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AN EXTENDED GUIDE · NO. 2438

Updated November 2026

Bifacial Panels and Why Ground Mounts Love Them

Two-sided panels, reflected light, and the setups where the bonus is actually real

Plain-English tech help from:

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SUMMARY

The 60-Second Version

Bifacial panels catch light on both sides — the front plus sunlight that bounces off the ground onto their back. The bonus is real, but only when the back can actually see reflected light. On a typical roof, the panels sit flat against the shingles, so the back sees almost nothing and the advantage mostly vanishes.

On a ground mount — raised on posts, open beneath, over a bright surface like light gravel, concrete, or snow — the reflected light reaches the back and the bonus appears, which is why bifacial and ground mounts go together. In our climate, snow on the ground reflects strongly, giving a raised ground mount a small clear-day winter boost.

Don't pay a bifacial premium for a rooftop install, where the feature sits idle.

- The back-side bonus needs reflected light the back can see.
- Ground mounts deliver it; typical roofs don't.
- Match the panel to the mount, and don't overpay for an idle feature.

1 The Short Version

Bifacial panels are solar panels that catch light on both sides — the front, as always, and the back, from sunlight that bounces up off the ground. The idea is simple and a little clever: a panel that can also use reflected light makes a bit more power. The catch is that the bonus only shows up when the back of the panel can actually see reflected light, which is why bifacial and ground mounts go together.

This guide explains what bifacial panels are, why they shine on a ground mount and often do little on a typical roof, and when they are worth considering for your property. You will finish knowing whether your situation is one where the two-sided bonus is real.

- Bifacial panels collect light on both the front and the back.

- The back-side bonus needs reflected light, which a roof usually blocks.
- On a ground mount, raised with open space beneath, the bonus is real.
- For a standard rooftop install, bifacial often adds little.

> **TIP**
> The key question is whether the back of the panel can see light. Flat against a roof, it cannot, so the bonus mostly vanishes. Raised on a ground mount over a bright surface, it can, and the bonus appears. Match the panel to the mount.

2 What 'Bifacial' Means

An ordinary panel has an opaque backing, so only its front face works. A bifacial panel has a clear or glass back instead, letting its cells also capture light that comes from behind — specifically, sunlight that hits the ground and bounces back up. That reflected light is a free extra source the panel can turn into a little more power.

The amount of bonus depends entirely on how much light reaches the back. Over a dark surface or with the back blocked, the gain is tiny. Over a bright, reflective surface with open space behind the panel, the gain can be a worthwhile few percent or more. So bifacial is less a quality upgrade than a design that pays off in the right setting.

> **GOOD TO KNOW**
> You will sometimes hear a 'bifaciality' figure — how much of the front's ability the back has. But the real-world bonus depends on the setting, not just the panel. A great bifacial panel flat on a roof still gets little reflected light to work with.

3 Why Ground Mounts Love Them

A ground mount is a solar array built on a frame in your yard or field rather than on the roof. Because the panels are raised on posts with open space and ground beneath them, light readily bounces up to their backs — exactly the condition bifacial panels need. This is why the two are so often paired.

On a ground mount you can also angle and space the panels ideally, and choose or maintain a bright surface beneath them, all of which feed the back side. The result is that the two-sided bonus actually materializes, making bifacial a sensible, often standard choice for ground installations.

- Raised on posts, with open ground beneath, so light reaches the back.
- Panels can be angled and spaced to maximize reflected light.
- You control the surface below — gravel, light stone, or grass all reflect.
- Snow on the ground in winter is highly reflective, giving a seasonal boost.

4 The Snow Silver Lining

Here is a pleasant Northeast Ohio twist. Snow on the ground is very reflective, bouncing a lot of light upward. For a bifacial ground mount raised above the snow, a bright snowy field can actually feed the panels' backs and lift winter output on clear days — a small gift in a season that is otherwise your lowest.

