

# FUSION<sup>2</sup>

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REA POWER AC MODULE  
PRODUCT BROCHURE

2 0 2 4

# FUSION<sup>2</sup>

TECHNOLOGY

REA



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N

Fused cell structure

Uniform appearance

Safest AC system

Independent panel performance

Optical absorption enhancement

N-type Bifacial module



## Overview

REPower offers precision-manufactured and market-leading solar modules for businesses and homeowners who demand superior performance, reliability, and consistently strong energy yield — all from a brand they can trust.

Through over 15 years of intensive solar research and development, REPower is able to produce innovative, high-quality, yet affordable solar modules. By choosing REPower's innovative solar modules, you can receive higher financial and environmental benefits for your home, business, or enterprise.

REPower revolutionises solar panel technology by incorporating cutting-edge microinverter technology from Enphase Energy. The REPower FUSION 2 solar module seamlessly integrates the Enphase IQ8HC Microinverter from the factory and undergoes rigorous testing for quality assurance. FUSION 2 has been engineered to maximise the performance of the microinverter, creating the world's highest output AC Module (ACM) in a unified, single unit.

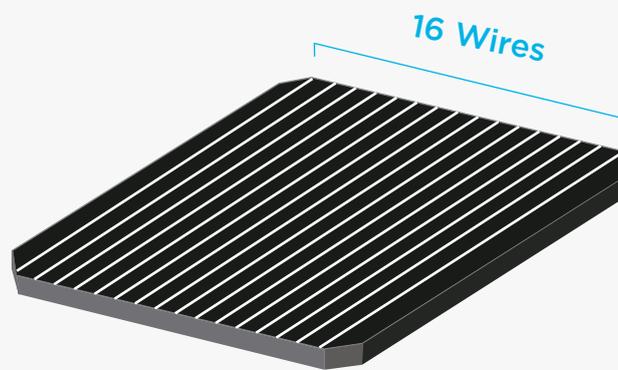
REPower solar module's high efficiency comes in part from its FUSION technology, which increases its power output and reliability, making it one of the most powerful and versatile modules on the market. It also boasts a sleek and sophisticated design that is aesthetically pleasing and suitable for any roof. The latest REPower FUSION 2 dual-sided solar module is designed to absorb irradiance and generate energy, not only from the front but also the rear of its FUSION cell by using transparent dual glass, allowing up to 30% more energy yield than standard PV Modules in the right application.

Backed by a 25-year product warranty and a 30-year performance warranty, REPower guarantees the utmost quality in all of its modules.



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## 16 Wires Cell Connection

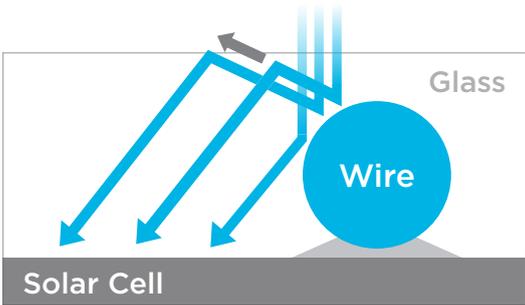


### FUSION Technology

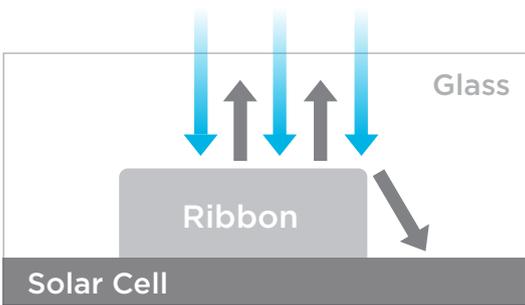
FUSION technology is a cutting-edge process that combines N-type silicon with Heterojunction cell structure to create a bifacial solar cell that is capable of producing power on both sides. This seamless integration creates an aesthetically pleasing all-black appearance with accelerated performance and superior energy yields.

