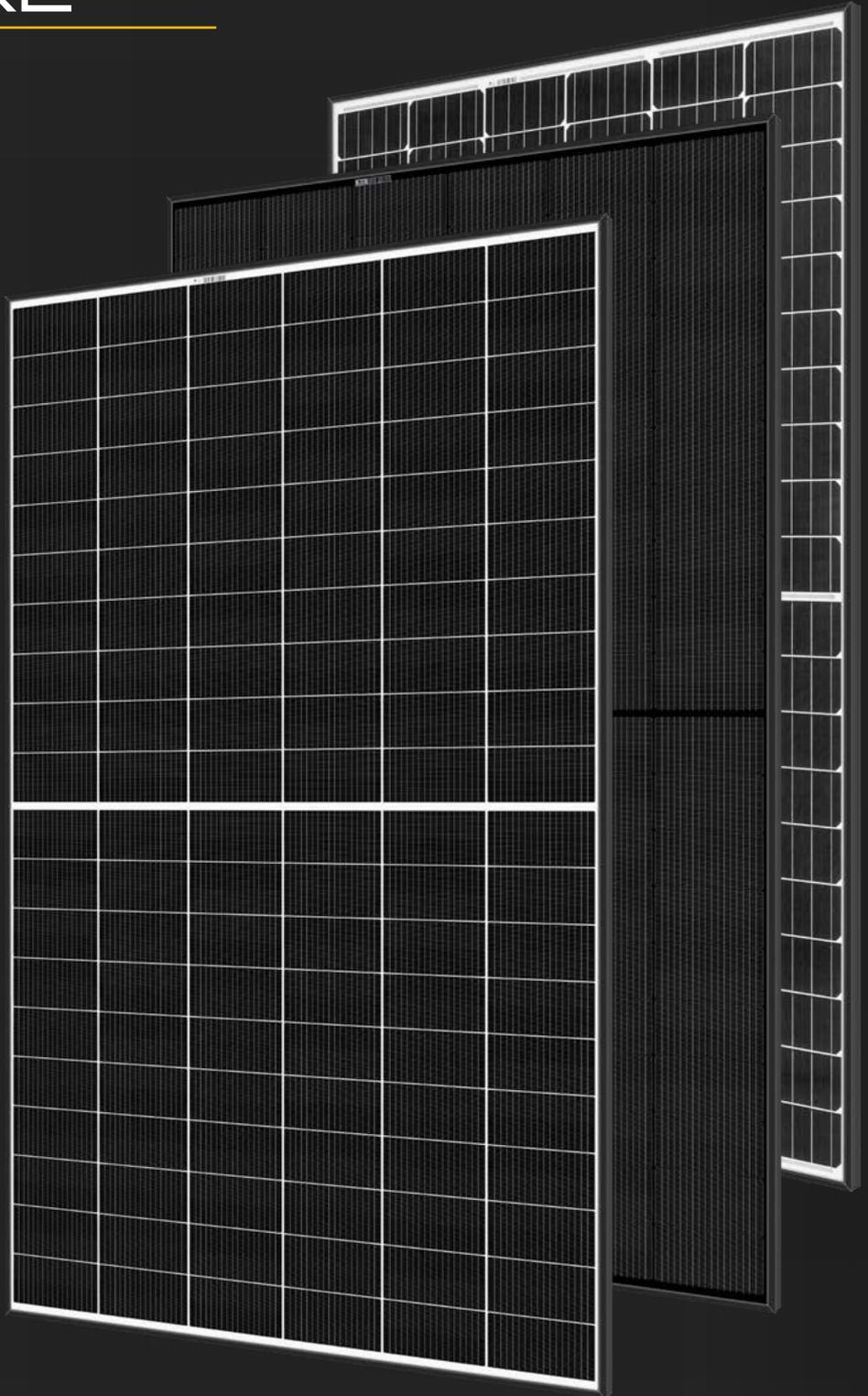


SOLAR'S MOST TRUSTED



# REC PRODUCT BROCHURE

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# REC - SOLAR'S MOST TRUSTED

## REC - A TRUSTED PARTNER

REC is an international, pioneering, solar energy company with Scandinavian heritage and a strong reputation across the world. Dedicated to bringing clean solar energy to everyone with our reliable and high-end products, 'Solar's Most Trusted' is not just a slogan – it is a promise we live up to every day in delivering outstanding, high quality products to our customers.