This only helps if the panels are high enough to stay above the snow and the array is a ground mount where the back is exposed. It will not rescue a whole winter, but it is a genuine, if modest, bright spot for bifacial ground mounts in snowy climates like ours.

TIP

If you are considering a ground mount here, the winter snow-reflection bonus is a fair point in bifacial's favor. Just make sure the mount is tall enough that snow does not bury the lower edge of the panels.

5 Why Rooftops Often Don't Benefit

On a typical roof, panels sit close and parallel to the shingles, so the back of each panel faces a dark, nearby surface with almost no room for light to bounce in. The reflected light the bifacial design depends on simply is not there. The panel still works fine from the front; it just loses the two-sided advantage that justifies it.

So if a rooftop quote features bifacial panels as a headline selling point, it is fair to ask what bonus you will actually see. Sometimes bifacial panels are used on roofs simply because they are what the installer stocks, and that is fine — but you should not pay a premium expecting a back-side boost that the roof will not deliver.

WATCH OUT

Be cautious of a rooftop pitch that charges extra for bifacial panels on the promise of double-sided power. Flat against a roof, the back-side gain is usually minimal. Pay for bifacial where it pays you back — on a ground mount — not as a rooftop upsell.

6 What Surface Goes Underneath

For a ground mount, the surface beneath the panels matters, because it is what reflects light up to their backs. Brighter surfaces reflect more and feed the bonus; dark surfaces absorb light and waste it. You have some choice here, and it is worth a thought.

Surface below	Reflection	Note

Fresh snow	Very high	A clear-day winter boost in our climate
Light gravel / stone	High	A common, low-maintenance choice
Concrete	Moderate-high	Bright and reflective
Grass	Moderate	Fine, a bit less reflective
Dark soil / asphalt	Low	Wastes much of the back-side potential

GOOD TO KNOW

You do not need a blindingly white surface, but a lighter one under a ground mount meaningfully helps the back side. Light gravel is a popular middle ground: reflective, tidy, and low-maintenance.

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7 Ground Mount vs Roof: The Bigger Picture

Bifacial aside, choosing a ground mount instead of a roof is itself a real decision with its own pros and cons. Since bifacial so often rides along with ground mounts, it is worth seeing that bigger choice clearly.

	Ground mount	Rooftop
Space needed	Open yard or field	Uses existing roof
Bifacial benefit	Real	Usually minimal

Access / cleaning	Easy, at ground level	Requires roof access
Cost	Often higher (framing, trenching)	Often lower
Best when	You have land and want ideal angles	Your roof is sound and sunny

> *A ground mount turns your yard into a power plant you can walk up to. For folks with land, it opens the door to bifacial's real advantage — and to easier cleaning and snow-clearing, right at arm's reach.*

8 When Bifacial Makes Sense for You

Pulling it together, here are the situations where bifacial is genuinely worth it, and the common thread is always a setting where the back side can work.

- You are installing a ground mount with open space and a bright surface beneath.
- You have land and want to squeeze a bit more from each panel.
- You like the winter snow-reflection boost a raised ground mount can capture.
- The bifacial panels cost little or no more than the alternative.

WATCH OUT

If you are set on a rooftop install, do not stress about bifacial. Choose a good panel on its other merits — efficiency, warranty, brand — and let the two-sided feature be a non-factor, because your roof will not use it much.

9 What It Costs, Honestly

It is fair to wonder about the price of all this. Bifacial panels themselves are often only a little more than their one-sided cousins these days, and sometimes the same, because the glass-backed design has become common. The bigger cost difference is usually the ground mount itself, not the panels.

A ground mount involves framing, posts set in the ground, trenching to run wiring back to the house, and more labor than bolting panels to an existing roof. So when you weigh a bifacial ground mount against a rooftop system, the honest comparison is the whole installed cost, not just the panels. The ground mount may cost more up front while opening the door to the back-side bonus and easier upkeep.

