

SOLAR CONSULTANT

JON NELSEN

**SOLAR**

**POWER**

**UNCOVERED**

**FACT OR FICTION?**  
ANSWERING THE TOP  
SOLAR ENERGY  
QUESTIONS EVERY  
HOMEOWNER WANT  
TO KNOW

[OceanofPDF.com](http://OceanofPDF.com)



SOLAR CONSULTANT

**JON NELSEN**

**SOLAR**

**POWER**

**UNCOVERED**

**FACT OR FICTION?**  
ANSWERING THE TOP  
SOLAR ENERGY  
QUESTIONS EVERY  
HOMEOWNER WANT  
TO KNOW

[OceanofPDF.com](http://OceanofPDF.com)

solar power uncovered

Fact or Fiction? Answering the Top Solar Energy Questions Every  
Homeowner Want to Know

jon nelsen

[OceanofPDF.com](http://OceanofPDF.com)

# **Solar Power Uncovered: Fact or Fiction? Answering the Top Solar Energy Questions Every Homeowner Want to Know**

Copyright © 2023 by Jon Nelsen

All rights reserved.

Disclaimer Notice:

Please note the information contained within this document is for educational and entertainment purposes only. All effort has been executed to present accurate, up to date, reliable, complete information. No warranties of any kind are declared or implied. Readers acknowledge that the author is not engaged in the rendering of legal, financial, medical or professional advice. The content within this book has been derived from various sources. Please consult a licensed professional before attempting any techniques outlined in this book.

By reading this document, the reader agrees that under no circumstances is the author responsible for any losses, direct or indirect, that are incurred as a result of the use of the information contained within this document, including, but not limited to, errors, omissions, or inaccuracies.

This book is written for entertainment purposes only. The statements made in this book do not necessarily reflect the present market at the time of



reading or current views of the author. Furthermore, the author accepts no responsibility for actions taken by the reader as a result of information presented in this book.

No part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without written permission from the author, except for the use of brief quotations in a book review.

[OceanofPDF.com](http://OceanofPDF.com)

## **contents**

[About the Author](#)

[Top 10 Solar Questions & Answers](#)

[Myths](#)

*Common Solar Myths & Why We Believe Them*

[Better Energy.](#)

*Where Energy Comes From & Why Residential Solar Just Makes Sense*

[Net Metering](#)

*What is Net Metering*

[What Uses the Most Energy at Home?](#)

*Where Is All My Power Actually Going?*

[OceanofPDF.com](http://OceanofPDF.com)

## about the author



---

I love talking about solar. I hate talking about myself. So here's six quick things about me and my work. In, out, nobody gets hurt...

---

*“If we lose power one more time, I’m starting my own electric company!”  
Famous last words right?! Living near the woods is great, till a tree falls on a power line. During one such frequent episode, I started looking at ways to protect my family from annoying outages. Now, no windstorm, big or small, can stop me from helping you do the same.*

*I graduated from Liberty University with degrees in both Finance & Psychology. Fell asleep during more classes than I can count, but now listen to economics podcasts in the car for fun... Life's weird like that!*

*I love sports, and unfortunately for my stress, I love Philadelphia Sports. Go Birds!*

*I’m passionate about hiking and nature, but more for the enjoyment of being out of the office than a love of the earth.*

*I sell solar because I stink at selling something I don’t believe in. Solar in a nutshell: | save money | save the planet | increase home value | no unexpected price hikes | own the panels*

*I don’t like to advertise this fact, but I’d do this job for free. It’s my passion. I love helping people and when I believe in something I can’t shut up about it! Also, aside from selling solar, I’m completely unemployable.*



## **Stop Renting Your Energy, Own It Just Like You Own Your Home**

Solar for \$0 down

**Save up to \$200 a month on your energy bills**

**Increase your home value**

Get clean renewable energy

Get a 30-year warranty

**Customized proposal & best value**

**30% Federal Tax Credit available**

[jonnelsen.com](http://jonnelsen.com)

[OceanofPDF.com](http://OceanofPDF.com)

## **top 10 solar questions & answers**

---

**“Learning never exhausts the mind.”**

- Leonardo da Vinci

---

**Have you ever looked at your energy bill and wondered, "There has to be a better way?" Good news – there is, and it's shining right above us. The sun is not just a source of light and warmth; it's a power plant, ready to serve your home's energy needs. Let's dive into the world of solar energy.**

Solar energy is

like your secret stash of cash. It's a one-time investment that keeps on giving. And the best part? You can start with \$0 down. Yes, you heard it right. Zilch, nada, nothing. You're already paying a monthly bill for energy. Why not invest those funds into a system that you can own outright?

Imagine cutting

up to \$200 from your monthly budget. That's \$2,400 per year, and over a 30-year period, you're looking at a whopping \$72,000. Now picture what you could do with that extra cash. Fancy a trip around the world, or perhaps a new electric car?

But the perks

don't stop there. Installing a solar panel system can actually increase the value of your home. A study from the Lawrence Berkeley National Laboratory found that homes with solar panels sell for more than those without. It's like adding a shiny new kitchen or an extra bathroom – but without the mess of construction. You're not just saving on energy; you're investing in your property.

Clean,

renewable energy is another fantastic benefit of going solar. By harnessing the power of the sun, you're reducing your dependence on fossil fuels. That means less carbon dioxide and other harmful emissions. Your home becomes a beacon for a cleaner, greener world. You're not just saving money; you're doing your part to save the planet.

Did

I mention the 30-year warranty? Solar panel systems are designed to last, and companies stand behind that with extensive warranties. Rest easy knowing your investment is protected for the long haul.

Every home is unique.

That's why solar companies offer a customized proposal to give you the best value. Your rooftop, your energy needs, your budget - they all factor in to create the perfect solar solution for you.

So,

are you ready to take control of your energy? To stop renting and start owning? To save money, increase your home value, and harness the power

of the sun? Then it's time for a Solar Discovery Call. Let's turn the power of the sun into the power of savings. It's time to own your energy, just like you own your home. Let's take this journey into the bright future together.

## **Are Solar Panels Worth It?**

The question "Are

solar panels worth it?" often pops up when we're weighing the pros and cons of renewable energy. The answer can be found in three main areas: savings, increased home value, and environmental impact. By generating your own electricity, you can save up to \$200 a month, reducing your energy bills significantly. Over time, this adds up, potentially covering the cost of your system. Additionally, solar panels can increase your home's value. Like a new kitchen or bathroom, solar panels are seen as an upgrade. Lastly, there's the environmental aspect. By reducing reliance on fossil fuels, you're helping to cut carbon emissions, contributing to a cleaner, greener world.

## **Are Solar Panels Expensive?**

Solar panels may seem

expensive at first glance. However, we need to consider the long-term perspective. Over time, the savings on your electricity bill can cover the cost of the panels. Plus, many companies offer \$0 down payment options, making the initial outlay manageable. And let's not forget about the potential increase in your home's value and the environmental benefits. When we view the cost in this light, solar panels become less of an expense and more of an investment.

## **Can I Install Solar Panels Myself?**

Installing

solar panels is a task best left to professionals. It involves handling electrical equipment, climbing on roofs, and adhering to specific installation standards to ensure your system is safe and effective. While doing it yourself might seem like a way to save money, it could lead to problems down the line, including voiding the warranty. It's safer and wiser to leave this job to the experts.

## **How Do Solar Panels Work?**

Solar panels work

by converting sunlight into electricity. They're made up of many small cells that contain a material capable of this conversion process, called the photovoltaic effect. When sunlight strikes these cells, it knocks electrons loose, creating an electric current. This current is then captured and converted into the type of electricity that powers our homes. It's a simple, clean process, powered by the limitless energy of the sun.

## **Can Solar Panels Work at Night and On Cloudy Days?**

Solar panels need

sunlight to generate power, so they can't produce electricity at night. However, most systems are connected to the grid, allowing you to use traditional power when the panels aren't producing. As for cloudy days, solar panels can still generate electricity, but their output is reduced. Advanced technology is helping to improve their efficiency in low-light conditions, ensuring you can still benefit from solar power even when the sun isn't shining brightly.

### **Should I Get Solar Panels Now or Wait?**

There's

no time like the present to switch to solar. The longer you wait, the more you're spending on traditional electricity. Plus, solar panels are becoming more efficient and affordable every year. With flexible payment options and the potential for significant savings, there's little reason to delay your switch to renewable energy.