Founded in  
**1996**  
Headquarters  
in Norway

**38+**  
million panels  
manufactured

**10**  
gigawatts  
produced

**16+**  
million people  
powered at home

**9+**  
million tons  
of CO<sub>2</sub> reduced  
annually

## REC - EMPOWERING CONSUMERS

REC solar panels are already powering all parts of our lives - homes, schools, sport stadiums, hospitals, supermarkets and airports to name but a few. We believe solar is the present and future.



## REC - A DRIVEN FACILITATOR

REC makes it possible to power your own home or business independently and efficiently. With its iconic and cutting-edge products, REC helps you generate more energy and make significant savings on electricity bills.

## REC - A FRONT-RUNNING INNOVATOR

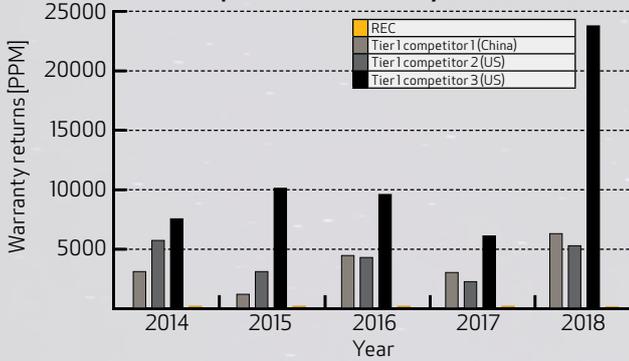
Innovation is in REC's DNA: constantly leading the way in high efficiency and powerful products. REC was the first company to introduce half-cut cell technology into multicrystalline panel production and the first to apply its iconic Twin design for extra power and efficiency.



# REC QUALITY

Supplying customers with the very best products is key to everything we do at REC. For us, this means the highest levels of quality at every stage of production, shipping and sales, right through to the final installation.

Comparison of warranty returns



Source: Warranty Week

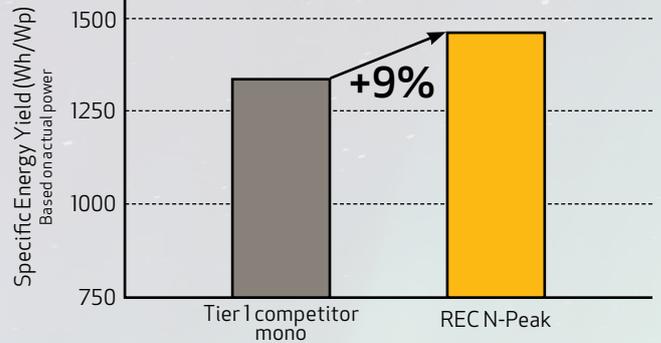
## OUTPERFORMING COMPETITORS

REC panels have been tested by third parties against competitors to directly compare performance. Testing shows REC outperforms competitive products in all climatic conditions, confirming our dedication to quality.

## LOWEST PRODUCT CLAIMS RATE

REC panels consistently demonstrate the lowest number of product defects according to published statistics. Calculated as parts per million panels produced, no competitor comes close to matching REC!

Specific energy yield over a 12-month period



Source: Comparative Outdoor Module Test, SERIS, Singapore, 2019



## INTERNAL QUALIFICATION TO 3 X IEC

Before even hitting the production lines, REC products are tested to at least 3 times the international quality standards for solar panels. This is central to our development program and ensures that all REC panels are robust enough for any climate.

## AWARDS & RECOGNITION



# REC WARRANTY

REC's ProTrust Warranty package covers product, performance, and labor – and is exclusively offered by REC Certified Solar Professional installers. This means unprecedented savings, more economic security, and greater energy autonomy for consumers.



## PRODUCT

Covers any panel defects and promises superior quality for at least 20 years. All panels are eligible for a **+5 year product warranty extension**, as part of the REC ProTrust Warranty.

## PERFORMANCE

Ensures that REC panels perform exactly as expected to – every year for 25 years. Higher warranted power and higher annual yields, enable greater ROI-predictability.

## LABOR

Unique to the REC ProTrust Warranty, this gives added protection in the unlikely event that an REC panel needs to be serviced.

