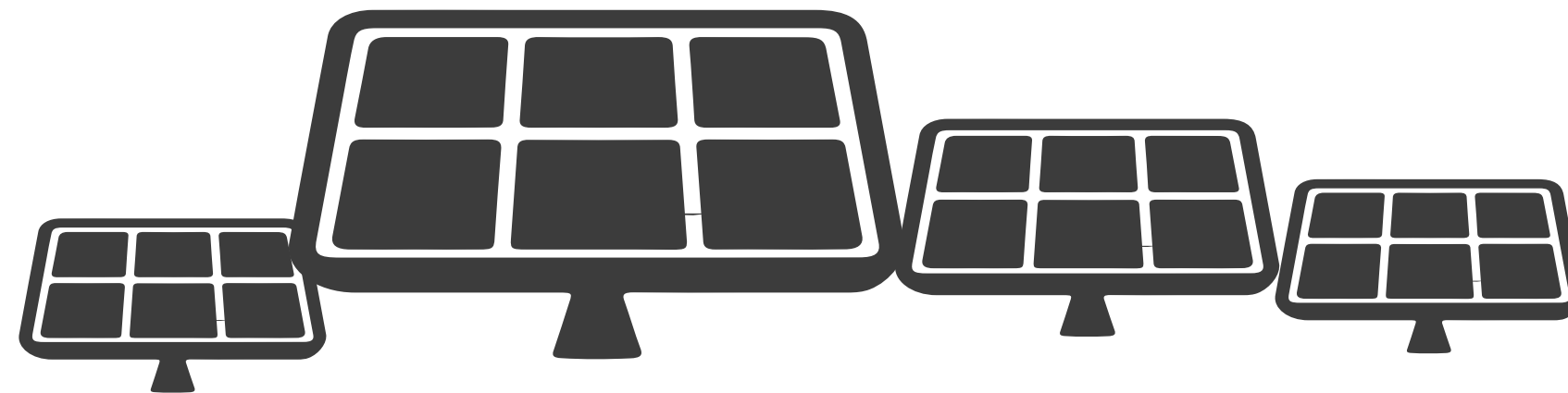
**How long
will it take
to install
from
ordering to
“switch on”?**



Time to install?

ANSWER:

The average time is
about 2 months.



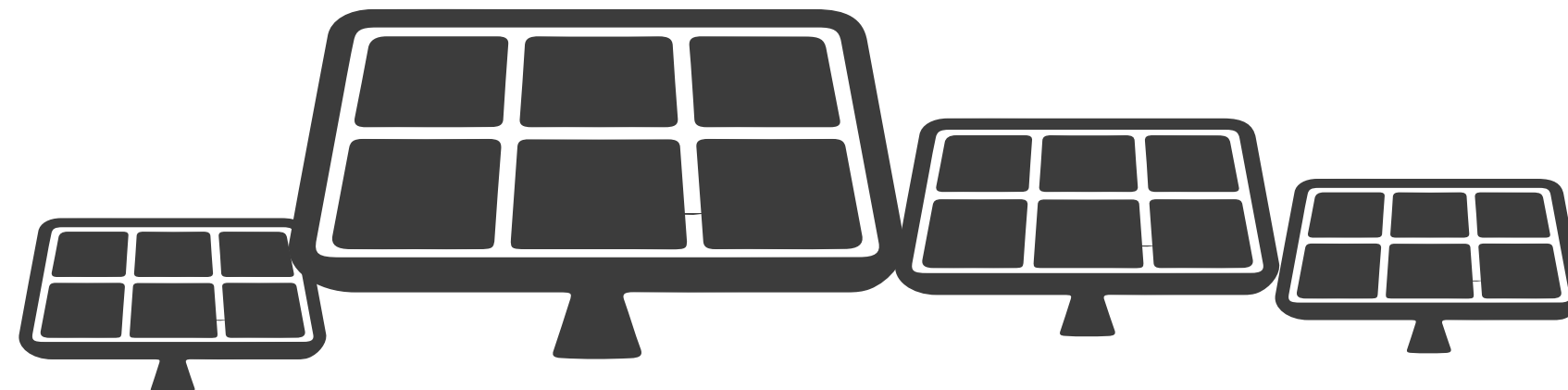


**What is the
amount of roof
space needed
and the
direction of
the bulk of the
roof space?**

Roof space and direction?

ANSWER:

Eighteen inches from the ridge and three feet from the bottom and sides. Best is southern, then West or East and North is last.



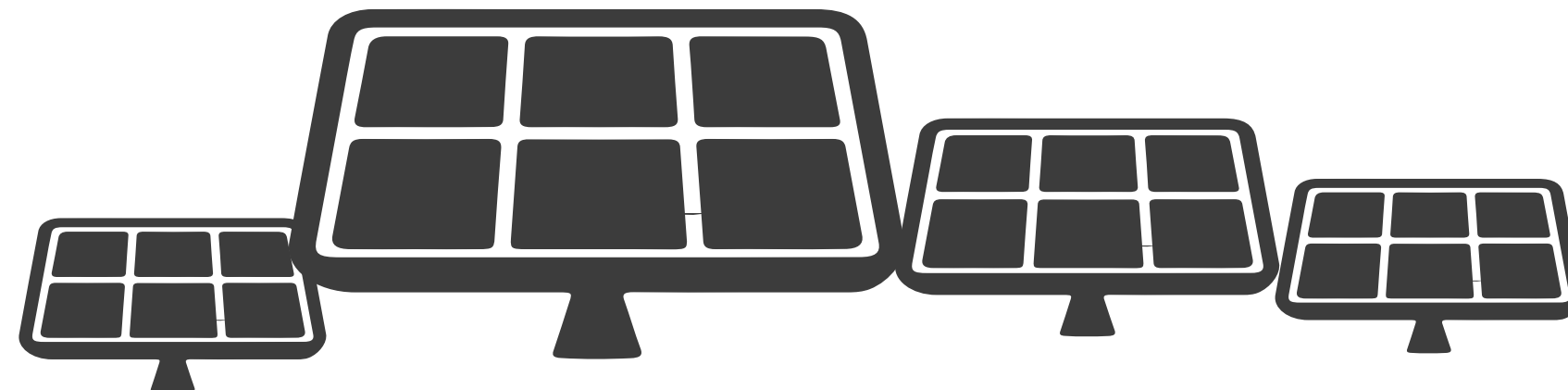
**Lease
Options
? v. ?
Buying
Outright**