### **What Solar Panels Are Best For My Home?**

The best solar

panels for your home depend on your specific needs and circumstances. Factors to consider include your roof's size and direction, your energy consumption, and your budget. Solar companies provide customized proposals to ensure you get the system that best fits your needs. They'll guide you through the process, helping you make the most informed decision.



## **Can Solar Panels Withstand Extreme Weather Like Hail and Snow?**

Solar panels are designed

to be sturdy and withstand various weather conditions, including hail and snow. They're tested to ensure they can resist the impact of hailstones and heavy snow loads. Additionally, most companies offer a 25-year warranty (I offer a 30-year warranty), providing further peace of mind.

## **Will Solar Panels Damage My Roof?**

When installed correctly,

solar panels should not damage your roof. Professional installers ensure the panels are securely mounted and that the roof's integrity is maintained. It's crucial to work with a reputable company to ensure proper installation and prevent potential damage.

## **How Much Money Can I Save With Solar Panels?**

The amount

you can save with solar panels varies depending on your energy consumption, your location, and the size of your system. On average, homeowners can save up to \$200 a month. Over 30 years, that could add up to a whopping \$72,000. By investing in solar, you're not just cutting your energy costs; you're building a sustainable future.

## **Stop Renting Your Energy, Own It Just Like You Own Your Home**

Solar for \$0 down

**Save up to \$200 a month on your energy bills**

**Increase your home value**

Get clean renewable energy

Get a 30-year warranty

**Customized proposal & best value**

**30% Federal Tax Credit available**

[jonnelsen.com](http://jonnelsen.com)

[OceanofPDF.com](http://OceanofPDF.com)

# **myths**

Common Solar Myths & Why We Believe Them

---

**“A wise man can learn more from a foolish question than a fool can learn from a wise answer.”**

- Bruce Lee

---

## **The Myths of Clean Renewable Energy**

**Welcome to "The Myths of Clean Renewable Energy," a revealing exploration that will debunk common misconceptions about solar power while highlighting its numerous benefits. If you've picked up this book, chances are you're curious about solar panels, roofing, or both. You're not alone - over the past decade, countless individuals have shared your curiosity and wondered about the impact of solar energy on their homes' structure and well-being.**

First things first:

if you're concerned about how solar panels might affect your roof, worry not. As long as you have a professional team to install your solar system, they will guide you on any necessary roof updates. So, you can put your mind at ease.

Now,

let's dive into some of the most prevalent myths about solar power. As a solar consultant, I've witnessed firsthand the transformative power of clean, renewable energy - not just for the planet, but also for homeowners and their

families. We'll address the concerns that often hold people back from embracing solar and discover why these misconceptions no longer apply to today's solar technology and design.

One common myth

is that solar power is too expensive. This belief, while perhaps true in the past, no longer holds water. We'll explore the financial aspects of solar energy and demonstrate that it can, in fact, be an affordable and cost-effective solution for many homeowners.

Another widely held

assumption is that solar energy is not viable in regions without abundant sunshine. We'll shed light on this misconception by showcasing the remarkable advances in solar technology, which have made it possible to harness the sun's energy even in less-than-ideal conditions.

Some people believe

that waiting for further advancements in solar technology is the best course of action. We'll discuss the rapid pace of innovation in the solar industry and explain why delaying your decision to go solar could mean missing out on valuable savings.

The question

of whether to lease or own a solar system is another common concern. We'll compare the pros and cons of each approach, guiding you towards an informed decision that best suits your unique situation.

For those planning

to move within a few years, we'll address the impact of solar panels on property value and the potential benefits of transferring your solar system to your new home.

Trust can be

a major hurdle when it comes to selecting a solar provider. We'll offer insights on how to find a reliable, reputable company that will help you make the transition to clean, renewable energy with confidence.

The durability

and aesthetics of solar panels are also frequent points of contention. We'll explore the advancements in solar panel design and manufacturing that have led to stronger, more resilient systems that can seamlessly integrate with your home's appearance.

Now that we've

laid the groundwork, let's dive deeper into the first myth: the notion that solar power is too expensive. In the upcoming section, we'll delve into the costs and financial benefits associated with solar energy, dispelling this misconception once and for all. By the time you've finished reading, you'll be well-equipped with the knowledge and confidence to make an informed decision about whether solar power is the right choice for you and your family. Let's get started.

# Myths

Solar is too expensive

- **It's too expensive to keep renting energy**

We don't get enough sun where I live

- **We analyze 35 years of weather data for your zip code when configuring your system**

The technology is improving to fast, I'll just wait

- **Solar tech has advanced to the point of incremental improvements, why keep wasting money waiting?**

Should I lease or own?

- **Let's sit down and decide what's best for YOU!**

I'm going to move in the next X # years

- **Solar makes you money, improves both home value + reduces time on market**

Solar is too expensive

The technology is improving to fast, I'll just wait

We don't get enough sun where I live

I'm going to move in the next X # years

Should I lease or own?

## Myth #1

### Solar is too expensive

This often gets thrown around

with the price of solar (which has fallen to its lowest levels). While solar looks to be a major expense at first glance, it's too expensive to continue renting energy from utility monopolies. With the financing available today, the cost of a solar panel system that you own is often actually lower than the monthly price of the energy bill that you currently pay. Most times, that entire system can be paid for in under 10 years at a fixed monthly rate that is already lower than what you currently pay. In addition, since that financing price is fixed, you no longer need to worry about the annual energy cost increases that traditional monopolies charge. In a good year, that might be as



low as 4%, and in a terrible year, it could be much, much greater. Let's break it down even further.

So,

on an average Solar Proposal, you might save anywhere from \$10 to \$50 monthly. And while it might be difficult to get too excited about only saving \$10 a month, that's still \$120 a year in your pocket that wasn't there before. But that's not the end. Let's dive further into the genuine opportunity in transitioning to clean, renewable energy. Let's look at this differently. Say your current electric bill is around \$200 a month. So, if you take  $\$200 \times 12 \text{ months} \times 10 \text{ years}$ , you will spend \$24,000 to power your home and receive nothing for that. In addition, that's in the magical world where your price doesn't raise a penny, and we all know that is never the case.

Right now (2022),

if you were to apply the current federal tax credit, it makes a solar system even cheaper. I would challenge you to name one other investment where you can receive a 100% guaranteed return on investment in 10-15 years (often even less). Solar is the only investment of its kind. At the end of your financing term, you own the panels outright, your home is worth significantly more value, and you no longer have to worry about automatic rate increases out of your control.

You can gamble

with real estate, crypto, or the stock market, but as long as the sun rises in the east and sets in the west, you are getting a 100% return on your initial investment and infinite return on your investment after that!

## **So, there are really only two options**

You can throw that \$24,000 in the trash and continue to make a utility monopoly rich– a monopoly that continues to raise the rates on you every single year.

You can spend that same \$24,000 and invest it in your family, home, and future.

---

*In 10 years, you will spend that same money NO MATTER WHAT, the only choice is whether to throw that money in the trash or on the roof!*

---

## **Myth #2**

### **We don't get enough sun where I live**

#### **Busting**

the myth that you don't get enough sun where you live is crucial for those considering solar energy. Homeowners living in less sunny regions might worry that their investment in solar panels won't pay off. Rest assured, even in cloudier climates, solar power can still be a viable and efficient solution for meeting your energy needs.

#### **It's**

important to realize that solar panels don't need constant, direct sunlight to produce energy. Modern solar technology has come a long way and is now capable of harnessing the sun's power even on cloudy or overcast days. This means that regions with less sunshine can still benefit from solar energy.

#### **One concern**

often voiced by homeowners is the unpredictability of weather patterns. However, solar professionals take this into account when designing a solar system. Using historical weather data from the past 35 years, solar consultants can create accurate projections of your solar panels' performance. This data, specific to your location, considers a wide range of weather conditions, ensuring that the estimates you receive are both scientific and precise.

It's

worth noting that solar panels have been successfully deployed in various climates around the world. In fact, some of the leading countries in solar energy production, such as Germany and the United Kingdom, are not known for their sunny weather. Despite less-than-optimal conditions, these nations have embraced solar power and reaped the rewards.