The table below provides an overview of REC's leading warranty by system size:

REC warranty type	REC PROTRUST WARRANTY		REC'S LEADING STANDARD WARRANTY
Installer group	Exclusive to REC Certified Solar Professional installers		All installers
System size	<25 kW	25-500 kW	All
Product Warranty	25 years*	25 years*	20 years
Labor Warranty	25 years*	10 years*	0

Performance Warranty	Minimum power in year 1	Year 2-25 maximum annual degradation	Guaranteed % of nameplate power in year 25
REC Alpha Series	98.0%	0.25%	92.0%
REC Alpha 72 Series		0.5%	86.0%
REC N-Peak Series	97.5%	0.7%	80.7%
REC TwinPeak 2 Mono Series REC TwinPeak 2 Series		0.5%	85.5%
REC TwinPeak 2S Mono 72 Series REC TwinPeak 2S 72 Series			

\*Installations must be registered via REC SunSnap app or REC Certified Solar Professional Portal

Visit the REC Download Center for details of each product's warranty conditions: [www.recgroup.com/warranty](http://www.recgroup.com/warranty)

## VENICE, ITALY

World's first REC Alpha Series installation.

**6.3 kW**

System  
size

**2019**

year  
installed

**6.2 TONS**

CO<sub>2</sub> emissions  
saved annually

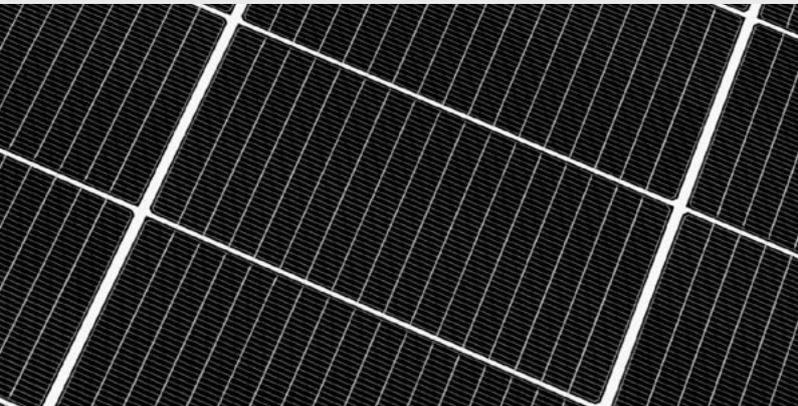


# REC ALPHA TECHNOLOGY

Leveraging the most cutting-edge cell architecture in combination with an advanced connection technology, the REC Alpha Series pushes power, efficiency, and reliability to a whole new level. Delivering the world's highest power density in a 60-cell format, the Alpha maximizes power, savings and greatly increases the customer's energy autonomy.

## Heterojunction Cell Technology

A heterojunction cell combines all the advantages of crystalline and thin-film solar technologies in a single hybrid structure. This provides the most effective cell passivation on the market for the highest levels of power and efficiency - even in hot climates.



## Advanced Connection Technology

REC's specially-developed, low temperature, solder and lead-free connection technology protects the cell from thermal stress during production for improved quality. With over 1600 contact points per cell, the Alpha dramatically improves current flow to produce even more power!

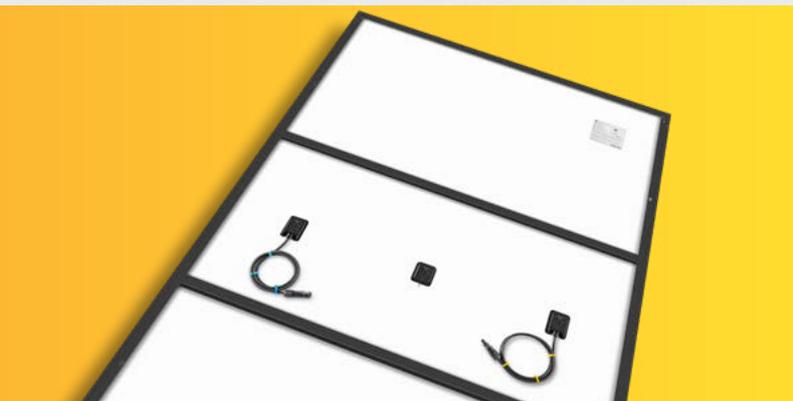
## REC's Twin Design

REC's iconic Twin design delivers a significant power boost compared to conventional panels, as well as improving performance in shaded conditions.



