

A CONSUMER'S GUIDE TO SOLAR POWER IN MISSISSIPPI



INTRODUCTION

NET METERING AND SOLAR POWER IN MISSISSIPPI

Adding solar panels to meet your home or business's energy requirements may help reduce your electric bill, contribute to saving the environment, and even increase the value of your property.

During the past decade, deployment of solar energy systems in the United States (U.S.) has grown rapidly. Cost reductions as well as new home-ownership and financing options have made solar energy a possibility for many Mississippi residents.

Adding a solar power system to your property is a big decision. Understanding the basics of solar energy, financing options, how it might impact your electric bill, and which questions to ask the experts are important. Contact information for national and local resources is found at the end of this document.



This guide is meant to provide guidance and initial suggestions only. It does not provide legal advice or legal opinions nor replace the benefit of legal consultation with a private attorney or other expert.

Special thanks to the Mississippi Net Metering Working Group and participants for their input.

NET METERING IN MISSISSIPPI

During 2016, the Mississippi Public Service Commission (Commission) implemented the Mississippi Renewable Energy Net Metering Rule. The new rule applies to Entergy Mississippi and Mississippi Power customers only. Electric cooperative members should contact their electric providers for their net metering guidelines.

The new rules authorize homeowners and businesses with rooftop solar systems to meet their energy requirements as well as provide any excess power back to the electric power system, known as “the grid.” Pursuant to the Rule and the utilities’ interconnection process, the utility will accept the excess power and will give the customer a bill credit based on the utility’s current avoided energy cost rate (expressed in cents per kWh) plus a Commission-approved temporary additional 2.5 cents per kWh for the first 3 years of the net metering program.

According to the rule, excess energy produced by the rooftop solar owner will be valued and credited monthly, with unlimited carryover of any bill credits. Within three years of the effective date (December 2015) of the Net Metering Rule, the Commission will analyze the experiences of customers and utilities to evaluate the actual benefits of distributed generation and will direct utilities to revise the monthly credit to reflect the actual benefits that can be demonstrated to have been realized and quantified.

The first 1,000 qualifying, low-income customers to install solar systems will receive an additional 2 cents per kWh credit in addition to the credit described above. This incentive for low-income customers is effective for a period of 15 years from the date the customer begins taking net metering service. For residential applications, solar systems are limited to 20 kW in size.



HOW SOLAR POWER WORKS

Solar panels can be installed or integrated onto your roof or located on the ground. When sunlight comes in contact with the solar panels, it is converted into electricity. If you produce more electricity than you need at any point in time, the excess energy can be run back through your meter into your electric company's grid and will help further reduce your electric bill. Benefits of adding a solar system depend upon the installed cost of the system, available incentives such as the federal Investment Tax Credit, the amount of electricity that you use each month, the amount of direct sunlight that your home gets, and the utility company that provides service to your home or business.

Today, most residential solar systems are photovoltaic ("PV") systems. Solar PV systems generate electricity through two main components:

1. Solar panels that convert sunlight to direct current (DC) electricity; and
2. Inverters that convert DC into alternating current (AC) electricity for use in a home or business.

GENERATING ELECTRICITY

The amount of electricity measured in kWh produced by any solar system depends on two factors:

1. The capacity of the solar PV system measured in kilowatts (kW); and
2. The amount of sunlight that the system receives, which is affected by several variables:
 - The location of your home (for example, homes in Phoenix, AZ, receive more sunlight on average than in Seattle, WA).
 - The orientation of the system (the roof angle/pitch and compass direction impact how much of the sunlight in your area hits the panels each day).
 - Shading from nearby objects (such as chimneys, trees, or neighboring buildings).
 - In the United States, roofs facing due north are not very good candidates for solar panels because they don't receive as much direct sunlight as south-facing panels would.

LIFE-SPAN OF SOLAR EQUIPMENT

Solar Panels: The majority of manufacturers offer a 25-year standard solar panel warranty, which generally means that power output should not be less than 80% of rated power after 25 years. Confirm the warranty offered is near the 25-year mark and that the power output is consistent with the above stated rate.

Solar Inverters:

- *Central or "string" inverters* are typically less-expensive and have a 15 to 20 year life-span and warranty.
- *Micro-inverters* will provide maximum power production for each solar panel and may have a 20 to 25 year life-span and warranty. Micro-inverters, while slightly more costly, are generally considered easier to install because they are integrated with the solar panel.

