



Cell-level Shadow management technology

Keep Power Flowing, Even in the Shadows.

Sungold Anti-Shading solar panel

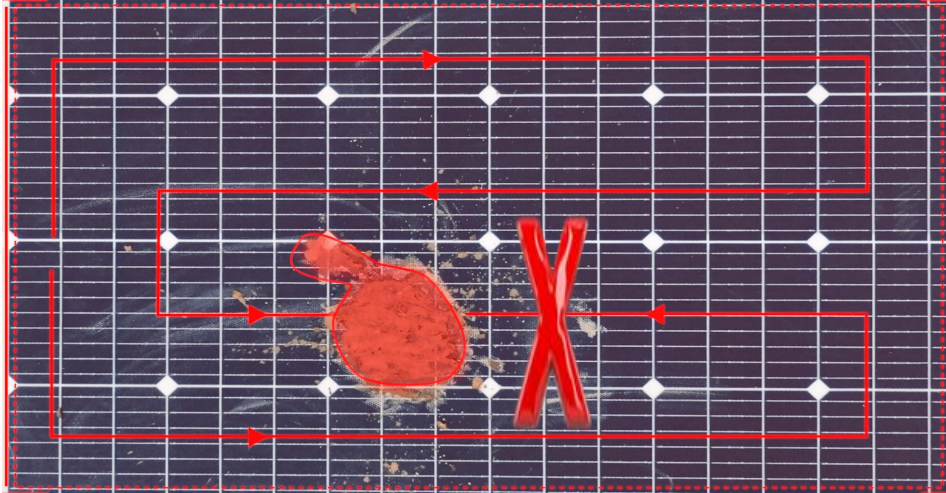




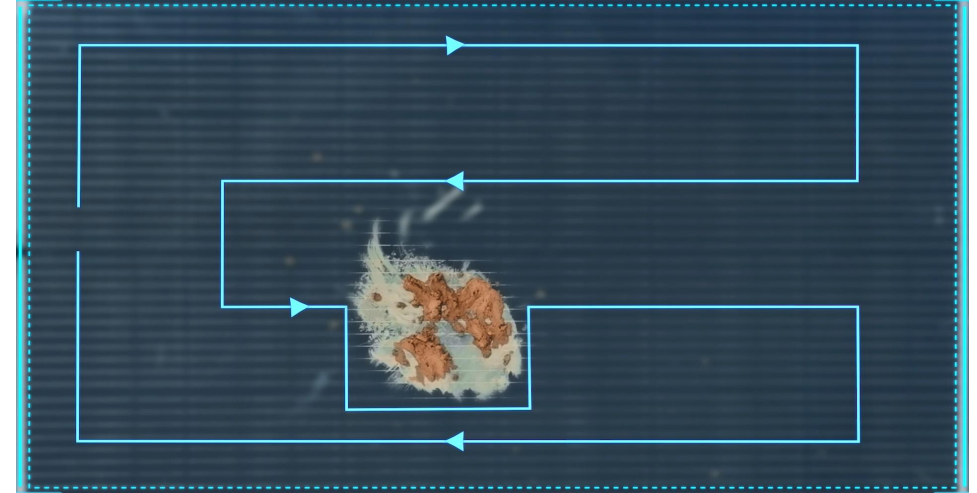
What's Cell-level Shadow Management Technology?

Sungold integrates **smart current routing elements** within the module to redirect flow away from shaded cells. This minimizes hotspot formation and enhances total energy yield.

When a cell is shaded and its resistance increases, the smart current routing elements within the module activate automatically, redirecting power flow and preventing **overheating** or **energy loss**.