# Improved Light Absorption

FUSION Technology improves the absorption of light with circular-shaped wires, which scatter light more effectively.



FUSION 2

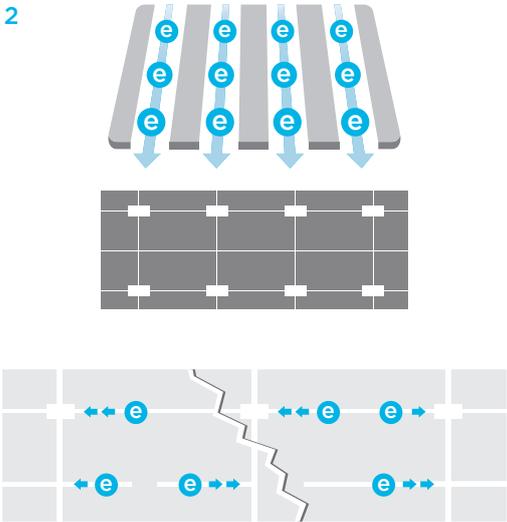


CONVENTIONAL

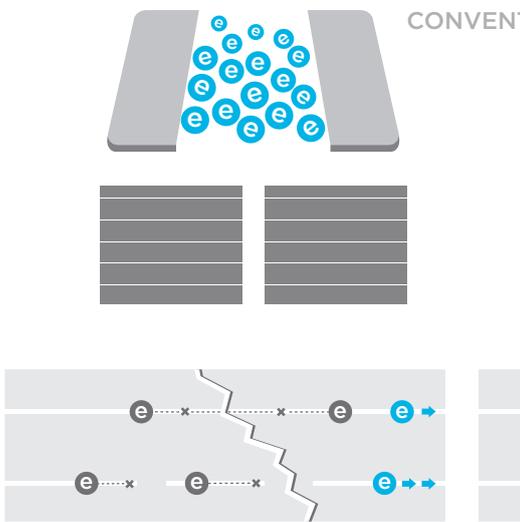
# Reduced Electrical Loss

FUSION 2 reduces electrical losses by spreading the current across 16 wires rather than the standard 12 wires. Even when micro crack or finger electrode erosion happens by natural degradation of mechanisms in the outskirts of the solar cell, FUSION 2 minimises under-performance by blocking the electrical path thanks to its tighter layout of wires.

FUSION 2



CONVENTIONAL



INTRODUCING THE NEW

# FUSION<sup>2</sup>

440W



30%

More Energy

## Specifications

### Wattage

Up to 440W

### Dimensions

L x W x D  
1722 mm x 1134 mm x 30 mm

### Design

2.0 mm Dual ARC Glass  
(AR Coated Heat Strengthened Glass)  
Black aluminum alloy frame  
Fusion black solar cells

### Cell Type

Fusion N-Type  
Bifacial

### Inverters

Intergrated inverter  
(IQ8HC-72-M-ACM-INT)  
Enphase 384 VA

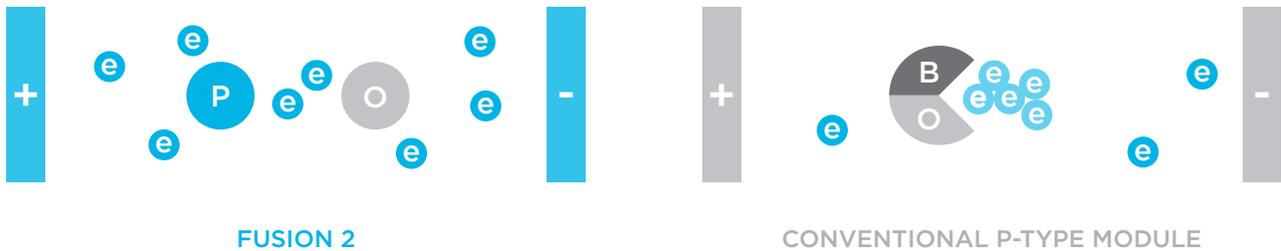
### Certifications

IEC / UL 61730,  
CEC Listed,  
IEC 61215

# Fusion N-type Technology

## Extremely Low LID

FUSION 2 incorporates N-type cells that are doped in phosphorus instead of boron. Phosphorus is immune to boron-oxygen defects which cause decreased efficiency and purity in P-type structures. That is why FUSION 2 is more efficient and not affected by Light-Induced Degradation (LID).