When deciding

whether solar power is right for you, it's crucial to consider the long-term benefits. Solar panels are a durable, low-maintenance investment that can last for decades. It's not uncommon for a well-maintained solar system to continue producing energy for 40 years or more. With this in mind, even homeowners in less sunny areas can expect a significant return on their investment over time.

To further alleviate

concerns about sunlight availability, many solar panel systems now come with battery storage options. By storing excess energy produced during sunnier periods, homeowners can access this stored power during periods of lower solar generation. This feature ensures a consistent supply of electricity, even when the sun isn't shining.

So,

if you've been holding back on going solar due to concerns about sunlight availability in your region, it's time to reconsider. With modern solar technology, expertly designed systems, and the option of battery storage, solar energy can be an effective and efficient solution for homeowners in a variety of climates.

As we move forward,

let's turn our attention to another prevalent myth that might be holding you back: the belief that solar technology is improving so rapidly that it's better to wait for the next big innovation. In the following section, we'll delve into the rapid advancements in solar technology and explore why waiting to invest in solar energy could mean missing out on valuable savings and benefits. By addressing this concern, we hope to empower you with the knowledge and confidence to embrace clean, renewable energy and make a well-informed decision that benefits both your wallet and the environment. Let's continue our journey into the world of solar energy and uncover the truth behind this compelling myth.

### **Myth #3**

#### **The technology is improving too fast, I'll just wait**

##### Dispelling

the myth that solar technology is improving too quickly to invest in right now is essential for anyone considering making the switch. Some people might believe it's better to wait for the next breakthrough before installing solar panels, but that approach could be costing you valuable savings and benefits in the meantime.

Solar technology has indeed experienced

significant advancements over the years. However, it's essential to understand that we've reached a stage of diminishing returns in the industry. This means that the rate of improvement is slowing down, and the cost of research and development is increasing relative to the gains in efficiency. While it's true that solar technology will continue to evolve, waiting for the next big innovation could take decades.

In contrast,

the solar industry has never been more accessible or affordable for homeowners. Modern solar panels are more efficient and cost-effective than ever before, which means you can enjoy the benefits of clean, renewable energy without breaking the bank. By choosing to go solar today, you're investing in a technology that's already proven and reliable.

Moreover,

waiting to install solar panels can mean missing out on significant savings. Every year that goes by without solar power is another year you're paying the utility company for your energy needs. Over time, these costs add up, and the money you could have saved by investing in solar power earlier will become increasingly apparent.

The opportunity cost

of waiting becomes even more evident when you consider the long-term benefits of solar energy. With a well-designed solar system, you can expect to see a return on your investment within several years. Once your system is paid off, you'll enjoy virtually free energy for the remainder of your panels' lifespan, which can be 25 years or more.

By going solar now,

you're not only saving money on your energy bills but also contributing to a cleaner environment. Solar energy reduces greenhouse gas emissions and helps combat climate change, a pressing issue that affects us all. The longer we wait to embrace renewable energy, the more significant the impact on our planet and future generations.

It's

crucial to recognize that there's no perfect time to invest in solar energy. Just as with any technology, there will always be advancements on the horizon. However, waiting for these innovations to arrive could mean missing out on valuable benefits and savings in the meantime.

As we continue

our exploration of solar energy myths, our next topic will focus on an essential question for homeowners considering solar power: "Should I lease or own?" In the upcoming section, we'll delve into the advantages and disadvantages of leasing versus owning solar panels, empowering you with the knowledge you need to make the best decision for your unique situation. Together, we'll continue to debunk these solar myths, helping you make informed decisions and pave the way for a more sustainable future.



## **Myth #4**

### **Should I lease or own?**

#### Deciding

whether to lease or own solar panels is a common dilemma faced by homeowners looking to embrace clean energy. While this isn't a myth per se, it's a crucial question that deserves careful consideration to make the most of your solar investment.

#### Leasing

solar panels usually involves a Solar Power Purchase Agreement (PPA), a financial arrangement in which a developer or company takes care of all aspects of the solar installation, including design, permitting, financing, and maintenance. This agreement typically spans 10 to 20 years and comes with a fixed price. While leasing offers predictability in pricing compared to fluctuating utility rates, owning your solar system could provide even greater benefits if it's financially feasible.

#### Owning

solar panels outright can lead to substantial long-term savings. Once you've paid off the initial investment, the energy generated by your solar system is virtually free. Over time, the savings on your utility bills can far surpass the cost of the system, making it a wise financial decision. Additionally, owning your solar panels can increase your property value, making it an attractive asset if you decide to sell your home in the future.

Another advantage

of owning your solar system is the potential for tax incentives and rebates. Depending on where you live, you might be eligible for federal, state, or local incentives that help offset the cost of installing solar panels. These financial perks are usually not available to those who lease their solar systems.

On the other hand,

leasing solar panels has its merits. For homeowners who cannot afford the upfront cost of buying a solar system or who may not be eligible for tax incentives, leasing can be an appealing option. With a PPA, you can enjoy the benefits of solar energy without the financial burden of ownership. The developer or company handling the lease will also take care of maintenance, ensuring that your system operates at peak efficiency.

However,

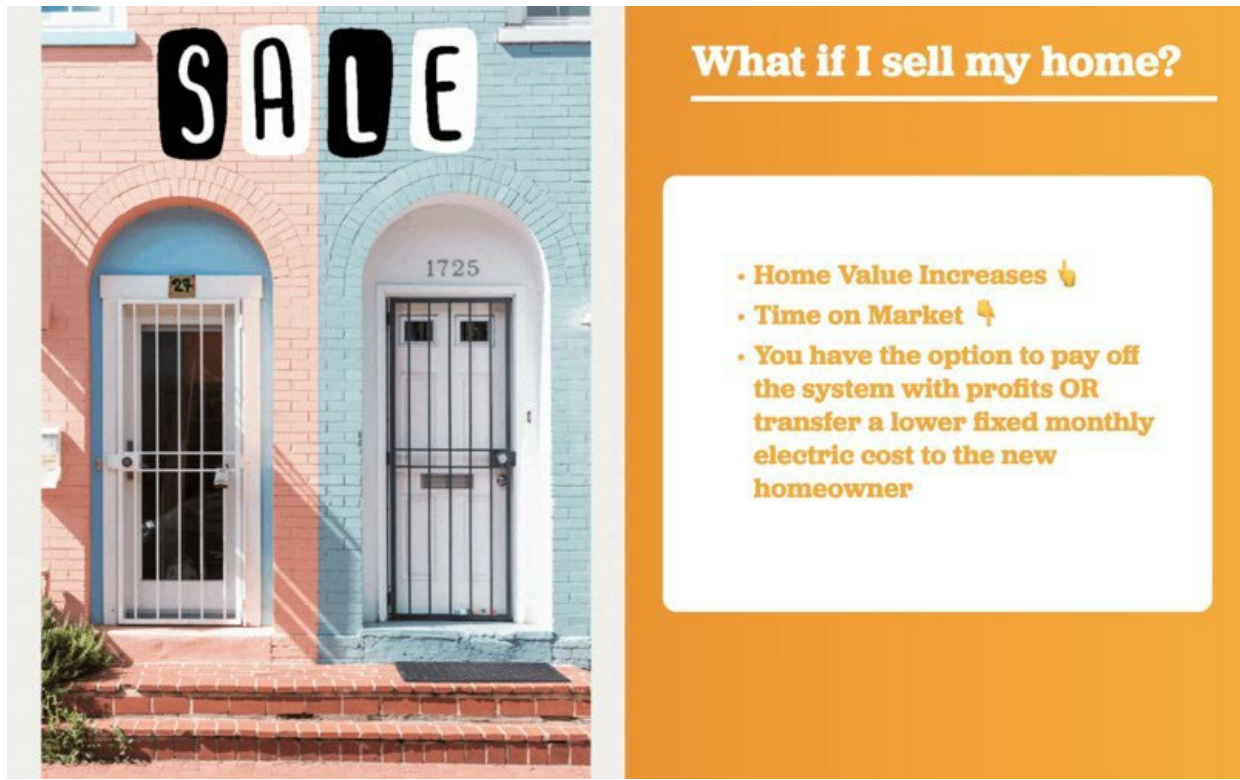
it's essential to weigh the long-term costs of leasing against the benefits of owning. While leasing might have lower upfront costs, you could end up paying more over the life of the agreement compared to owning your solar system. Plus, when your lease ends, you may have to negotiate a new agreement or return the solar panels, potentially losing access to the clean energy they provide.

