BILL'S HOME TECH

Home & Small Business Tech Solutions

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Roof First — Age, Shape, and Shade Before You Buy Solar

Panels live on your roof for 25 years — so settle the roof question before anyone quotes you panels

Plain-English solar help from:

Bill's Home Tech

Portage County, Ohio

Tech Made Simple. Service Made Personal.

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What's Inside

Everything in this guide, with page numbers. Skip to whichever chapter answers your question right now.

The 60-Second Version 4
The Short Version 4
Why the Roof Comes First 5
How Old Is Your Roof? 6
Reroof First If It's Close 6
Which Way Does Your Roof Face? 7
Roof Pitch and Shape 8
The Shade Problem 8
How Shade Is Measured 9
Can You Trim or Remove Trees? 9
Flat Roofs and Other Special Cases 10
A Roof-First Checklist 11
How to Check Your Own Roof — A Walkthrough 11
A Worked Example: Reroof First, or Pay Twice? 12
Reading a Shade Report 13
Matching the Equipment to a Shaded or Small Roof 14
Roof Penetrations, Flashing, and Leaks 15
When to Call Bill 15
Everyday Cheat Sheet 17
A Note From Bill 18

Your Visit — and My Promise 19

SUMMARY

The 60-Second Version

Before panels or prices, settle your roof, because solar lives up there for 25 years or more. First, the roof's age: if it is within a few years of needing replacement (asphalt shingles often last 20 to 25 years), reroof before or along with solar — otherwise you pay thousands to remove and reinstall panels later.

Second, direction: south-facing roofs make the most power in Ohio, east and west still work with less, and north rarely pays. Third, shade: trees, chimneys, and neighboring buildings can quietly wreck the economics, so insist the production estimate honestly accounts for shade across the whole day and year. Unusual roofs — flat, metal, tile, or old — still work but need the right installer.

Settle all this before you sign, and let Bill gut-check your roof-first homework with no stake in the sale.

1 The Short Version

Before you think about panels, prices, or payback, there is one thing to settle: your roof. Solar panels live on your roof for 25 years or more, so the roof under them has to be ready for that long haul. Putting panels on a worn-out, heavily shaded, or poorly aimed roof is one of the most expensive mistakes in solar — and it is entirely avoidable if you look at the roof first.

This guide walks you through the three things that matter most: the roof's age and condition, its shape and direction, and the shade that falls on it. None of this requires climbing a ladder. Bill does not sell solar or roofing and has no stake in your decision — this is simply the honest homework to do before anyone quotes you panels.

- Never put solar on a roof near the end of its life — reroofing later means removing the panels.
- South-facing is best in Ohio; east and west still work with less output; north is poor.

- Heavy shade from trees or chimneys can quietly wreck the economics.
- Settle the roof question before you sign for panels — it is far cheaper than fixing it after.

> **TIP**
> If your roof is more than about 15 years old, get its remaining life assessed before buying solar. It is much cheaper to reroof first, on a bare roof, than to pay to remove and reinstall panels a few years later.

2 Why the Roof Comes First

Solar panels are designed to last around 25 years, and they are bolted firmly to your roof. If the roof beneath them wears out in, say, eight years, you face an ugly and expensive situation: paying to take all the panels down, reroof, and put the panels back up — a cost that can run into thousands of dollars and was entirely preventable.

That is why every honest solar process starts with the roof, not the panels. A good installer will ask about your roof's age and may inspect it; a pushy salesperson may skip straight to the sale. Getting the roof right first protects the whole investment and saves you from the single most avoidable solar headache.

> **GOOD TO KNOW**
> Think of the roof as the foundation of the solar system. You would not build a nice addition on a crumbling foundation, and the same logic applies here. The panels are only as sound, long-term, as the roof holding them.

3 How Old Is Your Roof?

Roof age is the first thing to pin down, because it decides whether to reroof before going solar. Most common asphalt-shingle roofs last roughly 20 to 25 years, though this varies with the material and how well the roof has held up. If your roof is young or recently replaced, you are in great shape; if it is getting on in years, that changes the plan.

1. Find out when the roof was last replaced — check records, or ask the previous owner or your roofer.
2. Compare that age to the roof's expected life (often 20 to 25 years for asphalt shingles).
3. If the roof has, say, 15-plus good years left, it can comfortably carry solar.
4. If it is nearing the end, plan to reroof first, before any panels go up.

> **WATCH OUT**
>
> If you cannot remember the last time the roof was done, assume it is older than you think and get it assessed. The cost of checking is small; the cost of discovering a worn-out roof under a new solar array is not.

4 Reroof First If It's Close

If your roof is within a handful of years of needing replacement, the clear-headed move is to reroof before installing solar, even though it means a bigger up-front project. A fresh roof can then comfortably carry the panels for their full life, with no costly removal-and-reinstall in the middle.