Conventional Panel

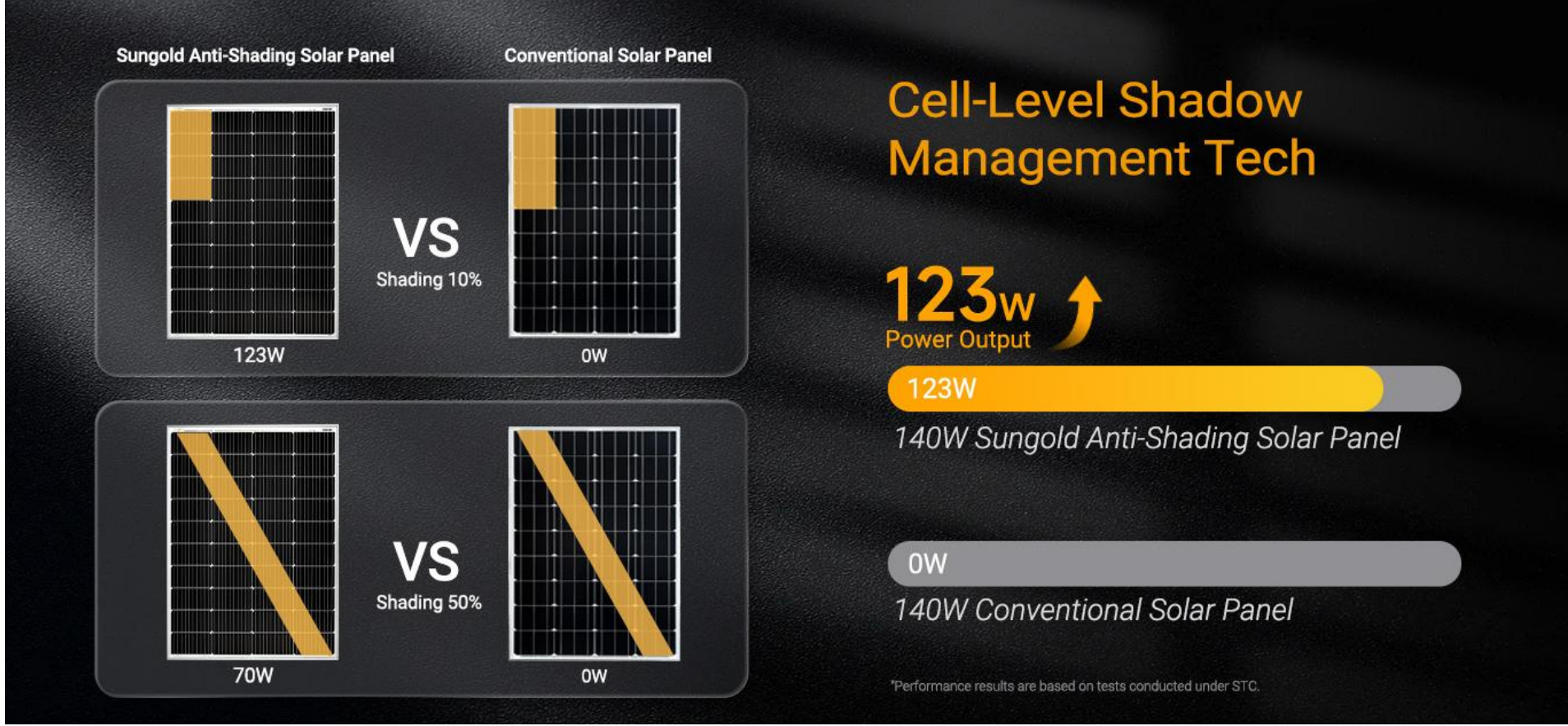


Sungold Anti-Shading Panel



How Does It Optimize Performance?