Ultimately,

the decision to lease or own solar panels depends on your unique circumstances and financial situation. Take the time to research the options available in your area and consult with solar professionals to determine the best course of action for your needs.

As we continue

to debunk solar myths, the next topic we'll explore is the concern that installing solar panels might not be worthwhile if you plan to move in the near future. In the upcoming section, we'll discuss the impact of solar energy on property value and the considerations for homeowners with an impending relocation. Armed with accurate information, you'll be well-equipped to make informed decisions about solar energy and how it can benefit you, regardless of your future plans.



### Myth #5

**I'm going to move in the next X # years**

That move will negatively affect

your family because you generate solar power is a commonly held belief that couldn't be farther from the truth. In fact, solar power is one of the few home improvements you can make to your house that will actually **SAVE** you money. Let's unpack that statement and really think about it.

Let's

say you plan to sell your home in the next three years but have decided that a new kitchen update will dramatically improve the value of your home. You are probably right, as most people shopping for a new home love to see a bright, sparkling kitchen with beautiful chrome appliances. So, if that kitchen upgrade costs you, say, \$30,000, most conservative estimates believe you will receive an ROI from increased housing value to the tune of around 50-60% of what you invested. Not bad, and the investment of a new kitchen is more than just the cost of it and the value it adds to your home. I believe it also has an emotional benefit and perhaps even a physical benefit if you find yourself more likely to cook healthy meals for your family in it.

Now,

when you consider an investment in a residential solar system, you're automatically saving money on your electric bill every month. So, if you are paying, say, \$200 a month towards electricity and now pay that same \$200 a month towards an asset that you own, that equals \$2,400 per year that you are throwing on your roof rather than your trash. That's \$2,400 invested in an asset rather than simply spent on a bill. Three years from now, you would have spent \$7,200 towards solar panels that add value to your home and saved \$7,200 otherwise spent on an unnecessary bill. In reality, that is a \$14,400 difference in your net worth in just three small years. Plus, it's actually significantly more if you factor in utilities that raise the rates anywhere between 4-9% each year.

Another factor to

consider is that the new homeowner will now own their own power plant on their roof! Pretty cool, right? Now, not all solar companies are the same, but the customers I work with have two great options when they sell. They can simply transfer the existing solar loan to the new residents and advertise the home as having a fixed utility cost that won't go up (win), or they can pay for the cost of the loan out of escrow when they sell (another win). Even better, many companies like mine will transfer the warranty to the new

homeowner automatically, so if anything happens to the roof or the solar panels, the home's covered. The warranty is very important and worth asking your solar rep in exhaustive detail about.

Now here is

the best part about selling a home with existing solar panels. According to the U.S. Department of Energy, a home with solar panels will sell twice as fast as a home without solar panels. So, if you are in a competitive market, advertising solar energy might make all the difference in selling or sitting on your home once it's on the market. Now there's been several studies by Fannie Mae, Berkeley Lab (U.S. Department of Energy), and the National Renewable Energy Laboratory, who found that existing solar panels increase the value of a home. In fact, many studies have found that solar panels increase a home's value by as much as 4-6% of the sale price. So, as you can see, the worry of selling a home with solar panels couldn't be farther from real life.

## **Myth #6**

### **I don't know who to trust?**

Now,

this is not so much a myth as a concern, and a very valid one at that. The first step is ensuring that the company the solar consultant (notice I said consultant and not salesperson) represents is listed on the BBB and upholds the standards they set. It is also important to deal with a company with a track record and not some fly-by-night corporation that might not be around when it's time to contact them about upholding their warranty. This leads me to my next and most important item, the company must offer a warranty. Some companies offer warranties as an add-on item, and some include it in the price. Either way, you are paying for it, so, just because you're quoted a higher price by one company that offer a comprehensive warranty and another company that might have it as an add-on, make sure you compare the warrantied prices side by side.

---

*Let me show you the warranty I offer my customers so you can make an apple to apple comparison when deciding on the best solar provider for your home.*

---

# ***Warranty Features***

- **Extended warranty coverage on solar arrays up to 30 years**
- **No upfront premium, no deductible**
- **Covers all parts and labor**
- **Quick and easy registration and claims process**
- **24/7 zero-hassle claims and on-site service**
- **Automatically transferable to new homeowners**



Furthermore,

it's important that your solar consultant cares just as much about educating you on your solar investment as they do about selling it to you. Solar reps typically work on a 100% commission structure, meaning if they don't make sales, they don't eat. However, just because they have a vested interest in getting you to sign on the dotted line doesn't mean they can't take the time to educate you. In my business, I have found that the more I can educate my customers on the benefits of their new investment, the more often they become referral and lead sources of their own. That's because solar is exciting, and there are few things in life that have financial, community, and environmental benefits all in one. So, the more information I can provide and the more questions I can answer, the more confident my client is with their purchase and the more likely they are to share/prag about their new home upgrade.



## Myth #7

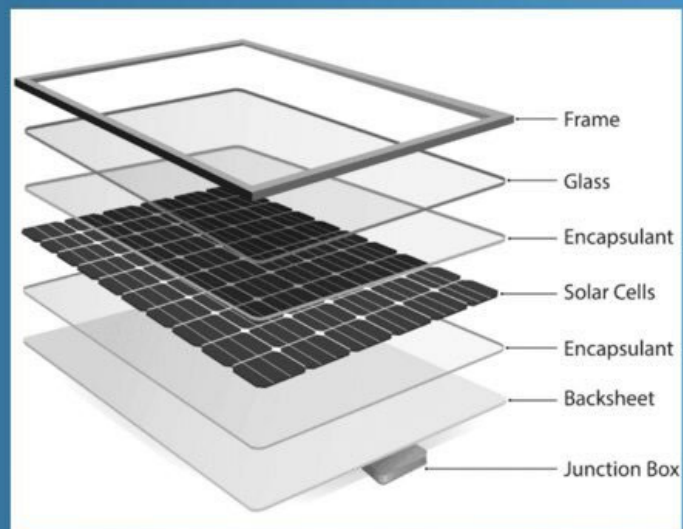
### Solar panels are too fragile

Who hasn't suffered

from the devastating loss of a cell phone because of a clumsy drop? What is usually the first thing to break, the glass, right?! Well, as a society, we live in a world of glass, and it's easy to think that all glass is the same and is just waiting to crack or break and ruin something we love. Luckily for everyone, glass comes in all types, and the breakable glass we're accustomed to is not what they use to house solar cells on our roof. In fact, the glass on your solar panels probably has more in common with bulletproof glass than the glass in your kitchen.

### Durable Industrial Strength Solar Panels

**High wattage industrial strength panels encapsulated to protect from snow, hail and whatever else mother nature throws at it!**



The glass used

in solar panels is called tempered glass, sometimes referred to as toughened glass. The specific properties of the manufacturing process of tempered glass make it much stronger than other glass types. Often lost in the discussion of wattage and efficiency is a subject that is just as important, the thickness of the glass encapsulating the solar cells themselves. Typically, you look for glass that is 3 to 4 millimeters thick; however, some cheaper solar panels will use thinner glass, which might not hold up as well in the elements.

The thickness

of the glass is important; however, no matter what you choose, you can expect a relatively long life for even the cheapest panels. As you can see in the image above, several layers besides the glass surround the solar cells and keep them protected from the elements. But hey, if something ever goes wrong, and you did your warranty homework right, your solar rep will ensure that a replacement will be shipped and installed immediately.



*Today's solar panels feature a sleek black-on-black design that offers an aesthetically pleasing and modern appearance.*

### **Myth #8**

#### **Solar panels are ugly**

This is

one myth rooted in fact because as little as a few years ago, the solar panels were a bit of an eyesore. Ask many early adopters of solar power, and they will tell you about ugly blue panels mounted about 4 feet off the roofline. Luckily, today's solar panels are black on black and mount flush with the roofing, giving you a sleeker attractive appearance. In most cases, it blends

in nicely and gives the roof a more modern look. Your solar rep will have images of houses that have the panels they are selling, and you can judge if that is a look that vibes with the style of your home.