Some homeowners even reroof and install solar as a coordinated project, which can be efficient. The key is that the decision is made deliberately, with the roof's real condition in mind — not skipped because a salesperson wanted the panel sale to go through quickly. A roof is its own decision with its own quotes.

WATCH OUT

If a solar salesperson waves away questions about your aging roof, that is a warning sign. The roof genuinely comes first, and anyone rushing past it is rushing you. I am glad to help you weigh the roof's condition before you commit to panels.

5 Which Way Does Your Roof Face?

The direction your roof faces — its orientation — strongly affects how much power panels on it will make. In Ohio, as everywhere in the northern half of the world, the sun tracks across the southern sky, so a roof face pointed south catches the most sun over the day and the year. Direction is not something you can change, but it is something to know before you buy.

Roof face	Ohio solar output	Verdict
South	Best	Ideal — most production
East or west	Good (less than south)	Still worthwhile
Southeast / southwest	Very good	Nearly as good as south
North	Poor	Usually not worth panels

You do not need a perfectly south-facing roof for solar to work; east- and west-facing roofs still produce solid power, just somewhat less. A north-facing slope, though, makes so little in Ohio that panels there rarely pay. A good installer designs around your best-facing roof areas.

Rather not do this yourself? I'll come to your home and set it up for you — a flat $99 first visit across Portage County, Ohio and nearby communities. Outside the area? I also help remotely by phone or screen-share. Book at billshometech.com/book or call (330) 200-8042.

6 Roof Pitch and Shape

Beyond direction, the roof's steepness (its pitch) and overall shape matter too. A moderate pitch is generally good for Ohio solar, helping panels catch the sun and shed snow. A very flat or very steep roof, or one chopped up into many small faces with dormers and valleys, can complicate a clean, efficient layout.

- A moderate pitch is typically well-suited to Ohio sun and sheds snow reasonably.
- A very cut-up roof with many small faces may fit fewer panels efficiently.
- Chimneys, vents, and skylights take up space and can cast shade.
- A large, simple, south-facing slope is the easiest and most productive canvas.

> **GOOD TO KNOW**
>
> None of these shape issues necessarily rules out solar — installers work with complicated roofs all the time. They just affect how many panels fit well and where, which in turn affects production and price. It is one more reason the design should be tailored to your actual roof, not a template.

7 The Shade Problem

Shade is the quiet killer of solar economics, and it is the factor people most often underestimate. A panel in shade makes little power, and depending on the system design, a few shaded panels can drag down others. Trees, a neighbor's tall house, a chimney, or a utility pole can all cast shade that moves across your roof through the day and across the seasons.

The tricky part is that shade changes. A spot that is sunny at noon in July may be shaded in the morning, in winter when the sun is low, or in a few years when a tree grows taller. An honest assessment looks at shade across the whole day and year, not just at the moment the salesperson happens to be standing in your yard.

WATCH OUT

Be very skeptical of a glowing production estimate for a roof with significant tree shade. Shade is the factor most likely to make real output fall well short of a rosy quote. If your roof is shaded, insist that the estimate honestly accounts for it.

8 How Shade Is Measured

Good installers do not eyeball shade; they measure it. There are tools and software that map how the sun falls on your specific roof across the day and the seasons, producing a realistic estimate of how much shade costs you. This is part of a proper site assessment, and it is reasonable to ask whether and how it was done.

- A proper assessment models sun and shade across the whole year, not one moment.
- It accounts for trees, chimneys, neighboring structures, and the low winter sun.
- The result should feed an honest production estimate for your roof.
- Ask the installer to show you the shade analysis behind their production number.

WATCH OUT

If an installer cannot explain how they accounted for your roof's shade, treat their production estimate with caution. The companies worth hiring do this analysis as a matter of course and will happily walk you through it.

9 Can You Trim or Remove Trees?

Sometimes the shade problem has a solution: trimming or removing a tree that blocks the sun. This can meaningfully improve a roof's solar potential, but it is a real decision with its own costs, and sometimes feelings — a beloved old tree is not just a shade source. It is worth weighing honestly before counting on it.

Also remember that trees grow back and keep growing, so trimming may need repeating, and a young tree nearby today may be a big shade problem in ten years.

Factor the tree's future, not just its present, into the picture. None of this means solar is off the table — it just means the shade question deserves a clear-eyed look.

> **GOOD TO KNOW**
> Before removing a tree for solar, weigh its other value — shade for the house in summer, privacy, and what it means to you — against the extra solar production you would gain. Sometimes it is clearly worth it; sometimes it is not. There is no single right answer, only an honest trade.