## Super Strong Frame

With its distinctive frame, including two support bars across the rear, the REC Alpha Series is able to withstand loads, e.g., snow, of up to 7000 Pa, making it stronger and more robust than competitive products. The innovative frame protects against deformation, increasing reliability and long-term high power



# REC ALPHA SERIES

60 CELL

## 380 WP POWER

### Over 20% more power on your roof

- Most advanced cell structure for highest efficiency
- Maximum power for maximum savings
- Highest power density: get the most out of limited spaces

### Advanced cell connection technology

- Low temperature production for longer-lasting quality
- Eliminates invasive soldering process
- Lead-free cells and connections

### Leading temperature performance

- Leading temperature coefficient for more production in hot climates
- Keeps cells working efficiently, even at the hottest times

### Protects from initial drop in installed power

- N-type cell technology protects against light induced degradation (LID)
- You get the installed power you paid for with no drop-off

### Super strong frame

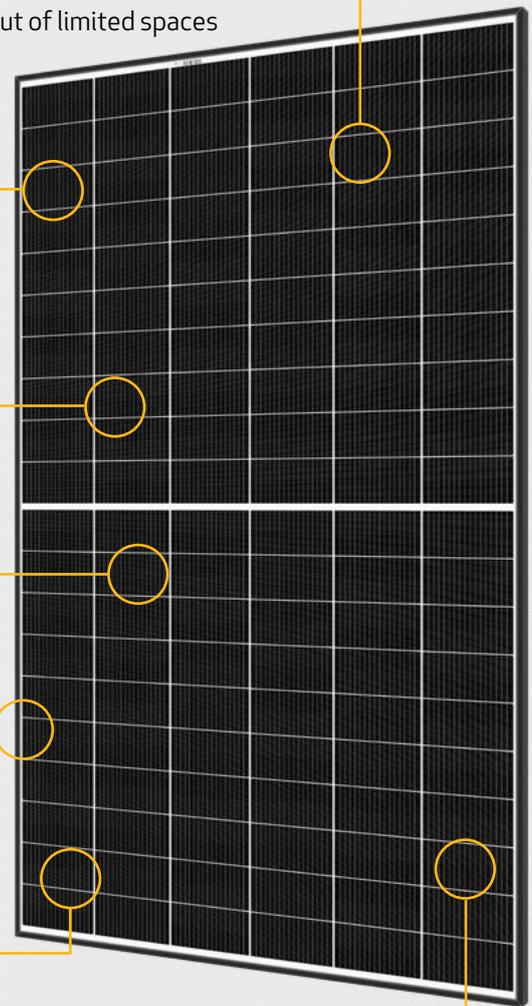
- Improved durability for a lifetime of high power
- 30 mm height for lightweight and compact installation
- Ensures long-lasting high power

### Industry-leading quality

- Greatly reduced risk of defects through superior build quality
- State of the art, highly automated production

### Environmentally-friendly

- Colossal 81% reduced lead content
- Advanced technology minimizes carbon footprint



Dimensions:	1721 x 1016 x 30 mm
Weight:	19.5 kg
Efficiency:	21.7 %
Power Density:	217 W/m <sup>2</sup>
Max. System Voltage:	1000 V
Temperature Coefficient:	-0.26 %/°C



ELIGIBLE

# REC ALPHA 72 SERIES

72 CELL

## 450 WP POWER

### Reduces overall installation costs

- Larger 72-cell format for faster installation
- Fewer rails and fewer clamps for reduced BOS cost, improving rate of return on larger systems

### More power

- Most advanced cell structure for highest efficiency
- Maximum power for maximum savings
- Highest power density: get the most out of limited spaces

### Advanced cell connection technology

- Low temperature production for longer-lasting quality
- Eliminates invasive soldering process
- Lead-free cells and connections