The great thing

about solar is that it turns that unused real estate above your head into your own personal power plant that will provide electricity for everything you need. Because there is nothing more satisfying than never having to listen to your wife tell you it's too hot in the house because you didn't want to crank on the air conditioning in July.

I hope

this chapter helped illuminate some of the preconceived notions you may have had about solar and gives you a better idea of what to expect for your new system. Solar isn't for everyone, but most times, it can become one of the safest and best investments you have ever made for you and your family for years and years to come. In the next chapter, we will discuss how our energy grid works and how you can protect yourself from the downfalls of the aging utility infrastructure here in the US.

[OceanofPDF.com](http://OceanofPDF.com)

# **better energy**

Where Energy Comes From & Why Residential Solar Just Makes Sense

---

**“Once you got a solar panel on a roof, energy is free. Once we convert our entire electricity grid to green and renewable energy, cost of living goes down.”**

- Elizabeth May

---

**We flip on a light switch and instantly receive the benefits of electricity, but few people fully understand how that power makes it to our homes and how fragile that system truly is. Ask anyone living in Texas and they can recall when the system broke for weeks, leaving hundreds dead because of a power grid failure that left 4.5 million homes and businesses without energy or water. Moments like that are enough to cause anyone to worry about the future and what we can do to protect those we love.**

## **The Current State of Energy in the US**

In the United States,

the electric grid comprises an extensive network of independently owned and operated power plants and transmission lines. They created this system for supplying power from the point of generation to the homes, offices and businesses that depend on it to function often hundreds of miles away. They generate power in a variety of ways, but the common denominator is that it all still flows through the grid.

There are

three main power grids in the U.S. and they are:

**The Eastern Interconnect**

**The Western Interconnect**

**The Texas Interconnect**

Yes,

Texas has its own grid and in 2021, when it suffered several large winter storms during the month of February, that grid collapsed. As for the Eastern and Western grids, you find that those actually reach deep into Canada, helping to power the vast majority of our northern neighbor as well.

### **Where That Energy Comes From**

With energy production,

the term “How the Sausage is Made” comes to mind. Most of the energy produced in North America comes from what we would consider dirty energy (coal, oil, gas, etc.). And while I have nothing against those industries or the people that work in them, much of the legislation and infrastructure surrounding them is based upon supporting the industry versus supporting the people.

Of the various



forms of “dirty energy”, coal is far and away the worst health wise for human, animals and the planet alike. In fact, the town of Evansville, Indiana, is within 30 miles of seven coal-fired power plants. These plants contribute to thick air pollution known to locals as “The Evansville Crud”. Which is reported to leave a thick layer of particulates on everything from cars parked outside to children’s swing sets.

The reason coal

is especially egregious to health and air quality is because it is a messy, inefficient system. When people think about pollution, they often think about the large smokestacks spewing toxins into the air, but it’s actually much more than that. The extraction of coal itself, the machinery to dig it up and place it in trains and trucks, the transportation of it, and the long journey it has before becoming energy. Here is the process:

**They extract coal from the earth.**

**It’s placed in a bunker for storage, then sent to a pulverizing mill**

**Then several steps (bag filter, storage tank, feed tank, distributor) all with the potential for pollution before it even hits the blast furnace to generate the actual power and most of the air pollution associated with it.**

Contrast

that with cities like Honolulu which leads the United States in per capita solar power and as a result has one of the highest air qualities in the U.S. Solar is not the only clean renewable energy source, but from a power perspective it is one of the best options. Other cleaner energy sources are wind, nuclear, and clean hydroelectric, which are all being built around the world at a rapid pace.

The U.S. relied

on these dirty forms of energy to power our growth, as many developing countries do today. Luckily, technology has caught up to industry and clean energy is now as cheap to produce as dirty energy. That is why, according to the federal government, in 2021, wind and solar supply 70 percent of the new power plant capacity being built. In addition, almost every new U.S. power plant of 2021 will be a carbon-free facility. This is great news as it means we are heading in the right direction to reduce pollution and our negative impact on the planet while also producing good paying jobs here at home.



**How is Electricity Delivered?**

Now that we

know where the energy comes from, how does it make it the hundreds of miles to our homes every day?

**Power plant generates the electricity**

**Power flows to the transformer where it then steps up voltage for transmission**

**Power flows on transmission lines long distances until reaching neighborhood transformer**

**The neighborhood transformer steps down the voltage so we can use it in our homes**

**Distribution lines carry the electricity to our houses**

**Local transformers on poles further step down the electricity as it prepares to enter our home**

**You can now flick on the light switch and see the energy in action**

So,

as you can see, this is a multi-step process which results in energy traveling hundreds and sometimes thousands of miles from its point of origin at the power plant. That inefficiency also results in power loss along the way. Energy's lost as heat while it travels on the transmission lines. When you are traveling, you can get an idea of the amount of heat being lost on these lines by the amount that they droop and sag. The heat causes them to expand over time and so when you see lines hanging especially low, that means they are very hot and very inefficient. Typically, the amount of energy lost from the power plant until your home is about 5%.

What's more is

that if 5% energy loss doesn't sound like much, consider the fact that only about 1/3 of the potential energy from a lump of coal, oil or nuclear even makes it onto the grid as energy. To put that in perspective, the amount of energy we lose because of thermodynamics is more than the annual gasoline consumption in the U.S.

Last,

once the energy makes it to our home, it doesn't stop there. Energy travels to our appliances and if they are not energy efficient, we are likely to see further energy loss, of which we are now responsible for footing the bill. Because once the power hits our home, the power company is no longer responsible for losses, we are. Next chapter, we'll discuss ways to help reduce the power consumed at home.

## **The True Expense of Energy Production**

Energy production

at scale has efficiency issues that small production at home simply does not. It's no wonder people can reduce their monthly utility burden by switching to renewable energy. Let's look at the costs of energy production at a typical power plant.

First,

we have significant generation expenses to account for. These are things like paying workers to extracting the coal or oil, then paying to ship the physical product long distances, and finally a series of workers, managers, and executives are all paid to help keep the energy flowing.

Next,

we must factor in losses from the wasted energy because of thermodynamics and the production of energy, which can account for almost 70%. Yep, that's almost 70% of the potential energy literally going up in smoke all before it even reaches your home. Then there is the loss of energy from your home to the very appliances you require, the energy to power. In addition, our electric bills also must factor in paying for people to maintain the poles, transformers and lines that deliver the power. These are skilled employees who get paid well and guess what? When a storm comes and the power goes out, they get paid even better to risk their safety to fix it.

Last,

is the environmental costs of traditional energy production. That includes the damage done extracting the energy from the ground as oil or coal. Disposing of the waste which can be extremely dangerous and hazardous, especially if we include nuclear energy waste in the discussion. The pollution in the air during production and sometimes long after. And finally, the pollution that results from long since abandoned factories that no longer have a use and sit vacant as a blight on the land. No matter how you slice it, traditional energy production is an expensive, wasteful process.