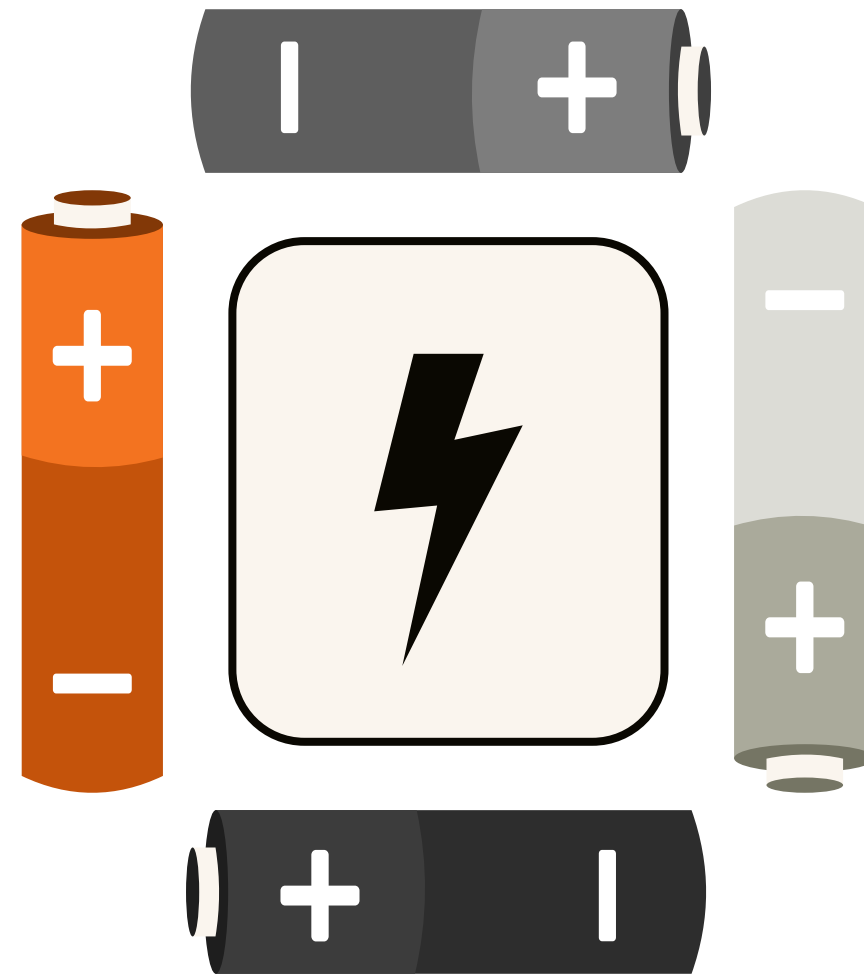
Lease v. Buy

ANSWER:

If you lease, you do not receive a tax credit on your system. It also hinders your property's title.



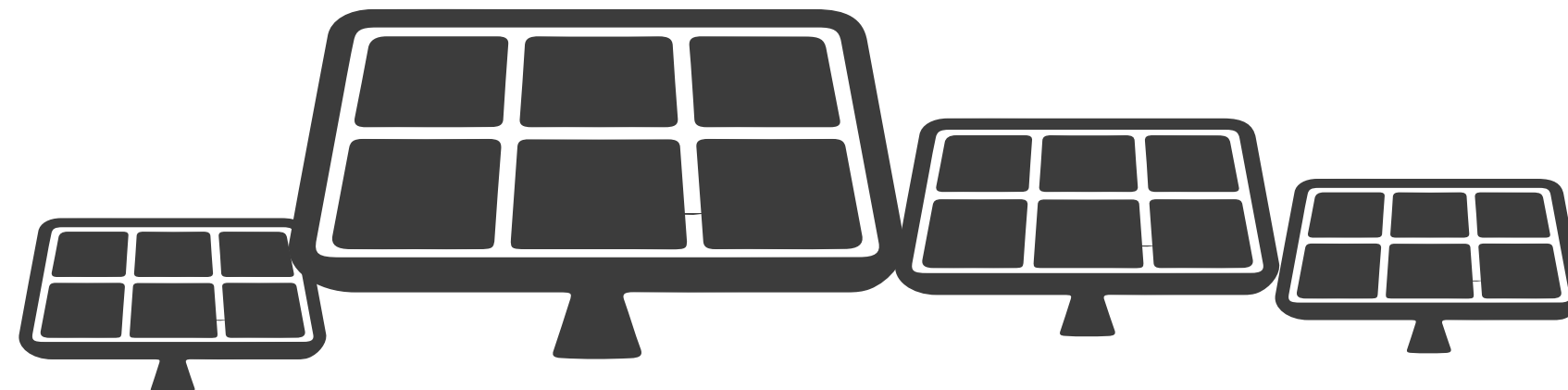
How do you
know if a
panel is
degrading
or has gone
out ?



How do you know if panel is degrading?

ANSWER:

The app will show the % of power output.



Enphase Energy

Enphase Energy is the leading supplier of microinverter-based solar and battery systems that enable people to make, use, save, and even sell their own power—and control it all with a smart mobile app.

This is the new energy future we've been waiting for.

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 ENPHASE.



A commitment to excellence

Since 2006, Enphase Energy has worked to revolutionize how solar power is made, used, saved, and sold by providing homeowners with home energy systems.



¹All figures as of 9/30/2021



Unparalleled innovation

8

generations of microinverters

300+

patents issued¹

22+ million

hours of testing each year¹

Market leadership

50%+

inverter market share in the U.S.¹

1.7 million

systems deployed¹

39 million

microinverters shipped¹

Dedication to customers

25-year

industry-leading microinverter limited warranty

24/7

customer support

<1 minute

customer wait time

¹All figures as of 9/30/2021

The Enphase Energy System

It's a new day for solar power



The smart, all-in-one home energy system

Enphase App

Always know how much power you're making, using, and saving in real time, and over time, with the Enphase app.

Use the IQ Load Controller feature to manage essential appliances during an outage.

Enphase IQ Microinverters

The genius of Enphase IQ Microinverters is how they connect to each solar panel on the roof but work independently. If one panel fails, the entire system keeps working.

Enphase IQ Battery

Store solar power to use anytime—at night or during peak hours to reduce energy bills, or when there's an outage and utility power is unavailable.

Enphase IQ Microinverters

Enphase App

Enphase IQ Battery

Scan for more



Design a system that's right for you

| | Solar Only | Sunlight Backup* | Home Essentials Backup | Full Energy Independence |
|------------------------------------------------------------------------------------------------------|------------|------------------|------------------------|--------------------------|
| Save money on my monthly utility bills | ● | ● | ● | ● |
| Reduce my carbon footprint | ● | ● | ● | ● |
| Manage my system's performance live, and over time, on a mobile app | ● | ● | ● | ● |
| Power basic appliances during an outage (phones, lights, fans or a fridge) | | With sunlight | Day and night | Day and night |
| Seamlessly integrate an AC standby generator during an outage | | ● | ● | ● |
| Manage appliances during an outage (shed air conditioner, EV charger, heat pump, washer/dryer, etc.) | | | ● | ● |
| Participate in grid services programs to make money (where available) | | | ● | ● |
| Power my whole home during an extended outage and eliminate my energy bills | | | | ● |

* Requires essential loads panel and one IQ Load Controller.
 ** The Enphase IQ Load Controller is highly recommended to shed all power-hungry appliances during outages.