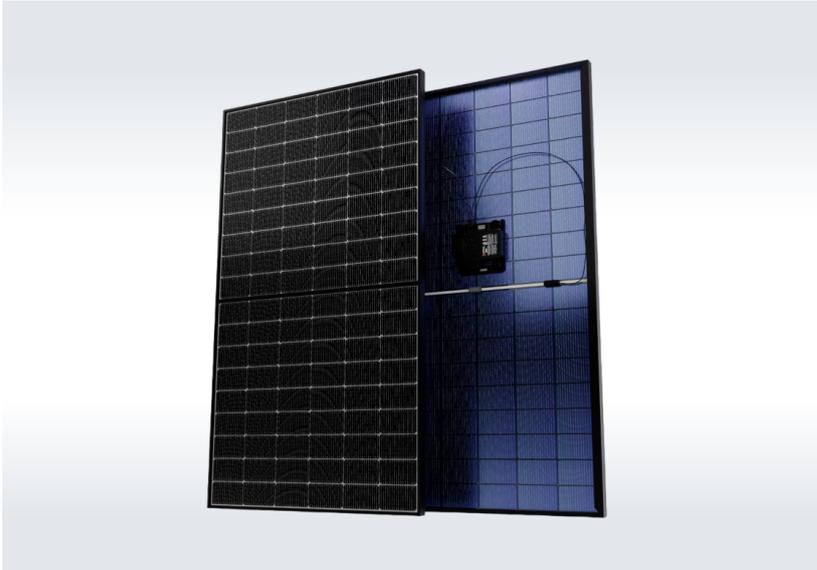
## Fusion. Beyond.

The FUSION cell is an advanced Heterojunction Technology (HJT) solar cell that combines amorphous silicon (a-Si) and crystalline silicon (c-Si) layers. It involves creating a heterojunction at the interface between these two silicon materials. This process improves the overall efficiency of solar cells by minimising recombination losses and enhancing the cell's ability to capture sunlight and convert it into electricity.



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## Bifacial Cell Structure

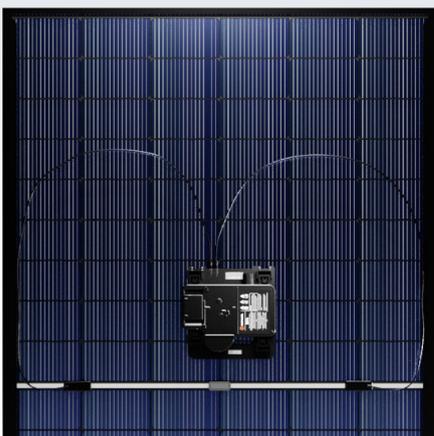
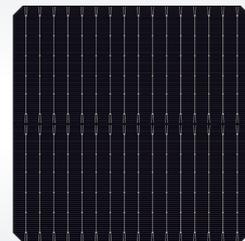


### Power On Both Sides

FUSION 2 cells generate energy from both the front and rear. By capturing light from the back as well, FUSION 2 maximises energy yield even as the incident angle varies throughout the day.