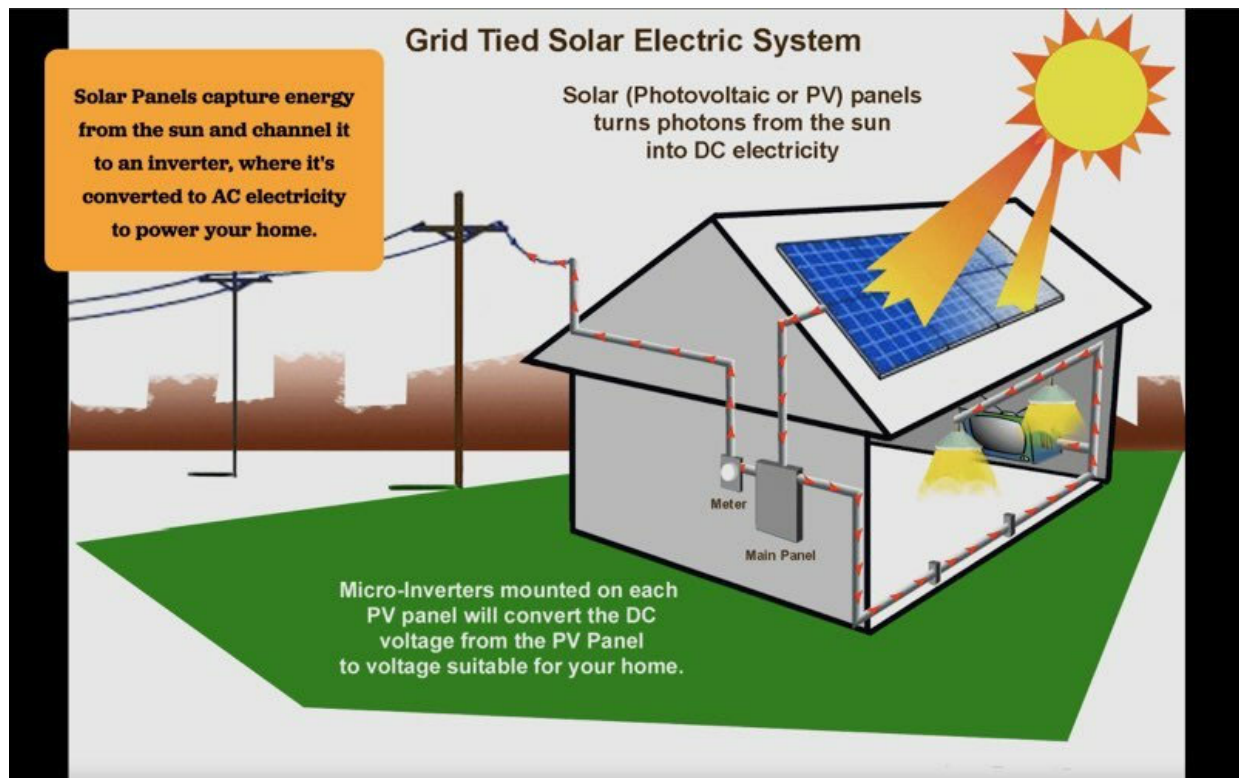
### **Why Solar Is a Better Alternative?**

Much like the

food production was better when done at a smaller scale at a local level, energy production is also better at the small scale too. In the past, every town had several farms delivering food locally and rotating the crops to ensure the land was productive for the next generation. Late last century, they dumped the process of crop rotation in favor of single crop production, leading to higher yields now at the expense of future production and biodiversity. Energy production has grown much the same with large energy production facilities producing huge amounts of power, but suffering from waste and loss as it travels far distances to our homes. In addition, we generate that power at the expense of future generations. It was one thing to do that when we didn't have realistic alternatives, but now we know what the damage is and we also have alternative clean energy sources at similar financial cost, producing a negligible environmental cost.

If we charged

energy companies based on their true cost, i.e., the damage to the atmosphere, the soil, or even the damage to the enjoyment of a beautiful view, it would make the choice not really much of a choice at all.



**Here are the 18 best reasons that solar makes sense for your finances and your families future**

### **Solar is Cheap**

Yep,

you heard me right, solar power is a cheap source of electricity to power your home. Assuming you have the right roof and you don't live in the middle of a forest, solar has the potential to offset over 100% of the electricity you use every single year. In fact, you can often receive credits from the electric company for excess energy that you produce.

Over the past

decade the price of solar panels has dropped about 70% as they have become more widely adopted and efficient. Presently, the chief obstacle to a lower price are the materials needed to produce them and as more people switch to solar, the price may actually climb. While a typical system here in the US costs anywhere from \$10,000 to \$40,000 depending on energy needs and the efficiency of your particular roof, financing has turned that into a cheap monthly expense that can be less than you were paying on your electric bill. What's more is that just like your house, once you've paid off the panels you own them free and clear and any energy they produce is almost FREE.

Besides a drop

in the price of solar panels, several states offer tax credits to help further entice homeowners to make the switch. These tax credits will not last forever, but while they are here, we encourage everyone to take advantage of the potential savings they can create. As the US pushes everyone towards green energy and electric cars, early adopters will be rewarded, and those that wait will be required. It's fairly obvious that US citizens are being strongly encouraged to make the switch to cleaner energy. I would rather see you get rewarded for early adoption with tax credits and savings than punished with higher prices as costs rise due to increase demand and new regulatory requirements.

## **Buy Don't Rent**

One point

many people don't realize is that essentially when you switch to solar, you switch from renting your energy to buying it. When getting your energy through traditional energy companies, that monthly payment you make each month goes to pay off their aging infrastructure. With solar, that payment



you make each month goes to pay off YOUR infrastructure. You have become your own power plant, and that's an amazing feeling. You are paying either way. Why not get something for your money? To me, this is the most no brainer decision you could make with your money.

### **More Control Over Your Bill**

Another important reason to

switch to solar is to stabilize and control your monthly energy costs. If you could have locked in your gas prices at \$2.00 a decade ago and know that in another few years, your yearly gas price would be next to free, would you have done it? Switching to solar locks in the rate you pay now, saving you substantial money when the price of electric goes up in the future. You'll no longer be shocked by large monthly energy increases. You can have a predictable monthly investment in your home that won't change. An investment that does not cost more each month and that will not throw unexpected curveballs to your household budget. For me, I hate surprises (just ask my friends the last time they threw me a surprise party) I enjoy setting an expectation and having it met without dealing with the unexpected. Basically, financing a solar project allows me to have a set monthly payment that does not change or surprise me.

### **Increases the Value of Your Home**

If you were moving

to a new house tomorrow, would you want one with solar panels and a low monthly electric bill, or a house with no solar panels and a higher monthly electric bill? Of course, you would want the ability to save money with a solar system and guess what, so would a potential buyer of your home, too.

Recent reports state that, on average, a home with a solar system sells for over 4% over a comparable home without it. What's more is that a solar powered home also sells faster, which in a competitive market can make a big difference. So not only do solar panels add value to your home and save monthly electric costs for you and the buyer, but they will also help your home sell faster!

## **Potential Battery Backup**

If you live somewhere

that suffers from frequent power losses, a battery backup system that is connected to your solar system might make a big difference to your quality of life. All over the United States, areas suffer from both aging infrastructure of the power grid and frequent natural disasters that can knock out electricity. Losing electricity can cause your food to spoil, make it impossible to flush toilets, cause your home to be so cold/hot it becomes uninhabitable, or just make your living environment less safe. That's not to mention that in some areas of the US criminals take advantage of power losses that knockout cameras and security systems and look to break into homes. Nothing feels better than having power when others do not and being able to help friends and neighbors in need.

## **The Solar Savings Start on Day One**

Unless you pay

with cash (and good for you if you do), switching to solar can start saving you money from day one. Once installed, solar panels immediately begin generating power from the sun and helping to offset and often cover your electric bill. The worlds filled with investments that take time to produce

results. Lucky for us, solar is one of the few that start working for you immediately.

## **Passive Income Baby**

Whether you want

to call it income or savings, you were paying a bill before and now put that same money towards a home improvement. Heck, sometimes you put that money towards an investment in your home AND still saving on your monthly energy bill. Saving money is always better than earning money because:

**You don't pay taxes when you save money like you do when you earn additional money**

**Savings basically do not change and are consistent**

**By making the sun do the work, you enjoy a passive income that can offset energy bills and pay off the solar panels**

**Most times, you can use the savings to help pay down debts such as car payments or house payments, meaning that you might save years off your mortgage just by using money you were previously paying the utility company.**

This is

one area I am most excited about! As a graduate of finance, I love seeing ways that people can protect their bottom line with no risk to themselves. Investing in the stock market has risks. Speculating in real estate carries

risks. Reducing your monthly utility bill, well, that's about as risk free as an investment comes!

## **Solar Power Comes With a Warranty**

When you agree

to have solar panels placed on your home, you would expect someone to stand behind the product you are investing in, right? Well, the good news is that most solar companies warranty their product anywhere from 10 to 30 years. So assuming you find the right company, you can expect to get a product and still have parts and labor covered long after it has already paid for itself. That's a pretty fantastic deal if you ask me.

---

*Have a warranty question? Visit [solarturnsmeon.com](http://solarturnsmeon.com) to get connected with a 30 year warranty with one of the largest and fastest growing residential solar companies in the nation.*

---

## **Decrease Dependence on Foreign Oil**

Depending

on the current administration in the White House and the party in charge of congress, the US imports up to 50% of its oil from foreign sources. While that fact might not surprise many people, it might surprise them to know that the United States is often the top oil producer in the world. So increasing the national investment into solar energy has the potential to help eliminate the

oil we import from foreign sources and allows us to invest in local generation of oil and natural gas.