### Leading temperature performance

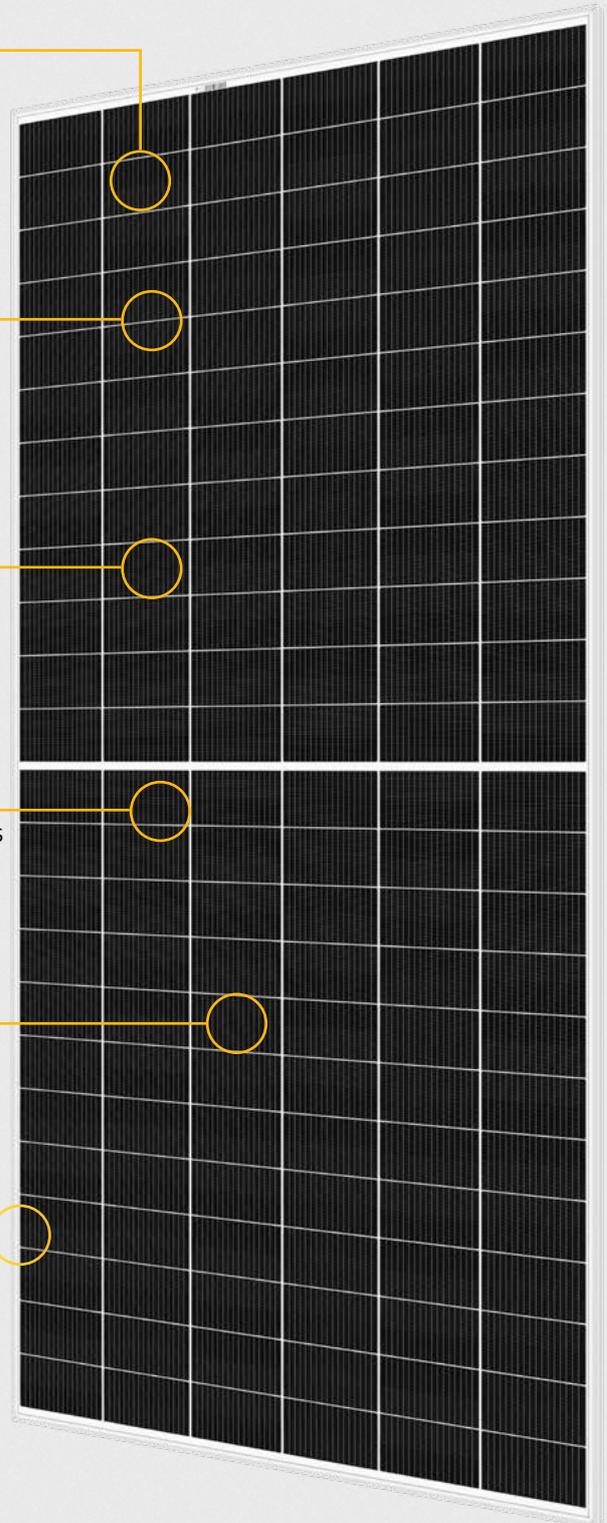
- Leading temperature coefficient for more production in hot climates
- Keeps cells working efficiently, even at the hottest times

### Protects from initial drop in installed power

- N-type cell technology protects against light induced degradation (LID)
- You get the installed power you paid for with no drop-off

### Guaranteed better durability

- Leading warranty guarantees 92% power after 25 years
- Super strong frame better protects against the elements
- Lasting high power thanks to industry leading quality



Dimensions:	2063 x 1026 x 30 mm
Weight:	23.5 kg
Efficiency:	21.3 %
Power Density:	213 W/m <sup>2</sup>
Max. system voltage:	1500 V
Temperature coefficient:	-0.26 %/°C

# REC ALPHA BLACK SERIES

60 CELL

## 375 WP POWER

### Stylish looks

Full-black design with practically invisible cell connections for the most elegant feature on your roof

### Over 20% more power on your roof

- Most advanced cell structure for highest efficiency
- Maximum power for maximum savings
- Highest power density: get the most out of limited spaces

### Advanced cell connection technology

- Low temperature production for longer-lasting quality
- Eliminates invasive soldering process
- Lead-free cells and connections

### Leading temperature performance

- Leading temperature coefficient for more production in hot climates
- Keeps cells working efficiently, even at the hottest times

### Protects from initial drop in installed power

- N-type cell technology protects against light induced degradation (LID)
- You get the installed power you paid for with no drop-off