### Front

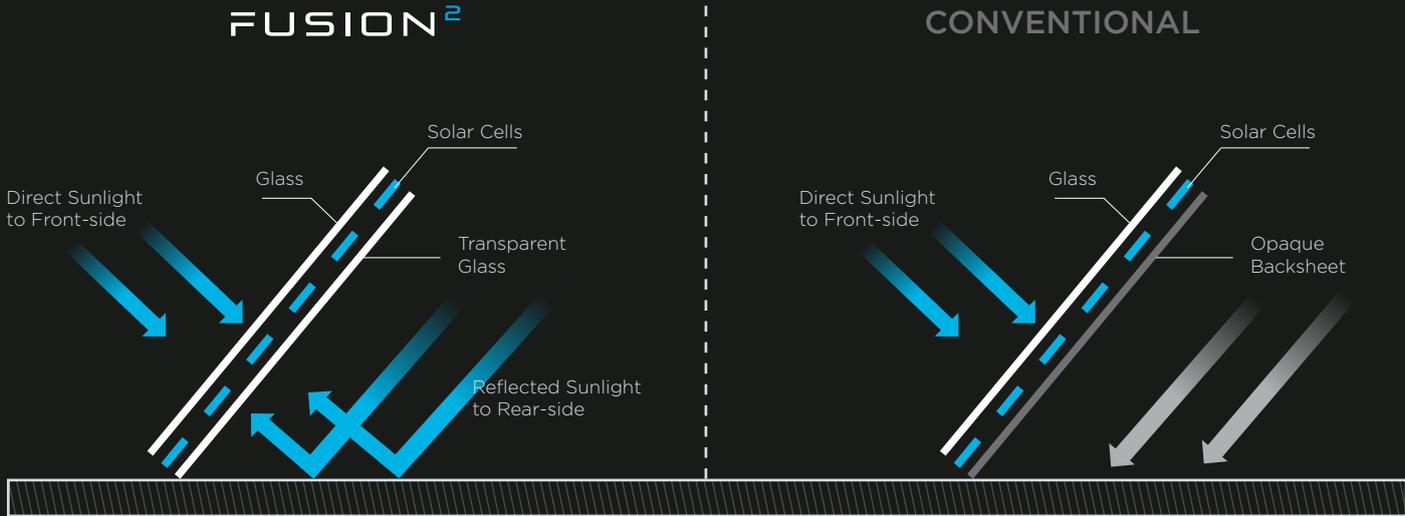
The front of FUSION 2 cell can absorb more sunlight compared to conventional modules, providing superior energy yields.



### And Rear

Featuring transparent dual glass, the rear of FUSION 2 can absorb up to 20% of sunlight, unlike conventional modules that produce zero energy from the rear.

# How It Works?



## 30% More Energy in Optimal Conditions

FUSION 2 is able to produce up to 30% additional yield by install conditions, compared to conventional monofacial modules with the same nominal power.

| Ground Albedo (%) | Surface Conditions             | Module mounting height from ground/roof surface (m) |       |       |       |       |
|-------------------|--------------------------------|---|-------|-------|-------|-------|
|                   |                                | 0.2   | 0.3   | 0.5   | 0.7   | 1     |
| 15                | Dark or wet soil, old concrete | 8.6%  | 9.0%  | 9.3%  | 9.7%  | 10.0% |
| 30                | Grass, dry soil                | 11.3%   | 11.9% | 12.5% | 13.4% | 13.9% |
| 50                | Dry sand, new concrete         | 14.7%   | 15.6% | 16.6% | 18.2% | 19.0% |
| 70                | Old snow                       | 17.9%   | 19.3% | 20.6% | 22.7% | 23.8% |
| 85                | Fresh snow, white paint        | 20.3%   | 21.9% | 23.5% | 26.0% | 30.0% |

\* Consideration: flat roof/free field, modules mounted in single rows facing north, tilt 30°