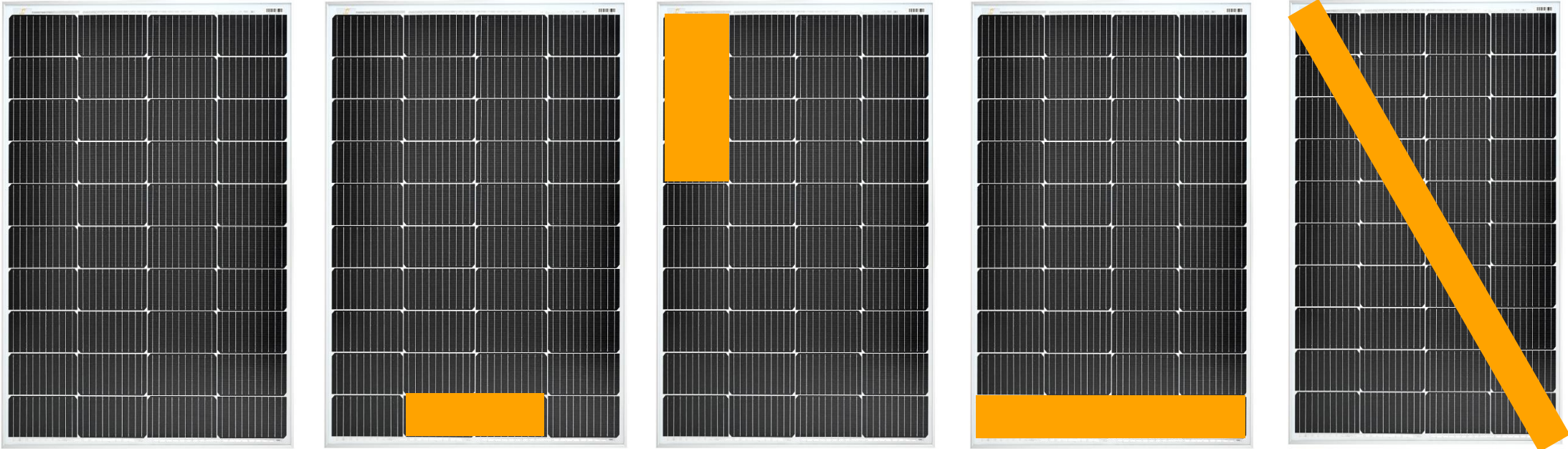
Each cell adjusts to light conditions independently, ensuring efficient output and minimizing mismatch losses in real-world shading scenarios.





Partial Shading Performance: Sungold vs Conventional Panel

Shading
Scenario



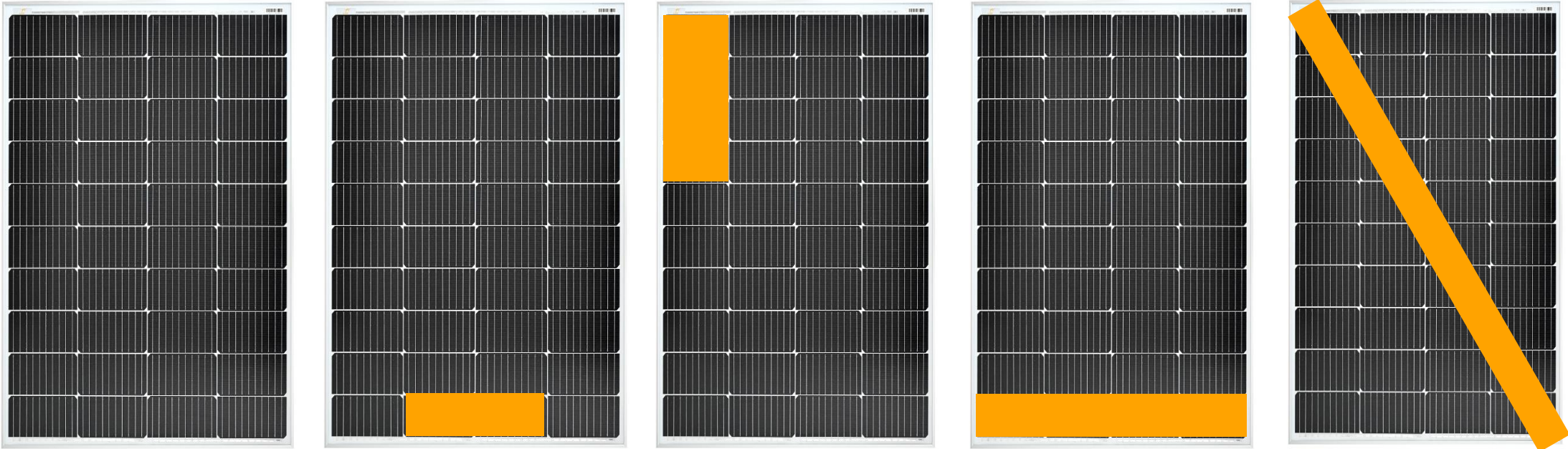
Sungold Output	100%	83%	92%	75%	50%
Conventional Output	100%	0%	0%	0%	0%