Enphase system components

Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C

4C
 Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C
 IQ System Controller 2
 Essential loads solution*

Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C
 IQ System Controller 2
 IQ Battery 3/3T
 IQ Load Controller**

Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C
 IQ System Controller 2
 IQ Battery 3/3T + 10/10T
 IQ Load Controller**

Solar, battery, and software designed to work together as an all-in-one energy system to power homes and small businesses.

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Enphase App

A powerful companion for your entire system: see all your energy data in a single app, both in real-time and as it fluctuates over time.



Enphase IQ8 Microinverter

Microgrid-forming technology provides Sunlight Backup during outages, and IQ8's super-fast response times remove Enphase battery sizing limitations.



Enphase IQ Battery

Stores your solar power to use anytime—at night, during peak hours to reduce energy bills, or when there's an outage and utility power is unavailable.



Enphase IQ System Controller

Connects the home to the grid, batteries, and solar panels, automatically detecting and seamlessly transitioning from grid power to backup power.



Enphase IQ Combiner

A communications gateway that enables monitoring and switching between make, use, save, or sell modes for your home energy system.



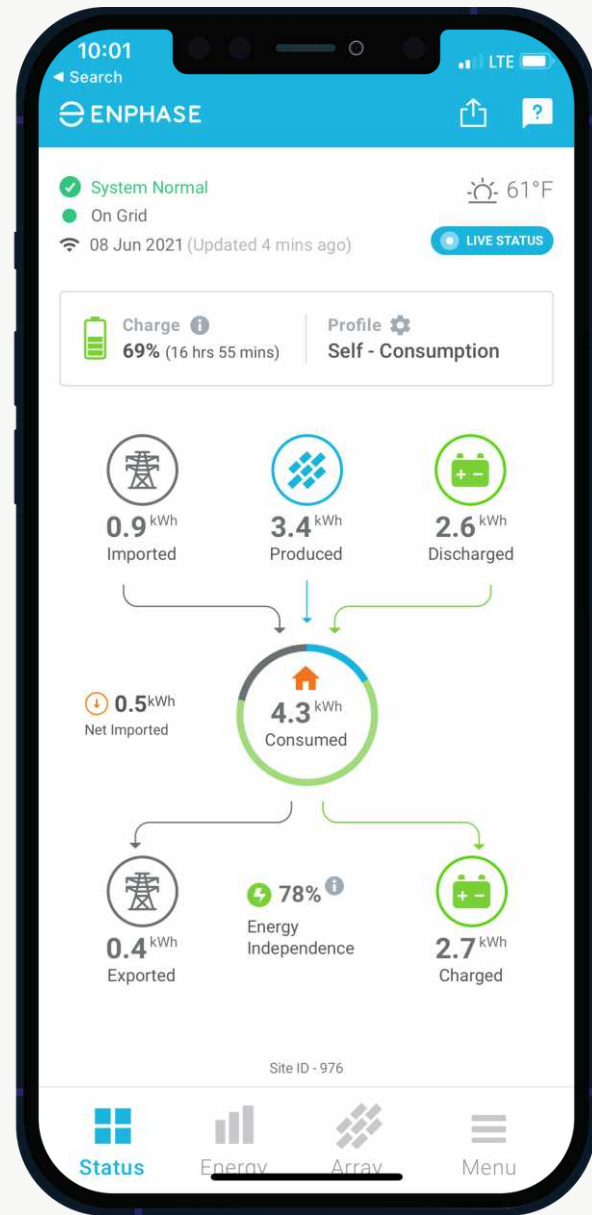
Enphase IQ Load Controller

Turns off power to nonessential appliances in the event of an outage and directs battery power to where it's needed most.