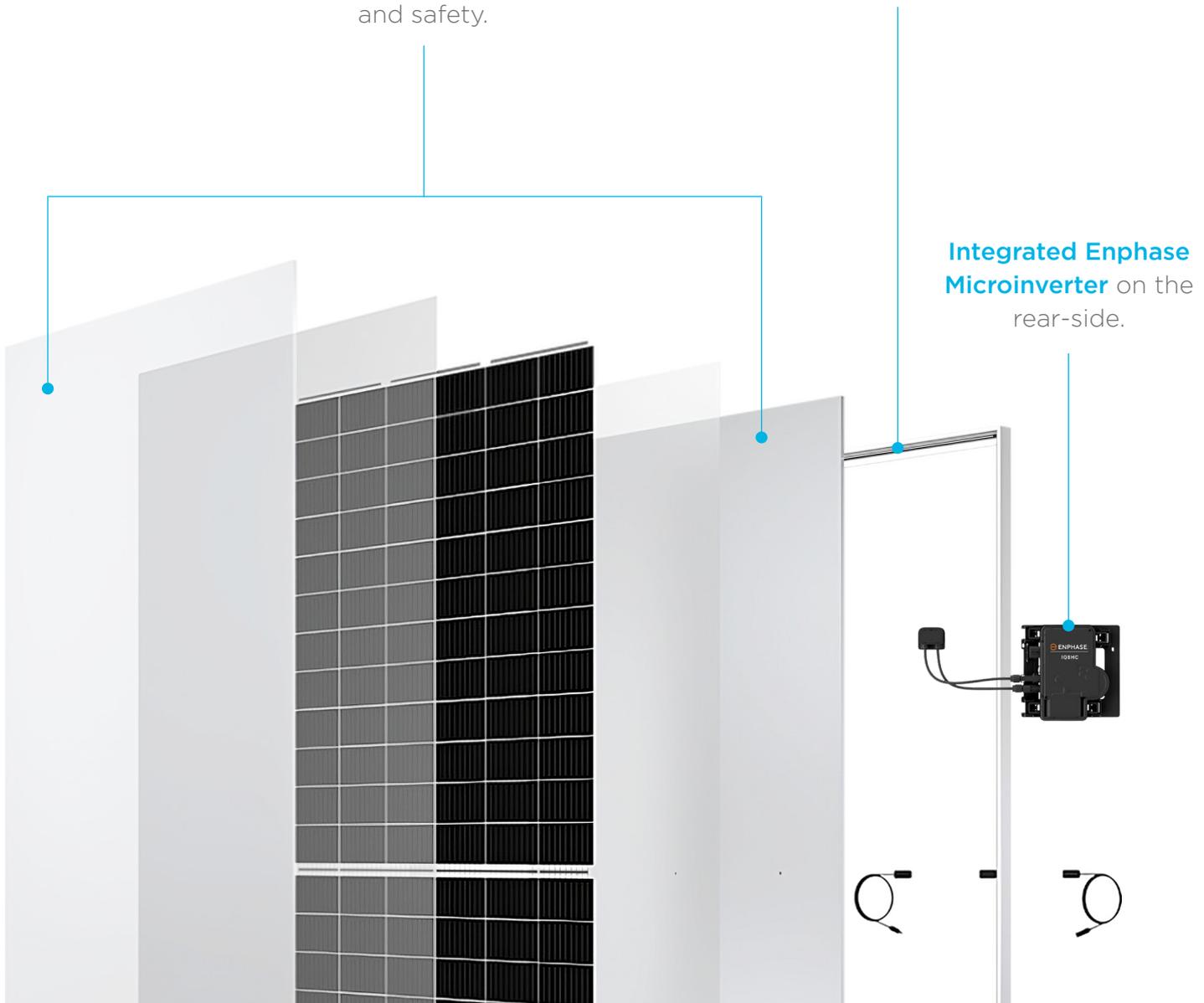
## Built to Last

FUSION 2 is designed in the world's harshest environment to handle all weather conditions. Its dual glass construction provides enhanced protection, ensuring maximum durability against extreme weather, temperature fluctuations, and UV exposure. The reinforced frame adds an extra layer of strength, enabling the solar panel to withstand high winds, hailstorms, and other challenging elements unique to the Australian climate.