### Super strong frame

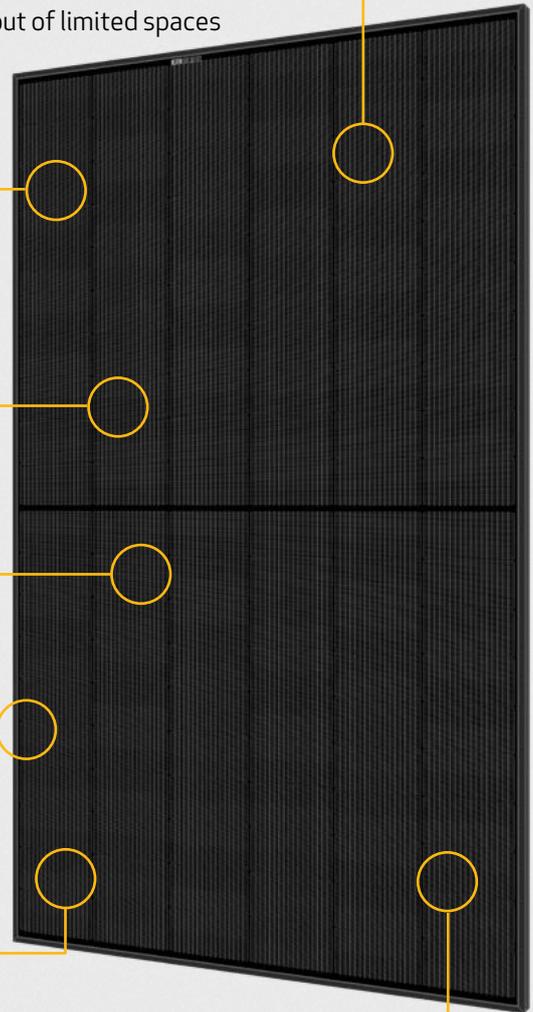
- Improved durability for a lifetime of high power
- 30 mm height for lightweight and compact installation
- Ensures long-lasting high power

### Industry-leading quality

- Greatly reduced risk of defects through superior build quality
- State of the art, highly automated production

### Environmentally-friendly

- Colossal 81% reduced lead content
- Advanced technology minimizes carbon footprint



Dimensions:	1721 x 1016 x 30 mm
Weight:	19.5 kg
Efficiency:	21.4 %
Power Density:	214 W/m <sup>2</sup>
Max. System Voltage:	1000 V
Temperature Coefficient:	-0.26 %/°C



ELIGIBLE

MUNICH, GERMANY

7.0 kW

System  
size

2019

year  
installed

6.9 TONS

CO<sub>2</sub> emissions  
saved annually



SCOTTSDALE, AZ, USA

21.8 kW 2019

System  
size

year  
installed

27 TONS

CO<sub>2</sub> emissions  
saved annually

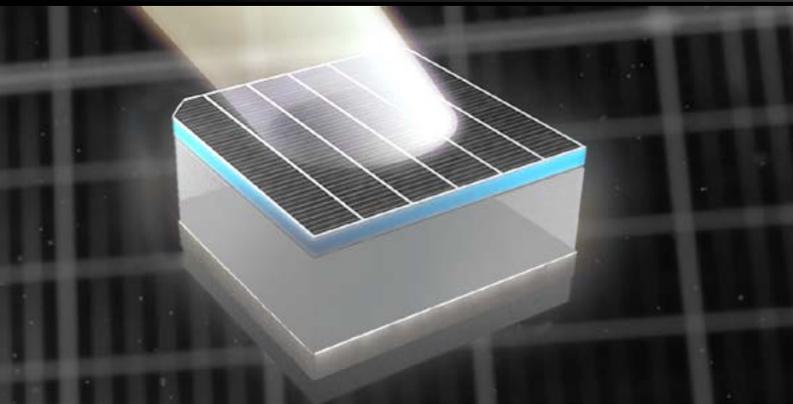
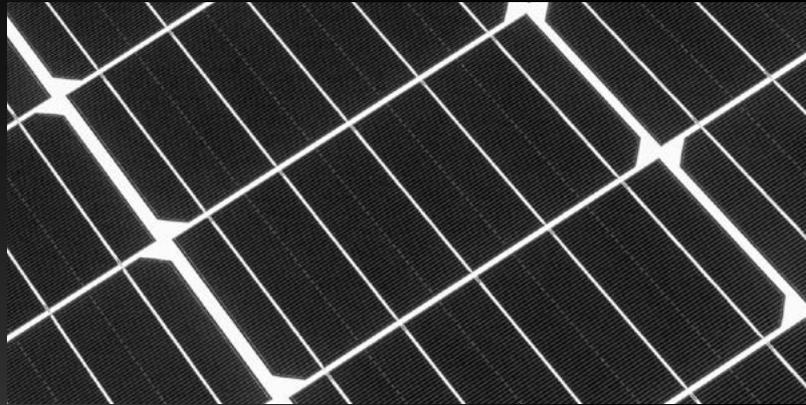


# REC N-PEAK TECHNOLOGY

REC N-Peak Series solar panels feature high efficiency n-type cell technology for excellent performance. Achieving watt classes of up to 330 Wp, the REC N-Peak Series enables you to pack high power into a limited space and achieve higher capacity with fewer panels.