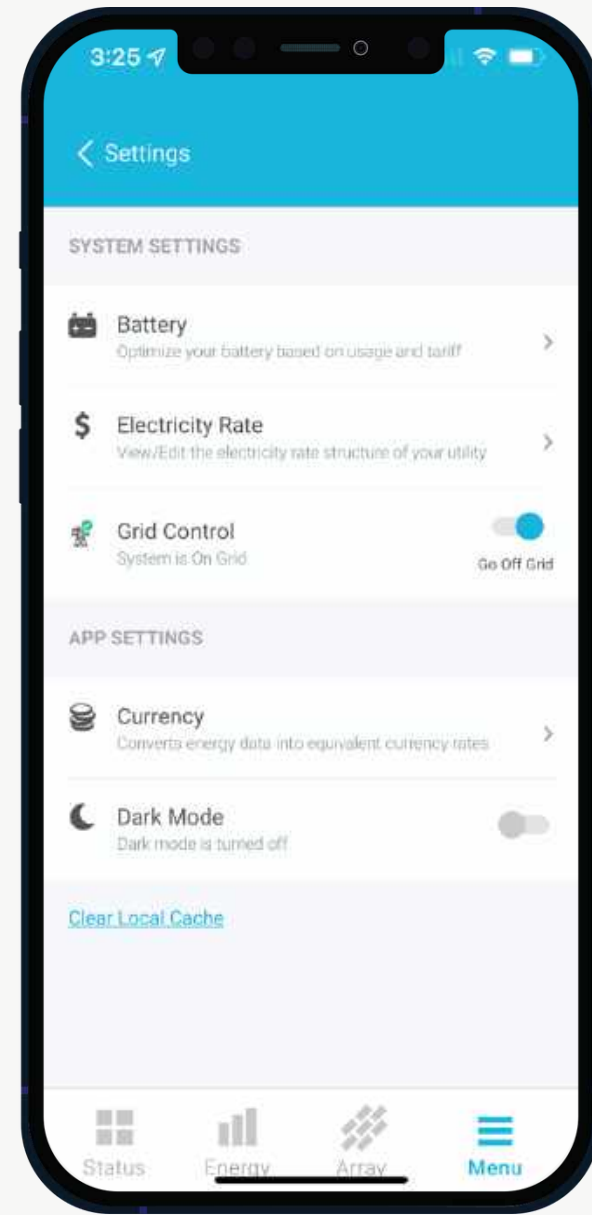
The Enphase App

The power of the sun at your fingertips

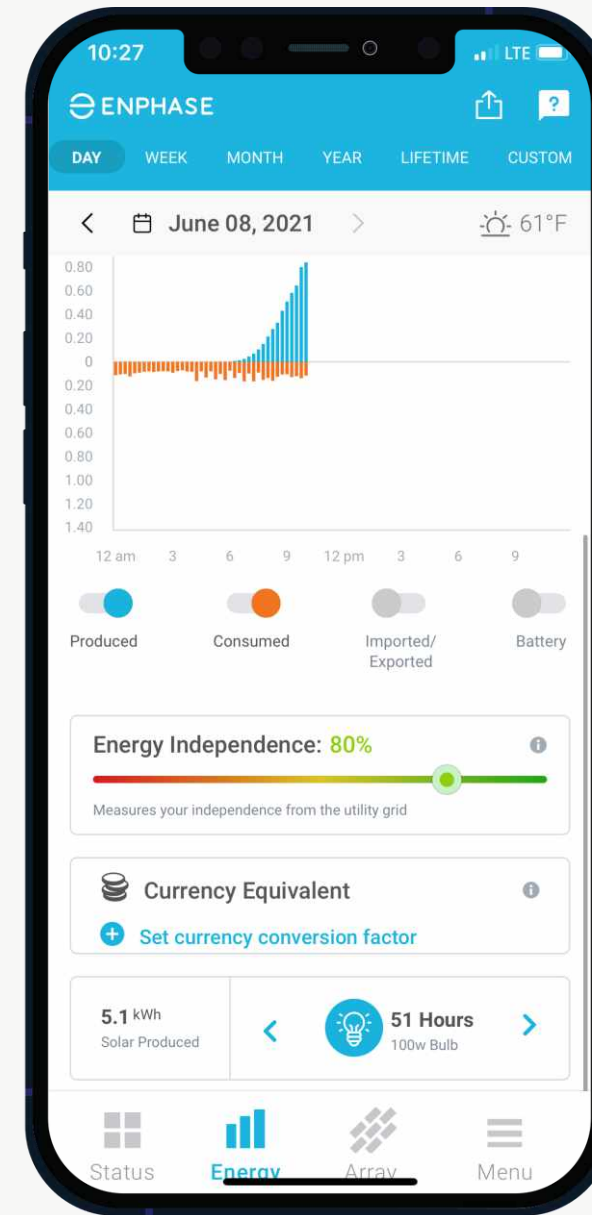




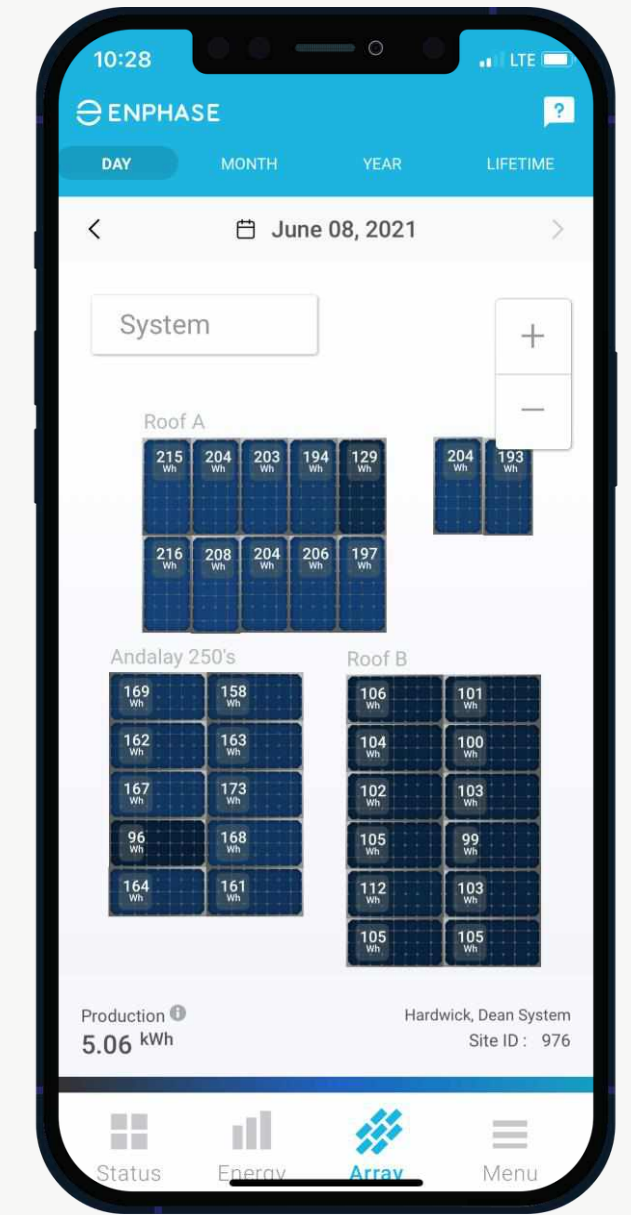
Know your energy system vitals in real-time.



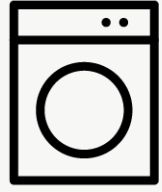
Seamlessly disconnect your home from the utility grid at the tap of a button.



View your energy production and consumption over time.



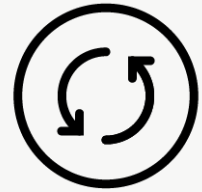
Get data from each solar panel by day, month, year, or enter a custom range.



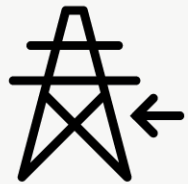
Choose which appliances to back up and prioritize in the event of an outage.



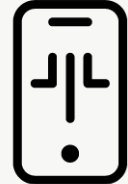
Contact customer support and troubleshoot your system directly in the Enphase App.



Get alerts about extreme weather events so you can prepare the home to stay powered during an outage.