**2.0 mm Dual ARC Glass**  
for increased robustness  
and safety.

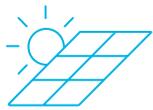
**Reinforced Frame Design** that  
can endure a front load of up to  
6000 Pa and a rear load of up  
to 5400 Pa.

**Integrated Enphase  
Microinverter** on the  
rear-side.

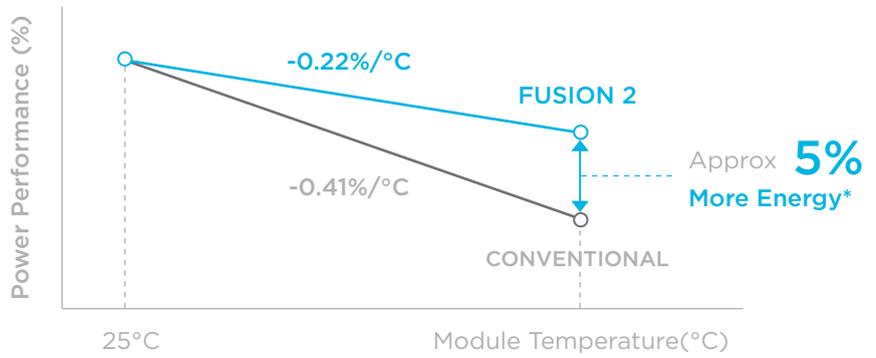


# Power in Any Weather

## Keeps Cool Under Pressure



Solar panels gradually lose their ability to generate power as they heat up. FUSION 2, however, features an improved temperature coefficient compared to standard modules, enabling higher energy output even in hot weather.

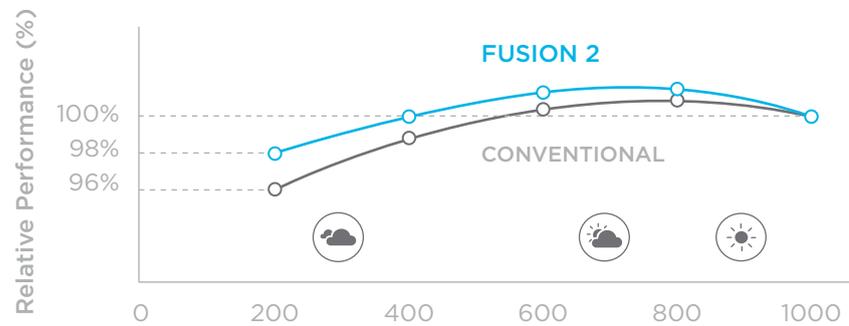


\* Based on PV Syst simulation

## Cloudy Day? No Worries.



FUSION 2 is not phased by a cloudy day and can continue to perform efficiently due to its superior low-light performance.



\* Relative performance compared with the performance at 1000W/m²

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## AC Module Design

### Ultimate Safety

The FUSION 2 design makes it the safest choice for architecture. Each panel is seamlessly connected using the same AC trunking cable that powers your appliances, ensuring a smooth and secure energy flow throughout your home. FUSION 2 prioritises safety with complete circuit protection, eliminating the risks of high voltage DC and potential system fires.