**The above data is based on Sungold's professional-grade 12-zone panel design.*



Partial Shading Performance: Sungold vs Conventional Panel

Shading
Scenario

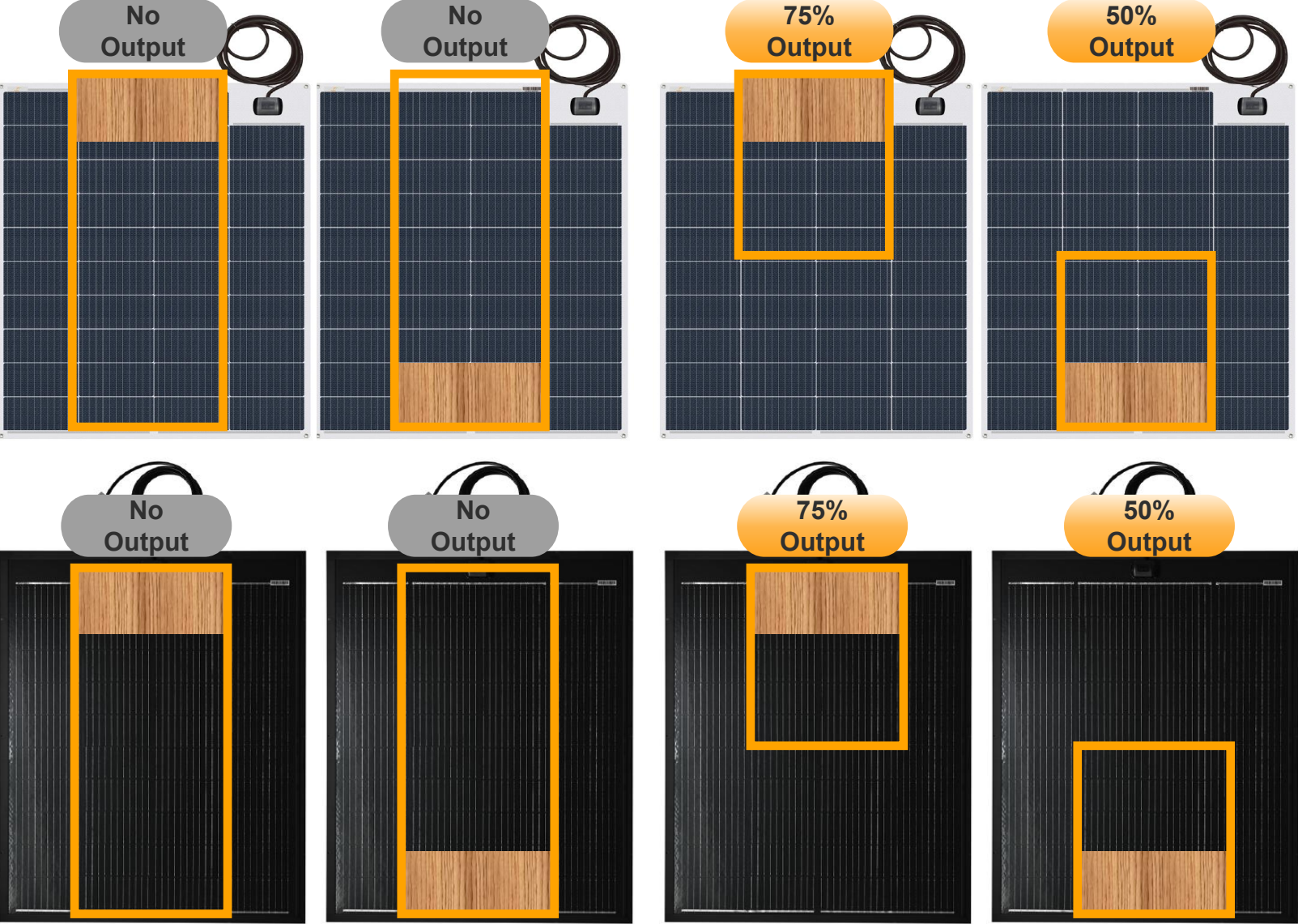


Sungold Output	100%	75%	75%	50%	50%
Conventional Output	100%	0%	0%	0%	0%

The above data is based on Sungold's **cost-effective 5-zone panel design.*



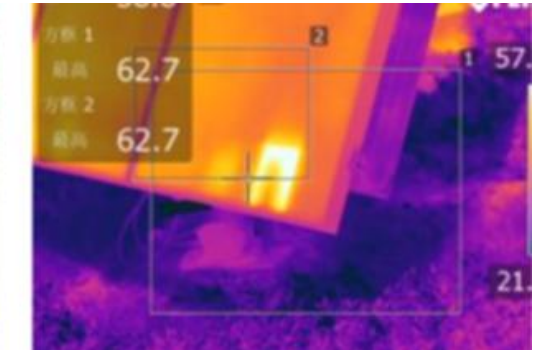
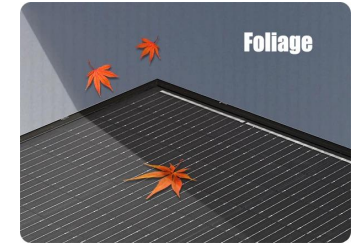
Conventional Panel VS Sungold Panel





What Causes Energy Loss?

When a solar cell is shaded, it may become a high-resistance load, drawing current from surrounding cells. This leads to localized overheating—known as the **hotspot effect**.



Hotspot Effect: From Power Loss to Safety Risks

Severe
localized
heating
(hotspot)



Burnt
backsheet and
delamination



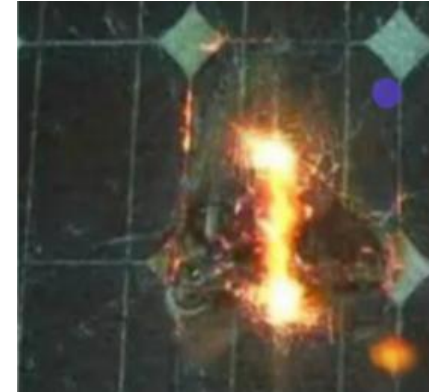
Energy loss of
up to 100% in
the affected
section