As a consumer, you should ask the installer about warranty, quality, and reliability of both the solar panels and the inverter before entering any agreement to purchase or lease. You may also want to contact an attorney and/or certified public accountant (CPA) to make sure that you are receiving a fair contract for your purchase or lease.

OWNERSHIP OPTIONS IN MISSISSIPPI

Solar power ownership options are similar to ownership options for cars. It is important to understand the differences between them so that you can choose the option that best fits your needs. The two options available today are explained below:

- Purchase a system directly with cash or through a loan.
- Lease a system.

PURCHASE

When you buy the solar system directly, you are the owner, and you benefit from available incentives and receive all of the electricity the system produces. You are usually responsible for system upkeep, although some providers offer maintenance service plans on purchased systems. You may also be the beneficiary of any tax credits or other incentives that promote solar energy.

The payback period is the amount of time it will take for your system to pay for itself in energy cost savings. Payback is calculated based on expectations of future energy bills, the cost of your system, and any available incentives. These factors will vary among systems. The expected life of solar panels typically ranges from 20-30 years, although you may have to replace the inverter earlier than that.

LEASE

Under a long-term lease, the solar company owns the system but leases it to you for your use and benefit. Under a lease, the solar company is typically responsible for upkeep and maintenance and is the beneficiary of any eligible tax credits or other incentives. You make fixed monthly payments to the solar company as agreed upon in the lease. Some solar companies may allow you to lease with no initial costs (“no money down”). Some solar companies also give you an option to purchase the system after a certain amount of time.

It is important to read the lease terms carefully to be certain that you can meet them, also compare the lease terms to those of a purchase loan before making a final decision. As with purchasing, you may also want to contact an attorney and/or CPA to understand the lease provisions and how the lease might affect future plans, such as selling your home or business during the lease term.

MOVING FORWARD

When evaluating options to go solar, consumers should always do careful homework, check references, talk to friends and neighbors who have chosen to install solar PV systems, and be active and engaged in dealing with solar companies.



KNOW YOUR SITUATION

- *Know your electricity usage.* You should understand how much electricity your home or business uses each month (and year) and decide how much you want to rely on solar. Your utility bill will show your electricity usage in kilowatt-hours (kWh) and the amount you pay for that electricity. Are you planning any changes that will affect your electricity use such as buying an electric vehicle, planning an addition, or improving your energy efficiency? If you are a business, billing can be more complex and may involve different types of bill charges (for example, based on demand). Calculate your expected energy usage in the future, and discuss your usage with the solar companies you interview to better understand savings potential and to help get a system sized for your specific needs.
- *Know your roof.* Is your roof appropriate for solar? Identify the physical features of the roof, and be sure to discuss those features with a qualified and reputable solar professional. A solar professional can estimate the amount of sunlight expected to reach a planned system over the course of a year and can provide guidance on how the system would be designed and installed. How old is the roof? If you plan on replacing it soon, you may want to replace it prior to a rooftop solar installation. Installation of solar panels must be done with flashings and waterproofing methods approved by the roof manufacturer to maintain the roofing warranty and to protect against leaking and other concerns. Consumers should check their roof warranty and be sure to ask a solar professional exactly what methods will be required for the installation of solar panels. Solar installers must guarantee that appropriate methods and flashings will be used and that the roof warranty will be maintained after solar panel installation.
- *Know your finances.* As with any major decision for your home or business, it is wise to understand your finances when shopping for a solar system. Although sunlight is free, buying or leasing solar systems is not, and making sure that you are dealing with a qualified solar company is very important.
- *Know your weather.* It is important to note that if you might experience frequent or serious hail storms, smaller modules are easier and less costly to replace.