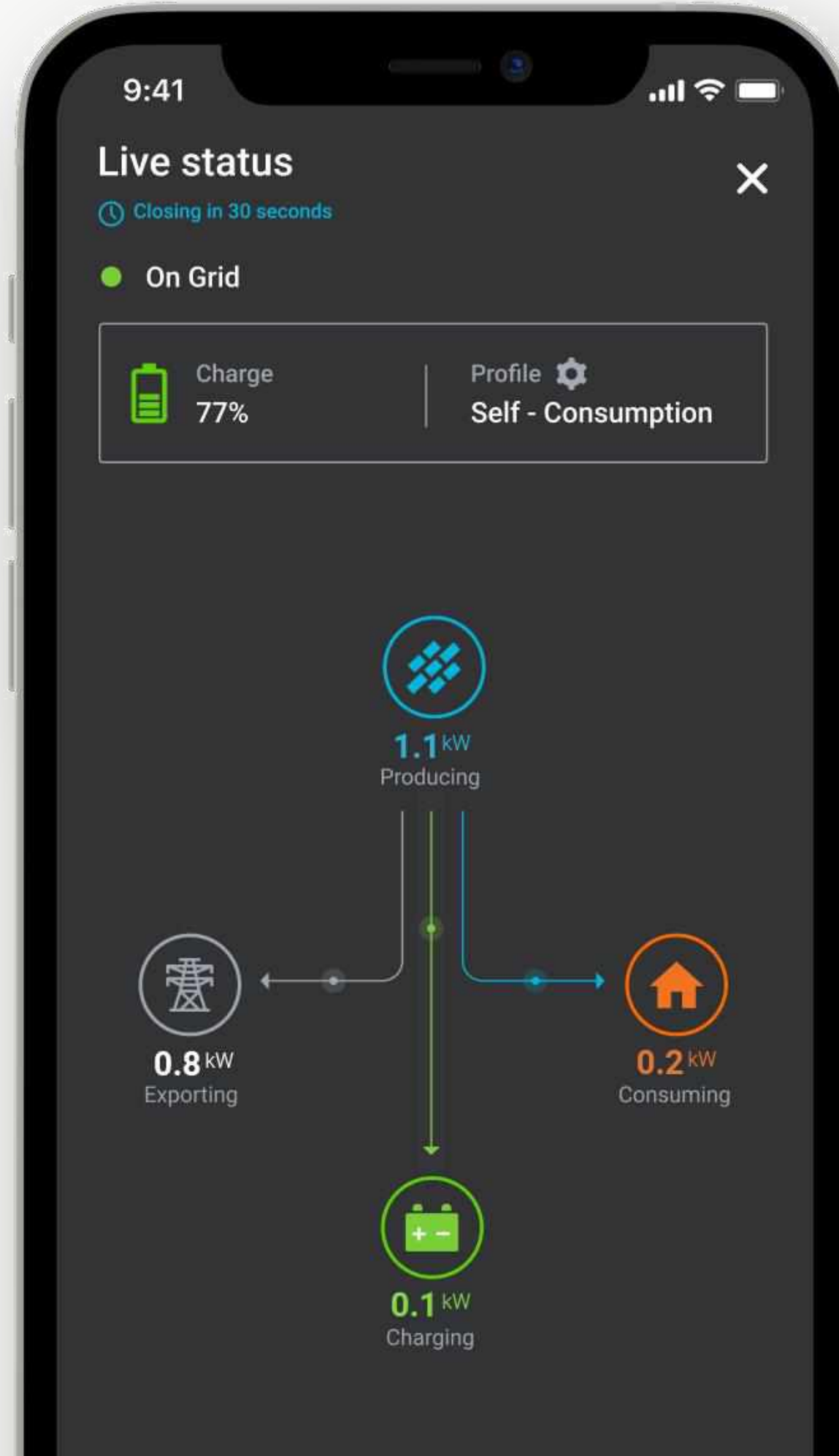


Sell surplus electricity back to your utility provider for cash or credit on your bill.*



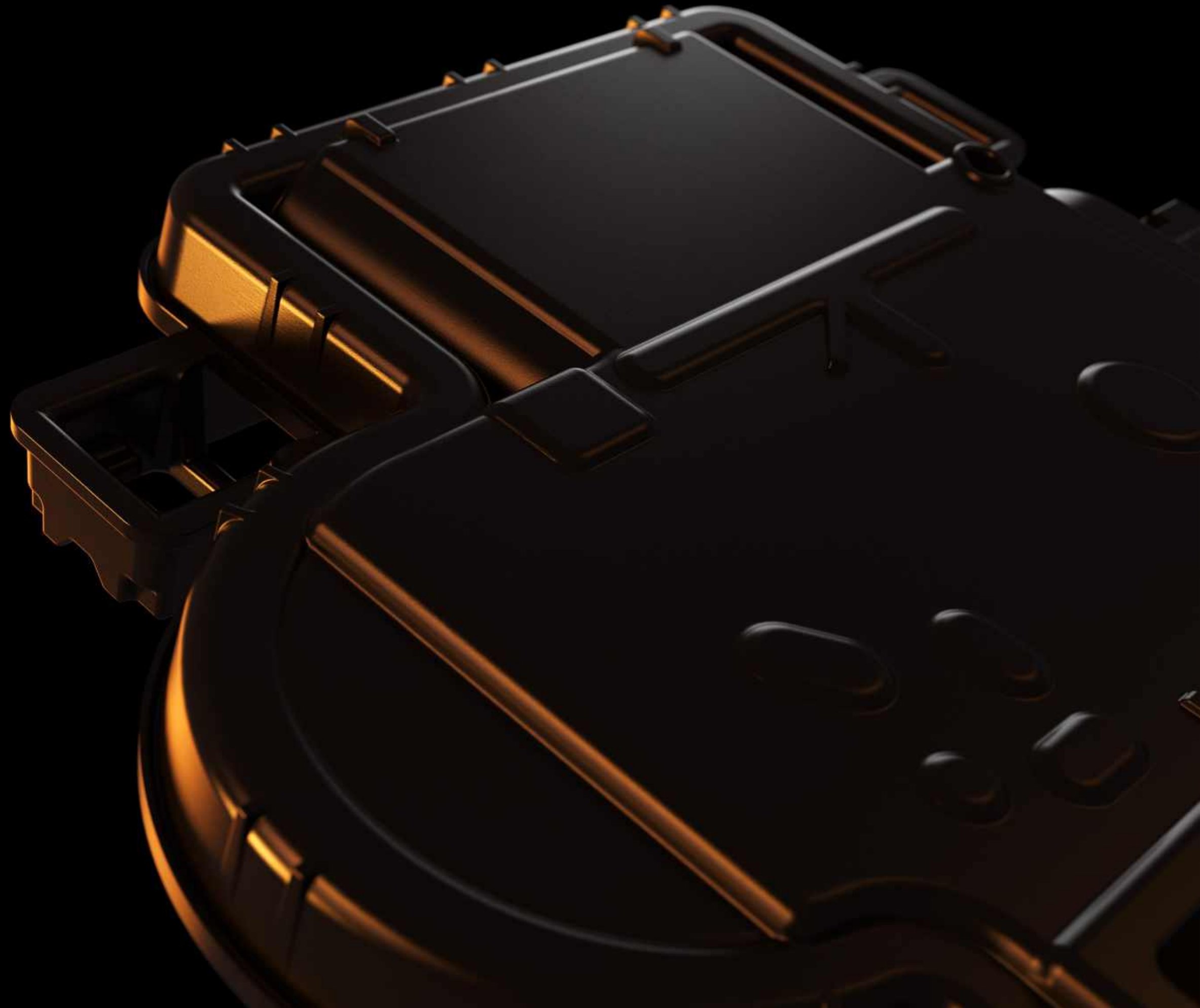
Smart settings automatically optimize backup power, energy savings, or both.

* Available in select locations.



The IQ8 Microinverter

Its IQ is off the charts



The IQ8 Microinverter

Seamless switching on or off grid.

IQ8, our most powerful software-defined microinverter ever, is powered by a proprietary, intelligent chip, that makes switching between on or off grid virtually seamless.

Sunlight Backup— an industry first.

With IQ8, power essential appliances—lights, fans, and phones—during daytime outages, even without a home battery.

More power to your home.

In an outage, other energy systems limit the amount of energy you can produce based on battery capacity. With IQ8, produce as much solar energy as you can make, regardless of battery size, maximizing your investment in solar.



The IQ8 Microinverter

Future proof your investment.

With IQ8 at the core, Enphase Energy Systems are flexible and scalable. Start with an IQ8 solar-only system and add Enphase IQ Batteries and an IQ Load Controller as energy needs grow for resiliency.

More power per square foot.