Shortened
module
lifespan



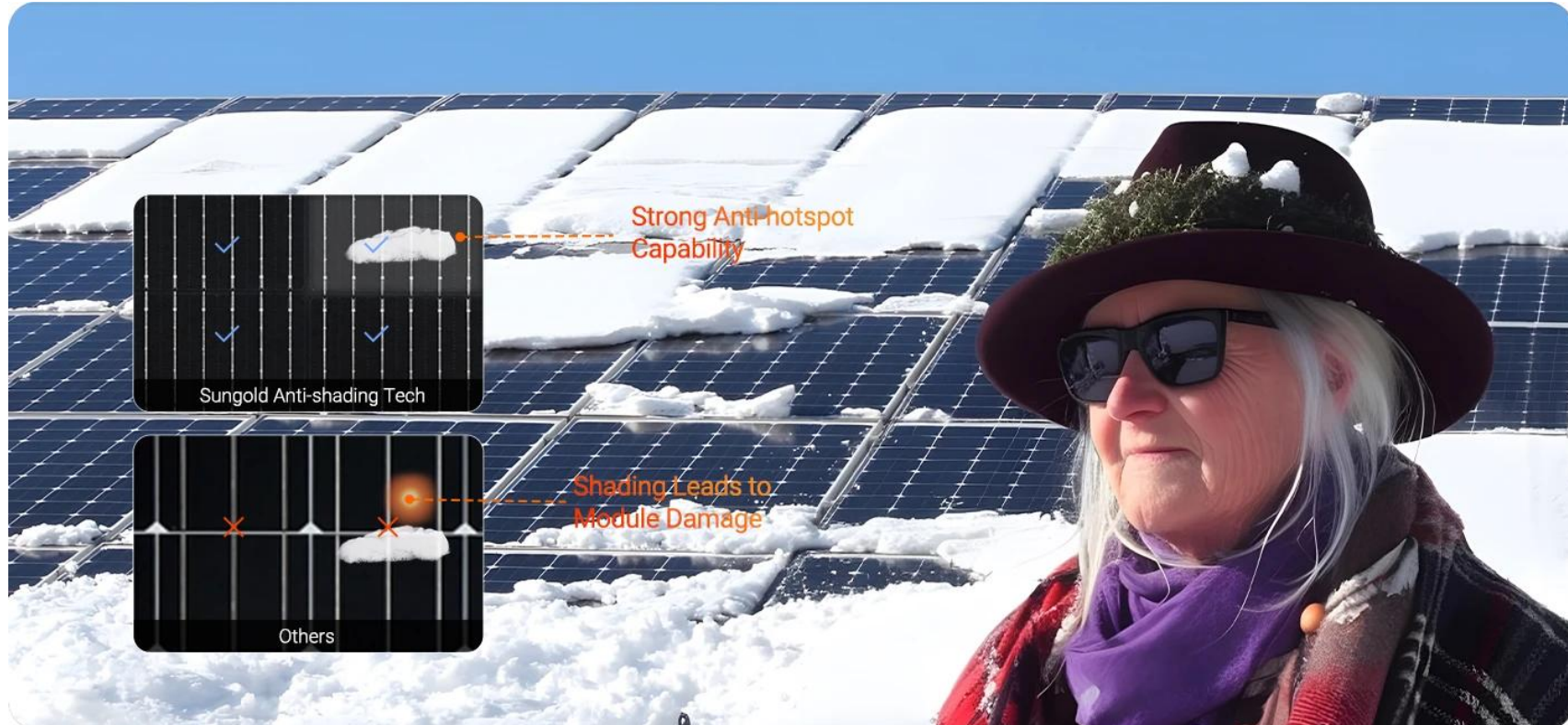
In extreme
cases, fires
and other
safety risks





How Does Sungold Address The Pain Point?

Sungold's **Cell-level shadow management technology** gives the module strong **hotspot resistance** ability, which avoids localized heat buildup.





For Residential rooftops with trees or chimneys

Pain Point

- ✗ Obstructions like trees or chimneys reduce module performance.

Sungold Solution

- ✓ **Anti-shading technology:**
Precisely manages each cell to reroute current, maximizing energy yield.





For Balconies with railing shadows

Pain Point

- ✗ Shadows from railings cause partial shading, leading to energy loss.

Sungold Solution

- ✓ **Anti-shading technology:**
Built-in smart current paths redirect current around shaded cells, ensuring stable solar output.





For RV rooftops with shifting sunlight angles

Pain Point

- ✗ Changing sunlight angles cause frequent hotspots.

Sungold Solution

- ✓ **Anti-shading technology:**
Integrated smart current routing prevents hotspots and ensures consistent power supply.