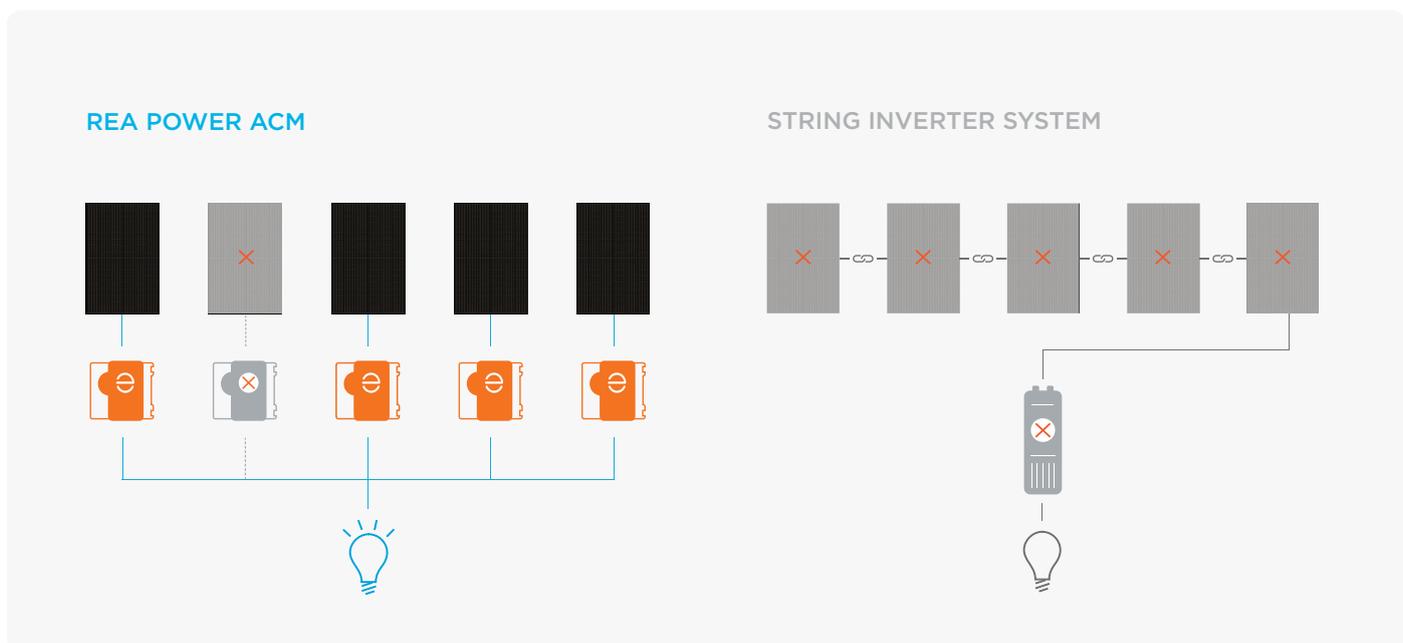
# The World's Highest Output ACM, Engineered with Enphase.



## Independent Panel Performance

Unlike conventional DC systems with traditional string inverters, FUSION 2 creates a complete AC Module (ACM) system by integrating the Enphase IQ8HC Microinverter on each panel.

The microinverters function independently, converting solar-generated DC into usable AC power directly at each panel. The result is enhanced reliability and efficiency — if one panel slips into the shade, is obstructed or encounters a glitch, other panels remain unaffected and maintain peak solar production.



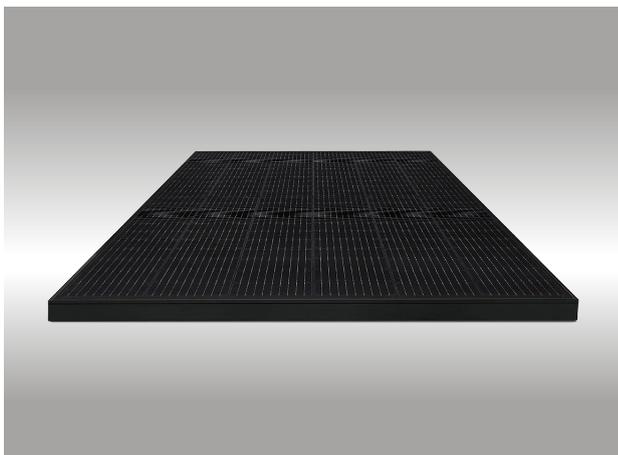
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## Efficiency Meets Aesthetics



### Maximise Your Roof

REVA FUSION 2 is the right solution for homeowners who want to get more electricity within a limited roof space. FUSION 2 maximises your solar power system capacity, producing more energy in the same area.



### All-Black Sleekness

Sleek and sophisticated all-black design that is aesthetically pleasing for any rooftop.