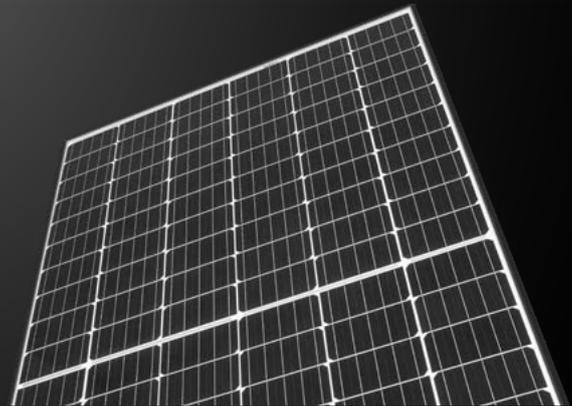
## N-Type Monocrystalline Cells

The negatively charged treatment (doping) of the cells creates the most efficient crystalline cell technology for high light absorption and efficiency.



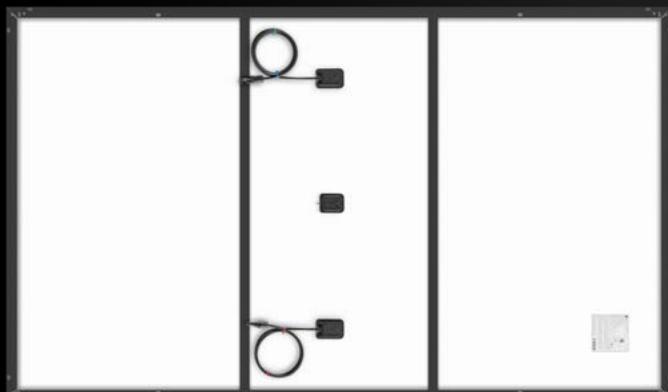
## PERT Technology

Like a barrier layer across the rear of the cell, PERT helps keep the cell at a cool operating temperature and improves overall efficiency for higher yields.



## REC's Twin Design

REC's revolutionary Twin design delivers a significant power boost compared to conventional panels, as well as improving performance in shaded conditions.



## Super Strong Frame

With its distinctive frame, including two support bars across the rear, the REC N-Peak offers more strength and robustness under load than standard products, protecting it from deformation and increasing long-term reliability.

# REC N-PEAK SERIES

60 CELL

## 330 WP POWER

### Most efficient crystalline cell technology

- N-type monocrystalline cell base for highest light absorption
- Half-cut cells produce more power
- Produced on REC's state of the art, automated production lines

### Improved temperature performance

- Class-leading temperature co-efficient for more energy generation when the sun is strongest
- PERT technology keeps the cell at a cool operating temperature

### Protects from initial drop in installed power

- N-type cell technology protects against light induced degradation (LID)
- You get the installed power you paid for without drop-off

### Increased energy yield when shaded

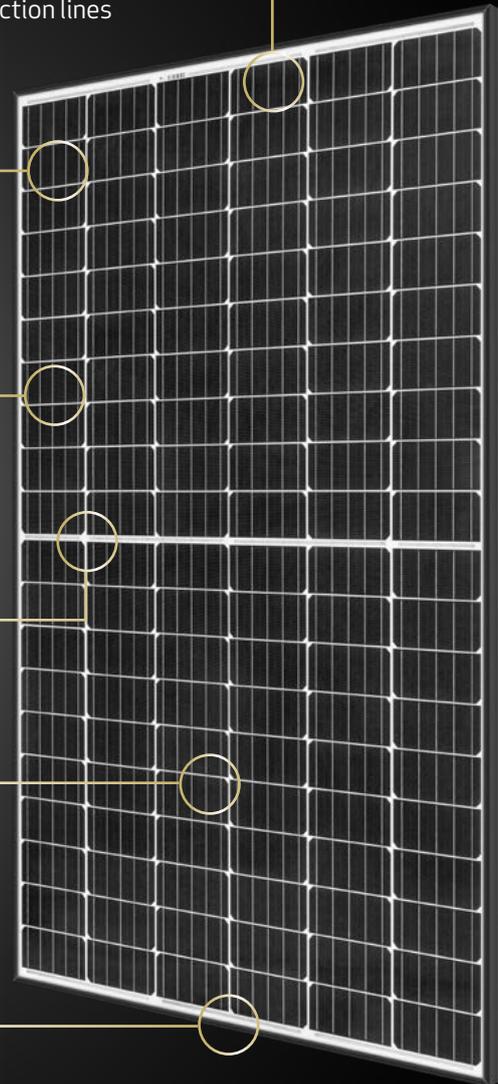
- REC's Twin design improves performance in shaded conditions