10 Flat Roofs and Other Special Cases

Some homes have features that need extra thought. A flat or low-slope roof can take solar with special mounting, but the approach differs from a pitched roof. Metal roofs, tile, and slate each have their own mounting methods and considerations. And some older homes may need a structural check to confirm the roof can bear the added weight.

- Flat or low-slope roofs use special mounts, often tilted to catch the sun.
- Metal, tile, and slate roofs each need the right mounting method for that material.
- Very old or lightly built roofs may need a structural check for the added weight.
- A carport, ground mount, or other structure is sometimes an option if the main roof is unsuitable.

> **WATCH OUT**
> If your roof is unusual — flat, metal, tile, or just old — it does not rule out solar, but it does call for an installer experienced with that type. I can help you ask the right questions so you end up with someone who has done your kind of roof before.

11 A Roof-First Checklist

Here is the whole roof question on one page, as a checklist to work through before you take solar quotes seriously. Running through it first saves you from the most expensive and most common solar mistake.

1. How old is the roof, and how many good years does it likely have left?
2. If it is close to the end, plan to reroof before, or along with, installing solar.
3. Which directions do the roof faces point, and which are south, east, or west?
4. Is the roof a simple, usable shape, or cut up with dormers, chimneys, and vents?
5. How much shade falls on the good roof faces, across the whole day and year?
6. Are there trees you could trim or remove — and is that worth it to you?
7. Does the roof type or age call for special mounting or a structural check?

TIP

Walk through this list before the first salesperson arrives, and you will ask sharper questions and be far harder to rush. A homeowner who leads with "tell me how my roof's age and shade affect this" is a homeowner in control.

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12 How to Check Your Own Roof — A Walkthrough

You can learn most of what you need about your roof in an afternoon, without climbing on it. Here is how to gather the three things an installer will care about most: how old the roof is, which way its faces point, and where the shade falls.

1. Find the roof's age. Check closing papers from when you bought the home, any re-roofing receipt, or ask a roofer who has worked on it. If you truly cannot tell, a roofer can estimate the remaining life in one visit.
2. Find your directions. Step outside in the morning and note where the sun comes up — that is east. The side of your roof facing roughly south gets the most sun in Ohio; make a simple sketch marking which slopes face south, east, west, and north.
3. Watch the shade at three times. Glance at the roof mid-morning, at noon, and mid-afternoon on a sunny day. Note anything that throws shade on the south and west slopes — trees, a chimney, a neighbor's tall roof, a vent pipe.
4. Look for wear from the ground. With binoculars, scan for curled, cracked, or missing shingles, bald patches where the grit has worn off, and any sag in the roof line. Jot down what you see.
5. Write it on one page. Age, which slopes face south, and where shade lands. That single page makes every installer conversation shorter and clearer.

> **GOOD TO KNOW**
>
> Free satellite map tools let you look straight down at your roof from a browser. That overhead view makes it easy to see which slopes are biggest and which way they face — a quick way to double-check your sketch before anyone visits.

13 A Worked Example: Reroof First, or Pay Twice?

The single most expensive roof mistake is putting panels on a roof that is near the end of its life. If the roof fails in a few years, the panels must come off so the roof can be replaced, then go back on — a cost you pay on top of the new roof. Here is the kind of math that shows why timing matters.

Situation	What tends to happen	Rough added cost
Roof has 20+ good years left	Panels go on once and stay put	No extra roof cost

Roof is near end of life, panels go on anyway	Roof fails; panels removed and reinstalled to reroof	Often $2,000-$6,000+ to detach and reset panels, on top of the new roof
Reroof first, then solar	One clean roof, panels installed on top	Cost of the roof you needed anyway, no double handling

The exact figures vary by system size and installer, so treat the middle row as a caution, not a quote. The lesson is simple: if your roof is within about five years of needing replacement, replacing it before the panels go on almost always costs less than removing and resetting them later.

> **GOOD TO KNOW**
>
> A brand-new roof under the panels also means its warranty and the solar warranty run on roughly the same clock, so you are far less likely to face a big roof job during the 25 years the panels are up there.

14 Reading a Shade Report

A good installer will measure your shade rather than eyeball it, often with a tool that scans the sky from your roof and calculates how much usable sun each spot gets across the year. The result is usually a percentage, and knowing what the number means keeps you from being talked past.

- A 'solar access' or 'sun number' percentage tells you how much of the possible sunlight a spot actually gets once shade is accounted for.
- Roughly speaking, the high numbers (around the mid-80s percent and up) are good; the lower a spot scores, the more a tree or chimney is stealing from it.
- Heavy, year-round shade on your best south and west slopes can quietly wreck the economics — the panels still work, they just make far less than the glossy estimate promised.
- Ask to see the shade measurement for your roof specifically, not a generic estimate for your zip code.