## **Solar Is Obviously Great for the Planet**

Everyone knows

solar is great for the planet and our future, but do you know why? The biggest reason is because in the US much of our power comes from coal. Coal power plants are the single most expensive and dirtiest forms of energy production exist. It takes over thousands of pounds of coal to power the average US home for a year! Residential rooftop solar production can eliminate the toxic coal particles from entering the atmosphere and our lungs! This is one reason I am passionate about solar energy. I want my son to grow up in a world that is cleaner than the one I grew up in, and I hope he has the same goal for his children as well.

## **Traditional Energy Travels a Great Distance and Suffers From Energy Loss Along the Way**

As we previously discussed,

the United States has three energy grids that power the country. They are the Eastern, Western, and Texas Grids. With only three potential grids to draw power from, that means that the energy travels a significant distance across the land to get to your home. On average, about 5% of the power that is produced is lost simply by traveling through the wires before it reaches your home. That is not to even account for the cost and spent energy needed to power the trucks, buildings and storage facilities associated with traditional energy production. Now with solar, the power produced travels instantly into your house, resulting in almost no loss and when your rooftop generates

excess energy, it's sent to the grid. That excess is measured at your house before it enters the power lines, meaning you get full credit for what you produce.

## **Solar Panels Are Extremely Durable and Almost Maintenance Free**

A common misconception

is that solar panels are very fragile. While that is partially correct because the actual solar panel is very fragile, the glass and frame that enclose those panels are extremely durable and built to withstand punishment from the elements. Most panels can handle any extreme wind, hail, and debris that Mother Nature can throw at them. In addition, they are easy to maintain and might only require a basic cleaning once or twice a year to help keep some of the dust and dirt off the glass. While that basic cleaning is truly unnecessary to their function, it will lower efficiency over time if not removed. Most homeowners will find that rainwater does most of the work in keeping the panels relatively free of dust and a homeowner or solar professional can do a simple annual cleaning easy enough. Most times, I recommend you call the professionals as they're insured against any issues and have the experience and tools to do the job quickly and correctly. If you are determined to save the money and do it yourself, there are many YouTube videos that help walk you through the process, and we will discuss it later in this book as well.

## **Solar Energy Is a Job Creator**

Currently (2022) the

United States solar industry is directly responsible for about 250,000 local jobs and indirectly responsible for countless more. While many industries

are downsizing or laying off workers, solar is expanding as more homeowners and companies seek to take control of their future. If you wish to join the solar revolution and be part of a growing industry, you can visit [jonnelsen.com](http://jonnelsen.com) and I will be happy to get you connected with a better future in solar. Opportunities are endless, whether you are looking for a side hustle, part-time, or full-time employment. And if you are a homeowner making the switch to solar, you can feel good about the fact that the decision you made to go solar directly affected several people in your neighborhood and across the US.

### **Solar Takes Advantage of Underutilized Space**

That rooftop

of yours doesn't really have anything better to do, right? Or perhaps you want to keep your roof free, and would rather focus on underutilized land on your property? Either way, you can benefit from the flexibility of solar to generate revenue on your property using land and rooftop that would otherwise go to waste.

### **Solar Panels Keep Your Rooftop Cooler**

One frequently ignored

benefit of solar panels is the fact that they help reduce the amount of direct sunlight reaching your rooftop and therefore reduce the overall temperature of the roof. This can translate to significant energy savings during those hot summer months. Capturing that sunlight turns the sun from an enemy to an ally as you seek to reduce energy bills. Put another way, simply having solar panels on the roof collecting that scorching summer sun might allow you to reduce the time you have the AC blowing and save additional money each

month. This is especially useful to those who live in warm climates and use the AC often.

## **Solar Panels Can Work Even Better in Cold Weather**

Believe it or not,

cold weather is actually a great time for solar panels. Short of being buried under snow (which will melt faster with panels underneath) that winter cold helps the panels function even more efficiently. When there is snow on the ground but the panels are clear, homeowners benefit from The Albedo Effect, so the light color of the snow helps reflect sunlight up rather than being absorbed into dark surfaces.

## **Solar for Off Grid Use**

One popular function

of solar is the ability to generate your own power and thus be able to remove yourself from the grid. While I don't recommend this, as there are many benefits of being associated with the grid and its infrastructure, it's the hope for some that they can remove themselves from reliance on society and be more self-sufficient. Solar panels and a strong battery backup system will be helpful in creating energy during peak hours and distributing it when you need it after dark.

## **Using the Existing Utility Infrastructure for a Small Monthly Fee**



While a select few

enjoy the idea of being “off the grid”, for most people, connectivity is important. Being part of the grid offers many benefits and sometimes allows you the ability to receive energy credits when you generate excess power. To stay on the grid, it can cost as low as \$10 a month and grants you access to everything you had while paying a larger energy bill. This protects you from ever being without power, even while waiting for a repair or replacement should something ever happen to your panels.

There you have it folks,

a good number of reasons it makes sense to switch to solar. While this is not an exhaustive list, as I know there are plenty of more reasons someone might make the change, this covers most of the largest reasons. But you know what, every situation is different and maybe you have your own reason for wanting to take control of your energy. That’s ok, when speaking to a solar consultant they can help you understand if it makes sense for your family to make the switch and if solar will truly solve the problems you want it too.

[OceanofPDF.com](http://OceanofPDF.com)



**JONNELSEN.COM**

# **SKY HIGH ENERGY BILL?**

**Stop Renting Your Energy, Own It  
Just Like You Own Your Home**

- **Solar for \$0 down**
- **Save up to \$200/mo on energy**
- **Increase your home value**
- **Get clean renewable energy**
- **Get a 30-year warranty**
- **Customized proposal & best value**



[OceanofPDF.com](http://OceanofPDF.com)

# **net metering**

What is Net Metering

---

**“Conserving energy and thus saving money, reducing consumption of unnecessary products and packaging and shifting to a clean-energy economy would likely hurt the bottom line of polluting industries, but would undoubtedly have positive effects for most of us.”**

- David Suzuki

---

**Net Metering is one of those trendy solar buzzwords, but just because it sounds like solar jargon, doesn't mean you don't need to know it.**

### **How Net Metering Works and What it Means to You**

In simple terms,

Net Metering is your home's ability to be connected to the existing power grid and both credit and debit in energy, like a bank account. For example, after transitioning to solar your home, during daylight hours you will generate more electricity than you actually need. This surplus of energy is sent to the grid for others to use and the utility company provides you with a credit for the power you created. Then, during the evening hours when the sun has gone down and you are no longer generating power from your own personal rooftop power plant, you will then draw on the grid and get back the energy you created. Basically, you will always have as much energy as you need because you are on the grid, but there will be times you are simply building up the credits available to draw on before you need to pay for energy.

One great time to

build up credits to draw on later is during a summer vacation. You might be away from your home for a week and not using any power. However, your personal power plant is still hard at work making you money. That week, you will have paid into the grid without making a withdrawal and most utility companies will allow that to carry over from one month to the next. Other times, the utility service may choose to mail you a check for the cost of energy that you created. The downside of a check is that this reimbursement would be at wholesale energy rates, while they pay credits at a retail rate. But let's not kid ourselves. There's never a downside to getting a check in the mail.

Not every utility

provider has the same agreements in place so it's important to find out how yours treats net metering before going solar.





## **Should I Stay on the Grid?**

While many people

imagine a more simplistic life of off grid living, I believe that the benefits of remaining tied to the grid far outweigh any negatives from it. Typically, to remain grid tied, you will need to pay a small monthly payment to the utility provider, but in return you get the protection of having access to unlimited energy should you need it. If something were to happen to your panels, you wouldn't want to be without electricity for days while you schedule with a technician to repair the damage. This is especially important in this day and age where, even if a technician can visit you right away, it might take days or weeks for a needed part to arrive because of shipping logistics issues. While most panels will last for 30-40+ years, it's always better to err on the side of caution rather than simply hoping for the best. After all, the best

reason to get solar is to have more control over your life and finances and not less.