## More Power Generation

\*Comparison with conventional modules when installing a 6.3kW system on the roof



## Environmental or Surrounding Constraints?

Shadow from the surroundings restricts the space available for system installations. With higher efficiency and smaller physical size, FUSION 2 makes it easier to build module arrays on the roof compared to larger footprint modules. This enables the maximisation of your rooftop potential.



\* Comparison with conventional system space when generating 32kWh of usable energy on the roof

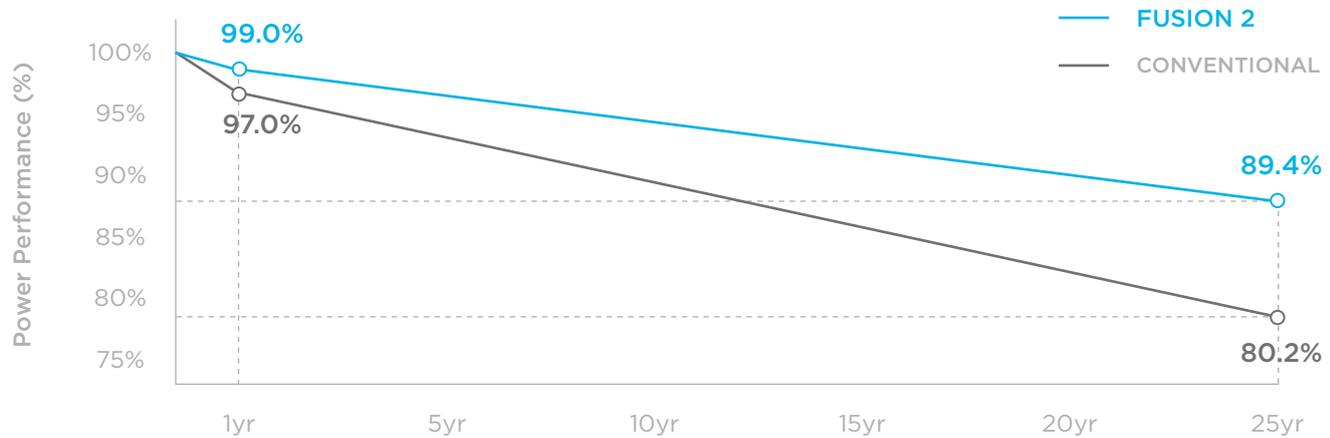
# Protect Your Solar Investment

## Industry-leading Warranty

FUSION 2 sets a new standard with its exceptional performance and reliability. Gain peace of mind and unwavering confidence in your solar investment with REA's impressive product and performance warranty. With an annual degradation rate below 0.4% per annum, FUSION 2 guarantees superior performance for years to come.

**25** YEAR  
Product Warranty

**30** YEAR  
Performance Warranty

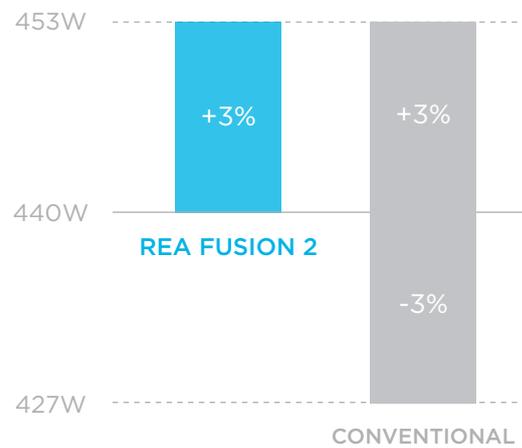




## Positive Tolerance

REA provides an extraordinary power output that exceeds the rated Wattage with a positive 3% tolerance. When you invest in an REA Power module, you receive full lab testing results to ensure its power class.

Unlike some conventional modules that come with a -/+ tolerance, FUSION 2 guarantees that you receive every single Watt you invest in. Experience the full potential of FUSION 2 — unmatched power, assured.



SOLAR POWER, MADE EASY.



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