DO YOUR HOMEWORK

- *Getting the best deal.* As with any major purchase or long-term commitment, get multiple bids for your solar system. Many Mississippians will find the market quite competitive with multiple solar companies competing for your business. Use this guide along with other available resources, and compare the costs and terms from different qualified and reputable firms.
- *Research the solar company.* The contractor you choose can have a substantial impact on the success of your installation. Ask for references of solar installations in your area, and call those references to learn about their experiences. Ask the contractor for proof of licensure and insurance (e.g., liability, workman's compensation), and check with your county, the Mississippi Board of Contractors, and/or the Mississippi Attorney General's Office to ensure that the firm is in good standing. The Solar Energy Industries Association (SEIA), the national trade association for solar, and its local branch, Gulf States Renewable Energy Industries Association (GSREIA) expect all members to abide by a Code of Ethics and Solar Business Code. Consumers should also check with the Better Business Bureau of Mississippi and other consumer guides to determine if the solar company is the right fit for your needs.

- *Understand any tax credits or other incentives.* There is currently a 30 percent federal tax credit available for purchased systems installed by December 31, 2019. Remember, a company which leases you a solar system, will typically be assigned any available tax credits. The federal investment tax credit is credited against taxes owed. Under a recent extension, the federal investment tax credit will be reduced in 2020, 2021, and then will phase out for individual homeowners in 2022 (note that businesses can still qualify for a 10% tax credit). You should consider consulting a CPA to determine how the federal investment tax credit might work given your circumstances. The DSIRE database also provides valuable information (<http://programs.dsireusa.org/system/program?state=MS>).
- *Understand any potential tax implications of credits or incentives.* Remember, only a CPA or tax attorney can give tax advice, and only an attorney can give legal advice. When consulting such professionals about your situation, seek those that have experience with solar.
- *Safety issues.* Ask the installer about safety issues related to the solar system; especially ask about fire safety and roofing hazards. Many building codes now include provisions intended to address firefighter safety, such as minimum setback areas to provide space on the roof for walking around solar systems, as well as specific equipment requirements. There may also be local electrical and/or construction permitting requirements; so check whether the solar company has experience in your area and knows the local rules before the system is installed.

UNDERSTANDING THE AGREEMENT

- *Understand the terms.* Contracts are legally binding and should be read carefully. Be certain that you understand what you are receiving from the solar company and how much you are paying for it as well as any additional requirements not covered in the contract. Remember to verify that any terms and conditions, that are important to you, are specifically included in the official signed contract documents before you sign.
- *Don't hesitate to ask questions.* The best transactions are ones in which both the consumer and the contractor fully understand the deal and who is responsible for what. Asking questions up-front can avoid misunderstanding and frustration later in the process.
- *Separate estimates from guarantees.* Many Americans can save money on their utility bills by choosing to install a solar system, but the savings depend on a number of factors unique to each location. If a solar company promises a particular level of savings or asserts that electricity costs from your utility will increase in the future by a certain amount, ask them to explain and provide documentation. According to the U.S. Department of Energy, Mississippi's residential electricity rates increased, on average, by 1.47 percent annually between 2006 and 2016. Some installers will include a guarantee of savings or the amount of energy expected to be produced by a solar system.
- *Fully understand warranties.* As with any major product or service, a solar system includes warranties and may affect existing roofing warranties. Refer to the previously mentioned sections on panel and inverter warranties as well as the section on roofing warranties. Confirm that you are getting the right warranty for your system. Installers should also provide a labor and workmanship warranty of at least one year, but many are typically five to ten years after the solar system is activated. Obtain all warranties in writing before making a final payment.
- *Property insurance.* Before you sign a contract to purchase or lease a solar system, check with your property insurance company to understand if there will be any impact on your policy's annual premium. Some insurance companies specifically exclude rooftop solar systems from their policies so be sure to check first.

UNDERSTAND THE INTERCONNECTION PROCESS

- *Know your responsibilities.* As the customer, it is important to understand the steps for completing and submitting the Interconnection Application and requesting interconnection of your solar system to your utility's electrical distribution grid. Contact your electronic provider directly to obtain information specific to your provider's interconnection process.
- *Be aware of potential fees.* Electric utility companies may impose an application fee in certain circumstances or fees for a study (typically only required when the customer is considering a larger system).
- *Know the installer's responsibilities.* Prior to the start of the installation, understand and document in writing what the installer's role will be in completing, submitting, and negotiating the Interconnection Application, requests, and associated agreement. Some installers take care of all the paperwork, and others do not. Verify who will request the utility to conduct the "Commissioning" or "Witness Test" of the solar system once the installation is complete and all electrical connections have been made to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with applicable codes.