Cost piece	Rooftop	Bifacial ground mount
The panels	Standard	Similar, sometimes slightly more
Mounting	Attaches to existing roof	Framing and posts in the ground
Wiring	Shorter runs	Often trenching back to the house
Upkeep access	Needs roof access	Easy, at ground level

TIP

If the yard space and budget allow, many people find the ground mount's easier cleaning, snow-clearing, and ideal angles worth the higher up-front cost — quite apart from the bifacial bonus. Weigh the whole picture, not just the panel price.

10 When to Skip It

Just as useful is knowing when bifacial is not your concern, so you do not pay for a feature your setup cannot use.

- A standard rooftop install, where the back side sees little light.
- A ground mount over dark soil or asphalt that reflects poorly.
- A bifacial premium that is not matched by a real back-side setting.
- Any case where a cheaper, equally good one-sided panel meets your needs.

> **WATCH OUT**
>
> The test is honest and simple: will the backs of these panels actually receive reflected light in my setup? If the answer is no, bifacial is a feature you are paying for and not using.

11 Cleaning and Upkeep, Made Easy

One underrated advantage of a ground mount, bifacial or not, is how easy it is to live with. Everything sits at arm's reach, so the chores that are awkward and even dangerous on a roof become simple at ground level.

- Dust, pollen, and grime wipe off easily when the panels are right in front of you.
- Snow can be gently cleared from a ground mount without climbing anything.
- A quick look for a shaded or dirty panel is easy to do from the ground.
- Keeping the reflective surface beneath clean helps a bifacial array's back side.

> **WATCH OUT**
>
> Even at ground level, treat the panels gently — use soft water and a soft brush, never anything abrasive, and never walk on a panel. And always keep clear of the wiring. If anything beyond a gentle wipe is needed, that is a job for a professional.

12 Questions to Ask

A few plain questions make sure bifacial is matched to your real situation.

- "In my specific setup, how much extra power will the back side realistically add?"
- "Do these bifacial panels cost more than a comparable standard panel?"
- "For a ground mount, what surface do you recommend beneath for reflection?"
- "If this is a roof install, why bifacial — and what do I actually gain?"

GOOD TO KNOW

A grounded answer ties the bifacial bonus to your actual mount and surface. A vague promise of 'up to thirty percent more power' with no mention of your setting is a number from a brochure, not a figure for your home.

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13 A Worked Example — Where the Extra Power Comes From

Bifacial simply means the panel can also make a little power from light hitting its back. How much extra depends on two things: how good the panel's back side is at it, and how much light bounces up to reach it.

Picture a ground-mount array over bright gravel or fresh snow. The back side might add something like five to fifteen percent on top of what the front makes — a genuine, useful bonus. Now picture the same panel flat against a dark roof: almost no light reaches the back, so the bonus shrinks toward nothing. Same panel, very different result.

Where it's installed	Light reaching the back	Rough rear-side bonus
Ground mount over snow / light gravel	A lot	~10-15%
Ground mount over grass / dark soil	Some	~3-7%
Rooftop, close to a dark roof	Very little	~1-3% or less

GOOD TO KNOW

This is the heart of the whole topic: bifacial panels earn their keep where the back can 'see' bright, reflected light. That is why ground mounts and snowy, light-colored surfaces love them, and why a tight rooftop mount usually does not.

14 How to Tell If It's Right for YOUR Property

You do not need to guess. A few honest questions about where the panels would sit tell you whether the back-side bonus is real money or just a brochure line for your situation.

1. Is this a ground mount or a roof mount? Ground mounts get far more of the benefit.
2. What is under and behind the panels — bright gravel, concrete, snow, or dark grass and soil?
3. How high off the ground will they sit? More clearance lets more light bounce up to the back.
4. Do the panels face open sky behind them, or is the back crowded by the mount or the roof?
5. Does the quote actually count extra output from bifacial, or is it the same number a regular panel would give?