## **What is a Feed-In Tariff**

Another perk

that exists in some locals is what's called a Feed-In Tariff. What that means is that you might only have to pay \$0.15/kWh for electricity, but when you sell the excess power you generate, you might receive \$0.27/kWh from the provider. While that sounds like you found a loophole in the system, it's actually a local government program that exists in certain areas to encourage renewable energy adoption from residents. If you live in a place that offers Feed-In Tariffs, I recommend you build the largest system you can and bank the money it generates for as long as possible. Just think, you might go out to an extra fancy dinner during your summer vacation knowing that you are making a healthy profit by selling your energy back to the grid. Families that can benefit from Feed-In Tariffs typically also make the choice to conserve as much electric as they can, hoping to generate some additional income through their system. One way to do this is by looking at what appliances use the most energy and ensuring you have the most efficient ones.



## **What is Time-of-Use?**

Another term

you may or may not be familiar with depending on where you live in the country is Time-of-Use. Time-of-Use is becoming more and more common in the US and is basically what I consider an additional tax from the electric company. Under Time-of-Use your utility provider charges MORE for your electricity during peak demand periods. A peak demand period might be between 4:00pm - 9:00pm or 5:00pm - 10:00pm. So the times when you expect to come home, cook dinner, watch TV and crank up the AC, your electric company is taxing you for drawing from the grid during this time. To counter that, many solar home owners invest in a battery bank that will draw stored energy from your energy reserves during peak times rather than from

the grid. This can save you the cost of paying higher fees during times of peak usage and better put your solar production to good use.

As more people

transition away from paying the utilities for their energy and generate it themselves, I believe the energy companies will continue to find additional ways to generate income with new fees, taxes, and surcharges. While Time-of-Use is just one of the more common fees, there are many that you might not notice you are paying unless you pay close attention to the line items on your bill.

[OceanofPDF.com](http://OceanofPDF.com)

**what uses the most energy at home?**

Where Is All My Power Actually Going?

---

**“Waste is worse than loss. The time is coming when every person who lays claim to ability will keep the question of waste before him constantly. The scope of thrift is limitless.”**

- Thomas Edison

---

**So consider that next time you are deciding between multiple appliances. Energystar.gov makes it easy to see the power consumption of appliances, and you can even sort those appliances by price. If you are considering solar in the future, it would be a smart idea to first consider all the ways you can reduce your electric use without affecting your quality of life. Things like buying more energy-efficient appliances when replacing an aging one can add up to hundreds of dollars in savings over the product’s lifetime.**

Not all appliances

and electronics are created equal, but some of these electricity vampires might surprise you. So, let’s discuss where the power goes once it enters our home.

### **Heating and Cooling System (Approximately 45%)**

It may

or may not shock you to learn that our home's heating and cooling system accounts for almost half of the monthly energy costs used by the typical household. This can be significantly higher or lower, depending on the age of the system and the temperature you maintain in your home. Here are a few tips to help lower the cost of your HVAC system:

**Use air conditioning only during the hottest portion of the day (12p-4p)**

**Have your AC and Furnace serviced at least twice per year**

**Make sure ceiling fans are set to counterclockwise during the summer and clockwise during the winter**

**Check filters and replace them as needed**

**Never block the vents**

**Dust and vacuum regularly to reduce clogs in filters and vents**

**Draw curtains closed on warm days and open on cool days to take advantage of the sunlight**

**Dress warmer indoors during winter and dress lighter during summer**

### **Water Heater (Approximately 15%)**

The water heater

is also a big contributor to higher electric bills, and this is especially true with older outdated models. Here are some precautions you can take to reduce costs.



**Wrap older water heaters with a well-fitting insulation jacket**

**Take showers instead of baths**

**Set water heater temperature below 120F**

**Insulate hot-water pipes**

**Install shower heads that conserve water**

**If you go on vacation, turn down the water heater**

### **Washer and Dryer (Approximately 15%)**

The washer

and dryer we use to clean our clothes and keep the bedsheets smelling fresh are also substantial contributors to monthly energy costs, as you might expect. But, before you decide to invest in brand new, more efficient technology, there are ways to reduce the power consumption of even the older washer and dryer appliances.

**Use cold water for your wash - Tide (and I'm sure others will follow) make specially formulated detergent that works effectively in cold water**

**Only wash full loads - You will use the same energy no matter the size of the load, so focus on creating full loads of wash (this will also help you wash less, which is a win in my book)**

**High-speed spin cycles are your friends - The more moisture you can remove during the wash cycle, the more efficient the dryer cycle will become**

**Use a cool down cycle - Some newer dryer models have a cool down cycle, which takes advantage of the heat already in the dryer to finish drying a load of laundry without continuing to burn energy heating it.**

**Put in a new load after the previous one finishes - By throwing your clothes in an already hot dryer, you reduce the energy needed to bring a dryer from cold to hot.**

**Use Dryer Balls - Wool or rubber balls help to separate clothing, allowing the heat to more evenly disperse while also helping to eliminate static**

**Clean the Lint Trap - Not only will this help the dryer run more effectively, but by cleaning the lint trap after each use, you will reduce the risk of fire or damage to your dryer**

### **Lighting (Approximately 12%)**

Lighting is

one thing that can fool even the most-savvy homeowners. Often, homeowners assume that they have already converted all lighting to high efficiency LED bulbs. Unfortunately, that's not always the case. Check each bulb in the house and replace them with LED lights, which have a longer lifespan and a lower energy cost. Outdoor lighting, like floodlights, often uses enormous amounts of electricity and are easily forgotten. Today, we're fortunate to have efficient outdoor lighting at a very reasonable cost and taking the time to replace outdated lighting can often pay for itself in a matter of weeks or months.

### **Refrigerator (Approximately 4%)**

In my house,

the only thing more exciting than a new movie on Netflix is the possibilities that might lie within the fridge. In many houses, kids simply open the fridge and stare, waiting for something exciting to appear. Unfortunately, healthy Jon often does the grocery shopping while snacking Jon is left with a pile of veggies and Greek yogurt from which to create something to satisfy a snack craving. If you find members of your family opening and closing the refrigerator too often, you're losing energy. The best advice is to buy bins to organize your fridge logically, so when you want to search for a snack, you know exactly where to look. Once again, this is an appliance where you are better off investing in a new fridge rather than fixing an aging one should it malfunction. New technology has allowed refrigerators to better trap the cool air, and some new fridges come with built-in windows so you can plan your meal before you even open it.

### **Electric Oven (Approximately 4%)**

Cooking in an oven is a necessity,

but sometimes we are our own worst enemies with saving money on our electric bill. A dirty oven will not work as efficiently as a clean one, so take the time to clean it. Be sure to clean it once a month, either by hand or with a self-cleaning feature if you are lucky enough.

### **TV, Video Games, Computers and Cable Boxes (Approximately 3%)**

I know

this one is shockingly low compared to what you might expect, but somehow TVs seem to be the one electronic appliance that we ensure is

always new. Luckily, newer television sets benefit from advances in technology, so along with brighter colors and better resolution, they also use less power. That said, those Netflix marathons now become even more problematic when you throw in the amount of electricity used to power it and, of course, the frequent trips to the fridge.

### **Dishwasher (Approximately 2%)**

#### Cleaning

your dishes with a dishwasher is not only beneficial from a pain-in-the-butt standpoint but also from an energy savings one. By using a dishwasher, you use significantly less water than cleaning dishes by hand, allowing your water heater to do less work, helping save energy as well.

So,

there you have it, a breakdown of where your money is going each time you pay a utility bill. If you can focus on replacing aging appliances, you can often significantly reduce your monthly bill. New water heaters to replace older ones, updating the lighting, and seeking the most energy-efficient washer and dryer system can help drop your bill by almost 25%. The real savings, however, is replacing an old HVAC system with something more efficient. Since that is not in most people's budgets, the next best solution is to better insulate your home. Anything from replacing drafty doors and windows to only keeping certain rooms at comfortable temperatures will decrease costs. No matter what you do, I'm confident that just having this knowledge will help you make better decisions and reduce your electric costs.

## **Stop Renting Your Energy, Own It Just Like You Own Your Home**

Solar for \$0 down

**Save up to \$200 a month on your energy bills**

**Increase your home value**

Get clean renewable energy

Get a 30-year warranty

**Customized proposal & best value**

**30% Federal Tax Credit available**

[jonnelsen.com](http://jonnelsen.com)

[OceanofPDF.com](http://OceanofPDF.com)