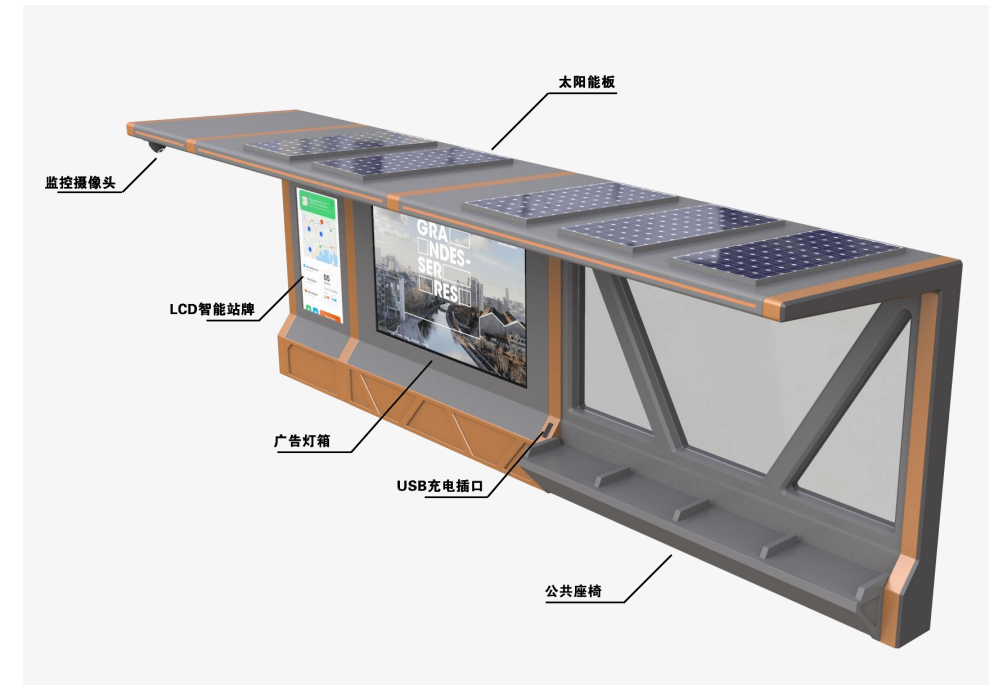
Tourist spots and transit stations with partial shade

Pain Point

- ✗ Partial shadow leads to fluctuating system performance.

Sungold Solution

- ✓ **Anti-shading technology:**
Smart current redistribution ensures uninterrupted power in dynamic environments.





More energy, less maintenance, longer lifespan

Prevents Hotspot Formation

Smart paths steer current away from shaded cells, avoiding overheating and extending module life.

Enables Flexible Applications

Compatible with thin, flexible panel designs—ideal for complex or mobile setups where others fail.

Improves Overall System Efficiency

Even when partially shaded, modules keep delivering power—boosting efficiency in urban, mobile, or curved installations.



Reduces Power Loss from Shading

Smart circuitry prevents energy drain in shaded zones—keeping output stable and reliable.

Reduces Maintenance & Replacement Costs

Fewer hotspots mean fewer failures, cutting downtime and repair costs over time.



End-to-End Off-Grid Solar Solutions

Sungold has a professional service team that can design off-grid solar solutions tailored to your business needs, from sample testing production and transportation to installation and maintenance, providing one-stop service for your project requirements.



Solar Customizer for SMEs

Energy Tailored, Future Empowered



CE, RoHS, REACH, ISO 9001, ISO 14001, ISO 45001, IEC 61215, IEC 61730

Solar Customizer for SMEs

ENERGY TAILORED, FUTURE EMPOWERED

2008 Manufacturer Since	10,000m² Factory Area	300+ Employees	1,000MW Global Shipments
-----------------------------------	--	--------------------------	------------------------------------

Shenzhen Sungold Solar Co., Ltd. +86-755-2968 5821 sales@sungoldsolar.cn www.sungoldsolar.com

Sungold is committed to becoming a specialized expert in energy brand customization for small and medium enterprises, focusing on delivering tailored solar energy branding solutions.

Leveraging the advantages of flexible and efficient small-batch customization services, we empower businesses to create distinctive, independent brand identities.



Energy Tailored, Future Empowered

✉ Sales@Sungoldsolar.Cn

🌐 www.sungoldsolar.com