KEY QUESTIONS TO ASK BEFORE ENTERING INTO AN AGREEMENT FOR A SOLAR SYSTEM

For all solar systems:

- Do you have experience installing grid-connected solar systems, and how many years of experience do you have installing solar systems?
- What is the total cost of the solar system?
- What is your timeline for this investment? Do you want a short-term arrangement or a long-term asset?
- How much do I pay up front or over time and for how long? What is the interest rate for the loan if I finance the system? Are there any pre-payment or other penalties for paying the loan off early?
- What is the anticipated system size that is appropriate for my needs?
- Will I get access to an online production monitoring system?
- How much electricity will the system generate each year? Do you guarantee a minimum amount?
- Do system production calculations include actual installation details of the system such as shading in your yard and other location aspects?
- Can I expect to save money with the system? If so, how much and based on what assumptions?
- Is the installation company licensed and insured in Mississippi?
- What will the system look like once installed? Will I receive a system design for my review and approval before installation?
- Will I be required to make any changes to my home (e.g., roofing upgrades)?
- Are there separate warranties for parts and labor? Will installing panels affect my existing roof warranty?
- What do the warranties cover and what are their durations?
- What type of maintenance or cleaning is required? Are any maintenance services included?
- What impact will the installation have on my property insurance policy? Will my premium be affected?
- Whom should I contact if I have a question about the system following the installation?
- What are the rules in Mississippi regarding Homeowner's Associations (HOAs)? In some states, laws prevent HOAs from restricting the right to install a solar system.
- Does your company follow the SEIA or Gulf States Renewable Energy Industries Association Solar Business Code? Do you agree to abide by SEIA or GSREIA's Complaint Resolution Process?

For leases only:

- Does the company use the SEIA Residential Lease Disclosure Form?
- How long is the lease?
- Will my payments increase over time? How does the rate of increase compare to historic utility rate increases?
- What happens if I wish to end the lease early?
- Can I purchase the system, either during the agreement or once it ends? What are my options when I sell my home?
- Am I free to sell my home to anyone, or do I need the solar system owner's permission to assign the lease to the buyer?
- Are there fees to transfer the lease agreement to the new homeowner?
- Do I have to pay off the lease when my home is sold?
- If I want to sell my home and don't own the system, how can I describe my home to potential buyers?
- Who is responsible for repairs and maintenance on the system?
- Who is responsible for insuring the system, and what happens if the system damages my roof or property?
- Do Renewable Energy Certificates (RECs) apply to my transaction? If so, can you explain how RECs work in my situation?

WORKING OUT DIFFERENCES

As with any other service or product, consumers may encounter issues in dealing with a solar company.

- First, try to resolve problems directly with your solar company.
- Your contract or lease may have a dispute resolution section and process.
- If you choose a solar company that is a member of SEIA or GSREIA, those organizations may be able to assist you in resolving your issue.
- Local SEIA chapter GSREIA has a contractor reporting page to assist consumers: <http://www.gsreia.org/report-a-contractor-problem/>
- You can also contact private consumer organizations (e.g., your local Better Business Bureau) about your issue.
- If you feel the installer misrepresented the product or performance of the solar system or did



not perform the work to any extent after being paid, contact the Consumer Protection Division of the Mississippi Attorney General's Office at 1-800- 281-4418.

- If you feel the installation work performed was substandard, contact the Mississippi Board of Contractors at 1-800-881-6161.

- If issues arise concerning the utility and your utility bill, first contact your utility to resolve the issue. If you need additional assistance to address your issue, please contact the Mississippi Public Service Commission at 1-800-356-6430.

ADDITIONAL RESOURCES

Office of the Mississippi Attorney General Consumer Protection Division
www.agjimhood.com

SEIA Consumer Protection Portal
www.seia.org/consumers

Gulf States Renewable Energy Industries Association
<http://www.gsreia.org>

Better Business Bureau (BBB) Mississippi
www.bbb.org/mississippi

Database of State Incentives for Renewable Energy (DSIRE)
www.dsireusa.org

Mississippi Board of Contractors
<http://www.msdoc.us>

Mississippi Public Service Commission
<http://www.psc.state.ms.us>

Interstate Renewable Energy Council
www.irecusa.org

National Renewable Energy Laboratory (NREL)
www.nrel.gov



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