> **TIP**
> If the answer is 'rooftop, tight to a dark roof,' bifacial is unlikely to pay for itself and you should not pay a premium for it. If it is 'ground mount over light gravel in snow country,' it may be a genuinely smart choice.

15 Common Myths About Bifacial Panels

Bifacial panels are good technology, but they attract some tall tales. Clearing these up keeps you from paying for a benefit you will not get.

- Myth: bifacial panels make power in the dark. Reality: they still need light; they just also use light that bounces to the back.
- Myth: they roughly double your output. Reality: the back-side bonus is a modest single-digit to low-double-digit percentage at best.
- Myth: they are always worth it. Reality: on a tight dark roof the bonus is tiny and not worth a premium.
- Myth: you need special inverters or wiring. Reality: they connect like any panel; the difference is the glass back and where you place them.

> **WATCH OUT**
> The most common way people lose money here is paying a bifacial premium for a rooftop job where the back side barely sees light. The technology is fine; the mismatch is the problem.

16 Northeast Ohio Snow — The Honest Picture

Our winters are the one place bifacial gets genuinely interesting, so it is worth being clear-eyed about it. Fresh snow is bright and bounces a lot of light, which is exactly what a bifacial back side wants.

- A tilted ground-mount array over snow can pick up a real winter bonus from all that reflected light.

- The same tilt sheds snow off the front more easily than a low, flat mount does.
- The bonus only lasts while the snow is fresh and bright; dirty or melting snow reflects less.
- On short, gray winter days there is simply less light overall, so the bonus is a share of a smaller pie.

> **GOOD TO KNOW**
>
> So snow is a real, honest advantage for a tilted ground mount here — just not a miracle. It helps most on the bright, sunny days after a fresh snowfall, which Portage County does get its share of.

17 Words You'll Hear

A quick plain-English glossary for the terms a bifacial or ground-mount conversation tends to use.

Term	What it means in plain English
Bifacial	A panel that also makes power from light hitting its back
Monofacial	A regular, one-sided panel (the usual kind)
Bifaciality	How good the back side is compared to the front, as a percentage
Albedo	How much light the surface underneath bounces up — snow is high, dark soil low
Ground mount	Panels on a frame in the yard rather than on the roof
Clearance / tilt	How high and at what angle the panels sit — more lets light reach the back

Rear-side gain	The extra output the back side adds; the number the whole choice turns on

TIP

If a quote uses 'bifaciality' and 'albedo,' it is really talking about the same simple thing: a good back side plus a bright surface behind it equals bonus power. No bright surface, no bonus.

18 When to Call Bill

You do not have to sort any of this out alone, and there is real value in having someone with no panel to sell read a quote beside you.

I do not sell or install solar — I am the independent local tech who helps folks in Portage County, with 30-plus years of putting technology into plain English. If bifacial panels or a ground mount are on the table, I can help you see whether your setup will actually use the back-side bonus, or whether it is a feature you would be paying for and leaving idle.

- Bifacial panels are quoted for a rooftop and you want to know the real benefit.
- You are weighing a ground mount and want the honest pros and cons.
- You are unsure what surface or setup makes bifacial worthwhile.
- You want a neutral read before paying a bifacial premium.

CHEAT SHEET

Everyday Cheat Sheet

Keep this handy if bifacial panels or a ground mount come up.

I want to...	Do this...
Understand bifacial	Panels that also catch light bouncing up onto their back side
Know the catch	The back-side bonus needs reflected light, which a roof usually blocks
Know where it pays	Ground mounts — raised, open beneath, over a bright surface
Pick a surface	Light gravel, stone, concrete, or snow reflect well; dark soil wastes it
Judge a roof pitch	Flat on a roof, bifacial adds little — don't pay a premium for it there
Decide honestly	Ask: will the backs of these panels actually see light in my setup?
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.

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KEY SPECS

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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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