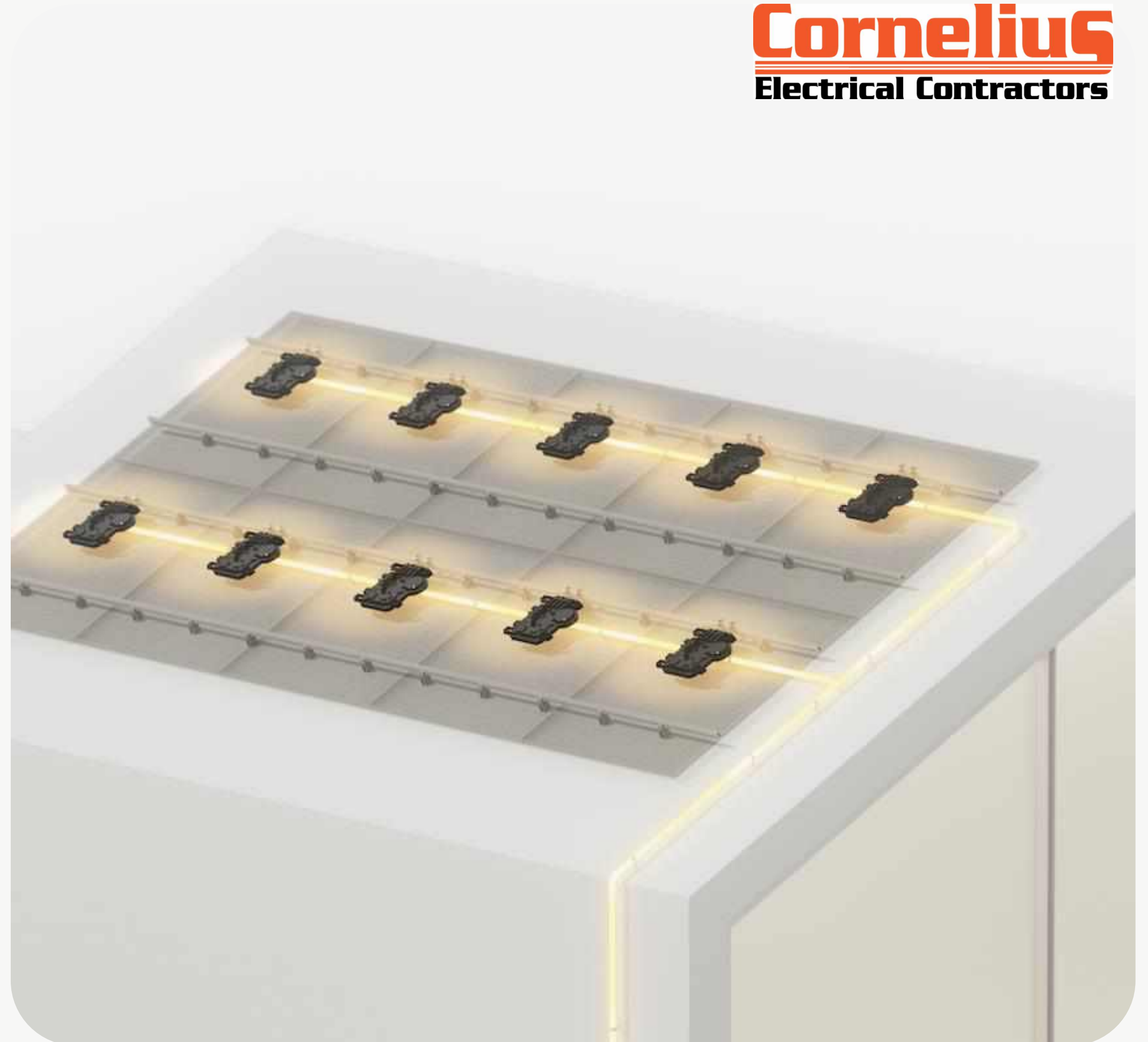
Our highest-output microinverters ever, IQ8 packs more power into less space than other rooftop solar systems.

Industry-leading limited warranty.

IQ8 microinverters are backed by an industry-leading 25-year limited warranty.



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IQ Microinverter advantages



IQ Microinverter advantages

Enphase Energy’s pioneering microinverter technology made rooftop solar more productive, reliable, smart, and safe when it was introduced 15 years ago. Today, more than 1.7 million homes across 130 countries rely on 39 million Enphase microinverters—and counting—to gain access to solar energy.



Microinverter vs. string inverter

| | Enphase (Micro) | Others (String) | Why Enphase |
|------------------------------------------|--------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------|
| Continuous power during a daytime outage | Yes, with IQ8 | No | With IQ8, power essential appliances—lights, fans, and phones— during daytime outages, even without a home battery. |
| Single point of failure | No | Yes | Independently functioning microinverters remove the single point of failure resulting in a more reliable solar system. |
| Limited warranty | 25 years | 10–15 years | A longer limited warranty means a better customer experience. |
| Rapid Shutdown compliance | No additional equipment needed | Additional equipment needed | Enphase microinverters simplify safety by including built-in Rapid Shutdown capabilities. |
| Module-level monitoring | Yes | No | Easily track production and quickly pinpoint issues with module-level monitoring. |
| Design flexibility | High | Low | Maximize rooftop space and adapt to design challenges with microinverters. |
| Electrical safety | Safer AC on the roof | High-voltage DC on the roof | We virtually eliminate the risk of an arc-fault fire on your roof by running only AC on the roof. |
| Modular | Yes | No | The modular microinverter design means you can quickly and easily expand your system as your needs grow. |

The IQ Battery

It shines when the sun sets



The IQ Battery

Designed for maximum safety.

By using lithium iron phosphate battery chemistry, Enphase puts safety first where it matters most—your home. Enphase IQ Battery operates at low-voltage DC power, avoiding the dangers that come with high-voltage DC power.

Smart backup with or without the grid.

In the event of a grid outage, our Power Start™ technology can intelligently provide enough surge power to smoothly start power-hungry appliances.

Reliable power you can use anytime.

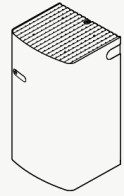
Enphase batteries use multiple IQ8 microinverters—the same as used in our solar products—so your power keeps flowing.



The IQ Battery

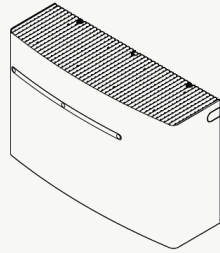
Perfect size, perfect fit.

IQ Batteries come in two capacities to provide the most flexibility when designing your storage needs—and each are available in two sizes to fit any space.



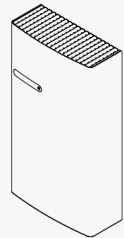
IQ Battery 3

3.36 kWh capacity
14.5"W x 26.2"H x 12.6"D



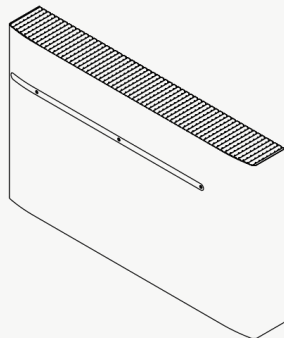
IQ Battery 10

10 kWh capacity
42.1"W x 26.2"H x 12.6"D



IQ Battery 3T

3.36 kWh capacity
16.9"W x 30.5"H x 7.4"D



IQ Battery 10T

10 kWh capacity
50.5"W x 30.5"H x 7.4"D



IQ Battery advantages

IQ Battery advantages

The Enphase system is efficient, modular, and affordable—and it's making home battery backup more practical for more people than ever.