WATCH OUT

If an installer waves off shade with 'the panels handle it,' slow down. Shade-tolerant equipment helps, but it never fully replaces lost sun. A real shade measurement, in writing, protects you from a system that underperforms for 25 years.

15 Matching the Equipment to a Shaded or Small Roof

If parts of your roof get shade, or your usable area is small, the type of equipment matters more. In older systems, panels were wired in a chain, so one shaded panel could drag down the whole string. Newer options let each panel work on its own, which softens the hit from a little shade.

Approach	How it handles shade	Where it fits
String inverter only	One shaded panel can pull down others on its string	Wide-open roofs with little or no shade
Power optimizers (on each panel)	Each panel keeps producing on its own; limits the drag from shade	Roofs with some partial or moving shade
Microinverters (one per panel)	Each panel is fully independent; best for patchy shade	Complex or partly shaded roofs, or several small slopes

None of this is a reason to accept a badly shaded roof — it is a reason to ask which approach a quote uses and why. If you have shade, a quote built on a plain string inverter deserves a question.

GOOD TO KNOW

More sophisticated equipment usually costs a bit more. That can be money well spent on a shaded roof, and wasted on a wide-open sunny one. The right answer depends on your roof, which is exactly why the shade measurement comes first.

16 Roof Penetrations, Flashing, and Leaks

Mounting panels means putting bolts through your roof, and each of those holes has to be sealed so it never leaks. Done well, this is routine and reliable; done poorly, it is the leading cause of roof trouble after a solar install. It is worth knowing what good looks like.

- Each mount should be sealed with proper flashing — a metal and rubber collar that channels water around the bolt, not just a blob of caulk.
- Ask who warranties the roof penetrations, and for how long. A reputable installer stands behind their own holes in writing.
- Ask whether the install will affect your existing roof warranty. Sometimes the roofer who made the roof must be involved to keep it valid.
- Keep the names and numbers for both the roofer and the solar installer, so you know exactly who to call if a stain ever appears on a ceiling.

WATCH OUT

Who is responsible for a leak around a solar mount is one of those questions that is easy to settle before the install and miserable to argue about after. If a quote is vague about it, that is a fine moment to call me and read the contract together before you sign.

17 When to Call Bill

The roof is the foundation of any solar decision, and getting it right up front saves the most money and heartache. You do not have to judge your roof's readiness alone or take a salesperson's word for it. Bill has no stake in whether you buy panels or a new roof, so his read on your roof-first homework is a straight one.

- You are not sure how old your roof is or how much life it has left.
- A salesperson is rushing past your roof's age or condition.

- Your roof is shaded and you want an honest take on whether solar still makes sense.
- Your roof is unusual — flat, metal, tile, cut-up — and you want the right questions to ask.
- You simply want an independent gut-check before committing to panels.

Call Bill at (330) 200-8042. He will help you think through your roof's age, shape, and shade before you buy, so your solar — if you go ahead — sits on a roof ready to carry it for the long haul.

CHEAT SHEET

Everyday Cheat Sheet

Keep this handy. Solar sits on your roof for 25 years — so the roof decision comes first.

I want to...	Do this...
Check the roof's age	Find when it was last done; if near the end (~20-25 yr), reroof first
Avoid the big mistake	Never put panels on a roof you'll have to replace soon
Know your best faces	South is best in Ohio; east/west still work; north rarely pays
Judge the shade	Get shade measured across the whole day and year, not one moment
Weigh trimming trees	Gain in production vs the tree's shade, privacy, and value to you
Handle an unusual roof	Flat/metal/tile/old roofs need an installer experienced with that type
Get help	Call Bill: (330) 200-8042

BEFORE YOU GO

A Note From Bill

A quick note from Bill. I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that results.

HOW I CAN HELP

Your Visit — and My Promise

You don't have to remember all of it — just that a friendly, patient person is one call away, whenever you'd rather have a hand.

KEY SPECS

In your home — $99 flat for the first visit, no contracts and no surprises, with a 30-day come-back-free follow-up. In-home visits cover Portage County, Ohio and nearby communities.
Outside the area? Remotely — $49 for a screen-share session (free for Support Plan members, $39/mo), refundable if I can't fix it — and credited toward a visit if you'd rather have me in person. Book either at billshometech.com/book.

GOOD TO KNOW

My promise — If you're not 100% satisfied with your visit, I'll come back at no charge, or refund the full $99. No questions, no awkwardness. That's how I'd want to be treated.

Whenever you're ready, I'll come to your home anywhere in Portage County, Ohio and nearby communities, at your pace. Too far for a house call? I also help remotely. Book at billshometech.com/book or call (330) 200-8042. — Bill

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