Enphase IQ Batteries vs. others

| | Enphase | Others | Why Enphase |
|--------------------------------------------------|---------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All-in-one solar plus storage | Yes | No | Enphase unites inverter, battery, and monitoring—one company on a single software platform—creating the most versatile system in the industry. |
| Install any size solar and battery system | Yes | No | With IQ8 microinverters on solar panels, there are no solar and battery ratio sizing restrictions. |
| Modular battery capacity | Yes | Yes | Enphase's AC-coupled system allows you to start small, go big, or grow over time. |
| Safer cobalt-free battery chemistry | Yes | Varies | Enphase batteries use Lithium Iron Phosphate (LFP) battery chemistry to provide industry-leading safety and undergo the most rigorous industry testing and certification. |
| Power Start™ technology | Yes | No | Advanced Power Start™ technology lets you turn on power-sapping appliances smoothly, while reducing the risk of system crashes. |
| Weather alerts and battery prioritization | Yes | Varies | The Storm Guard feature alerts you to extreme weather events headed your way and automatically helps prepare your home to stay powered on during an outage. |
| Load Control | Yes | Varies | Make your battery last longer in an outage by prioritizing and directing power to critical loads to manage how your home's energy is used. |
| AC generator support with no power interruptions | Yes | No | Compatible with most leading AC home standby generators, functions without a generator automatic transfer switch, and eliminates the power glitches normally experienced when switching to generator power. |

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IQ Load Controller

Put your power where you need it most





Extends battery life.

Extend how long your battery will last during an outage by prioritizing essential appliances.



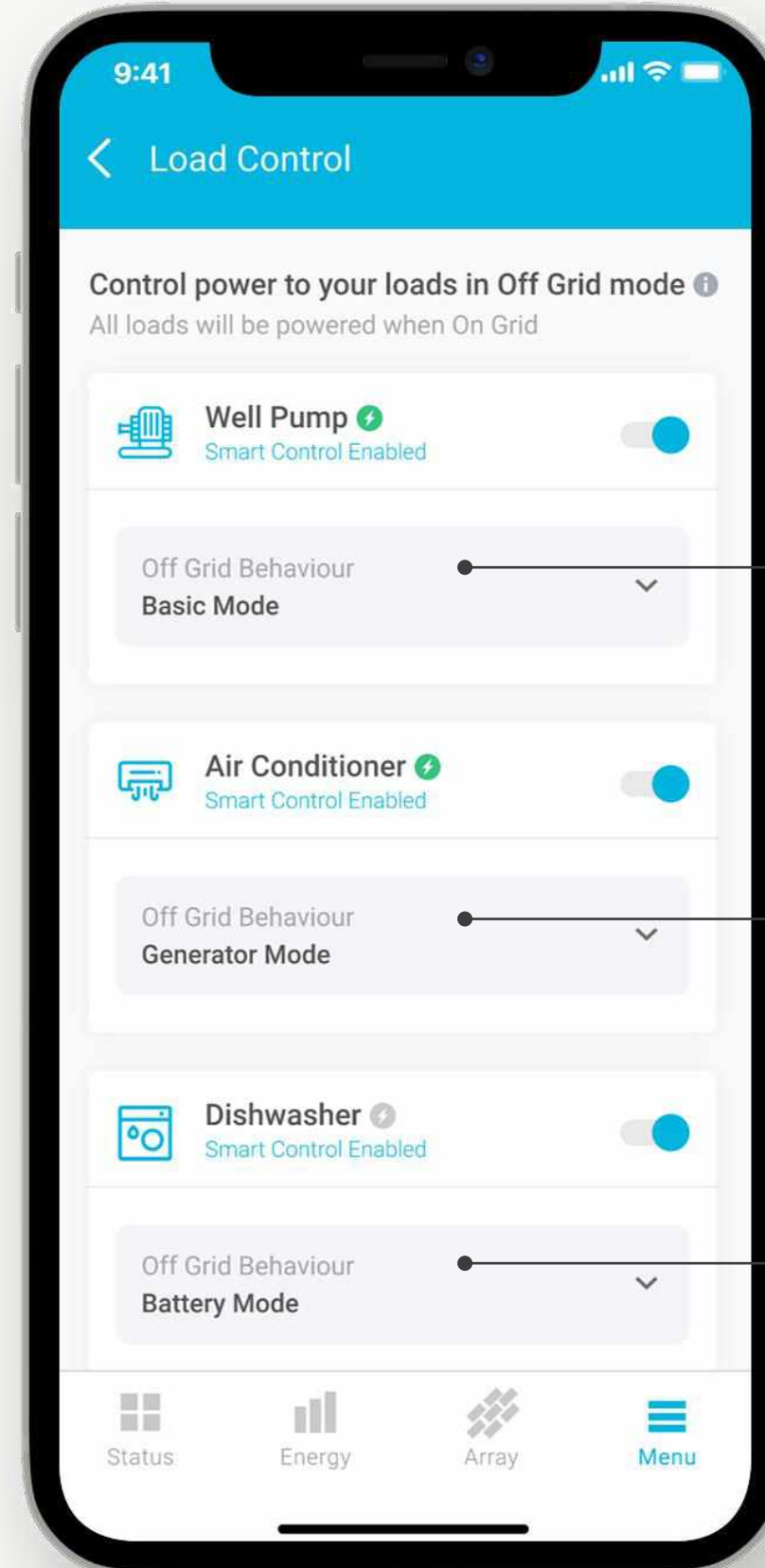
Improves affordability.

Shed excess solar energy while off grid, eliminating restrictions on battery size for legacy microinverters and making batteries more affordable.



Directs power.

Manage your home's power-hungry appliances by automatically directing power to most essential loads.



Choose from three load control modes for flexibility, or manually control loads from the Enphase App

Basic Mode

Appliances selected in the app will simply be turned off during an outage.

Generator Mode

Appliances will be turned off to conserve energy if generator isn't running.

Battery Mode

Appliances will turn on or off depending on the battery's charge level.

Sunlight Jump Start™

Sometimes even your backup
needs a backup.

Today, outages are more frequent, and often last longer.

Now, IQ8- based solar + battery systems include Sunlight Jump Start so your system starts when the sun shines—even if the grid is out for days.

Here's how it works

In the energy industry, “black start” refers to the ability to energize or jump start an AC electrical grid during black out conditions.

Historically, solar battery backup systems have relied on the battery to initiate backup power to the home. However, if your battery backup system is fully depleted due to a prolonged grid outage, like during a storm, the battery will not be able to restart the system, even when the sun returns.

Delivering peace of mind

Sunlight Jump Start—available only with IQ8—solves this problem for the first time as the solar microinverter can energize the home from sunlight and jump start the system, even after the batteries are depleted. With other systems it requires visits by an installer to manually restart the system when the grid is down.

So, when the sun comes out, your IQ8-powered system will restart, recharge the batteries, and power the home—just as you would expect.

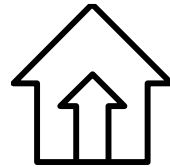


Why it's a must for every Enphase energy system:



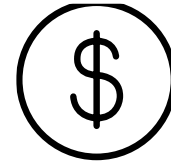
Future-proof solar-only systems

Even if you are starting with a solar-only system, the incremental investment now in a IQ8 microinverter-enabled system ensures that when you add batteries your system will always be available, even during extended outages.



Maximize resiliency

For systems with home batteries, help ensure your system can restart, after you batteries have fully depleted.



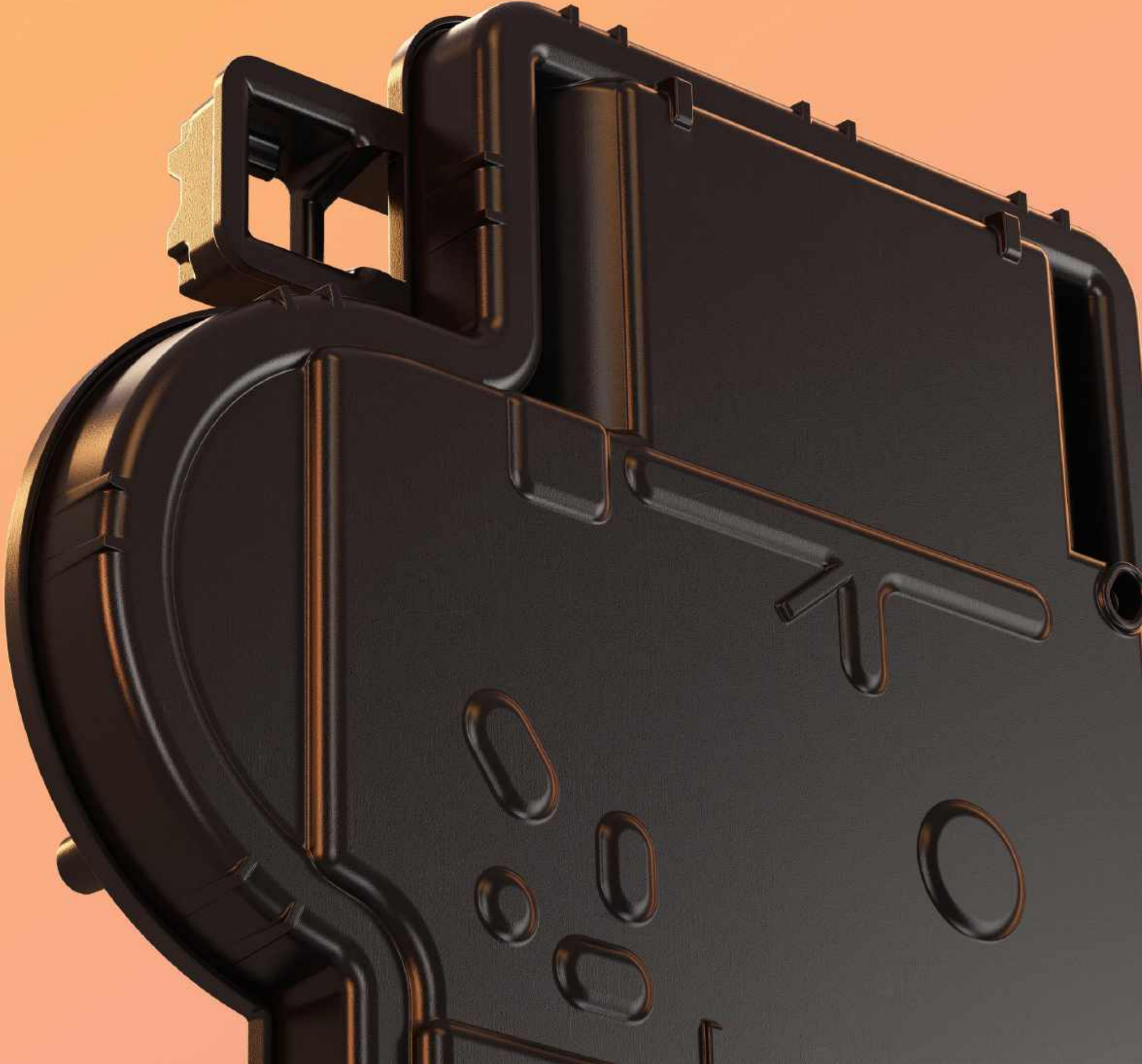
Minimal investment

Sunlight Jump Start is integrated into every IQ8 microinverter, resulting in a minimal investment to provide you with peace of mind and maximum resiliency.

Why should I invest in IQ8 Microinverters if I am building a solar-only system?

1. Use higher output panels and increase maximum continuous power.
2. Overall system will react to grid events quicker with a faster custom ASIC chip.
3. Even more reliability as IQ8 Microinverters reduce the total number of parts versus previous generation microinverters.
4. Future-proof your solar-only investment when you add battery backup later.

Getting started



Design a system that's right for you

| | Solar Only | Sunlight Backup* | Home Essentials Backup | Full Energy Independence |
|------------------------------------------------------------------------------------------------------|------------|------------------|------------------------|--------------------------|
| Save money on my monthly utility bills | ● | ● | ● | ● |
| Reduce my carbon footprint | ● | ● | ● | ● |
| Manage my system's performance live, and over time, on a mobile app | ● | ● | ● | ● |
| Power basic appliances during an outage (phones, lights, fans or a fridge) | | With sunlight | Day and night | Day and night |
| Seamlessly integrate an AC standby generator during an outage | | ● | ● | ● |
| Manage appliances during an outage (shed air conditioner, EV charger, heat pump, washer/dryer, etc.) | | | ● | ● |
| Participate in net metering and grid service programs to make money (where available) | | | ● | ● |
| Power my whole home during an extended outage and eliminate my energy bills | | | | ● |

* Requires essential loads panel and one IQ Load Controller.
 ** The Enphase IQ Load Controller is highly recommended to shed all power-hungry appliances during outages.

Enphase system components

Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C

4C
 Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C
 IQ System Controller 2
 Essential loads solution*

Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C
 IQ System Controller 2
 IQ Battery 3/3T
 IQ Load Controller**

Enphase App
 IQ8 Microinverters
 IQ Combiner 4/4C
 IQ System Controller 2
 IQ Battery 3/3T + 10/10T
 IQ Load Controller**

Enphase Energy Systems are more affordable than ever with financing options available.



Buy a 10kWh battery and a 5-year warranty extension for up to 15 years of limited warranty coverage.



Pay zero interest with no payments for a year or select a 15-year financing option.



Ask your solar installer to help you choose the best financing option for your budget.



Contact your existing financing partner for details.