### Lower internal resistances

- Decreases internal stress through reduced electron congestion
- Improved reliability efficiency and durability

### Super strong frame

- Improved durability for a lifetime of high power
- 30 mm height for lightweight and compact installation



Dimensions:	1675 x 997 x 30 mm
Weight:	18 kg
Efficiency:	19.8 %
Power Density:	198 W/m <sup>2</sup>
Max. System Voltage:	1000 V
Temperature Coefficient:	-0.35 %/°C



ELIGIBLE

# REC N-PEAK BLACK SERIES

60 CELL

## Stylish looks

Full-black design for a seamless appearance on your roof

# 325 WP POWER

### Most efficient crystalline cell technology

- N-type monocrystalline cell base for highest light absorption
- Half-cut cells produce more power
- Produced on REC's state of the art, automated production lines

### Improved temperature performance

- Class-leading temperature co-efficient for more energy generation when the sun is strongest
- PERT technology keeps the cell at a cool operating temperature

### Protects from initial drop in installed power

- N-type cell technology protects against light induced degradation (LID)
- You get the installed power you paid for without drop-off

### Increased energy yield when shaded

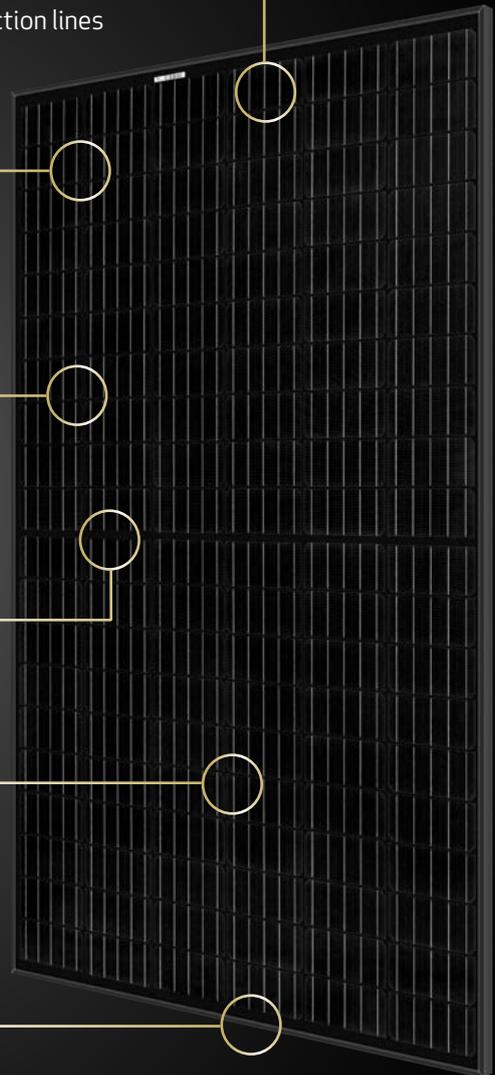
- REC's Twin design improves performance in shaded conditions

### Lower internal resistances

- Decreases internal stress through reduced electron congestion
- Improved reliability efficiency and durability

### Super strong frame

- Improved durability for a lifetime of high power
- 30 mm height for lightweight and compact installation



Dimensions:	1675 x 997 x 30 mm
Weight:	18 kg
Efficiency:	19.5 %
Power Density:	195 W/m <sup>2</sup>
Max. System Voltage:	1000 V
Temperature Coefficient:	-0.35 %/°C



ELIGIBLE

# CHÂTEAUNEUF DU RHÔNE, FRANCE

36 kW

System  
size

2010

year  
installed

27 TONS

CO<sub>2</sub> emissions  
saved annually

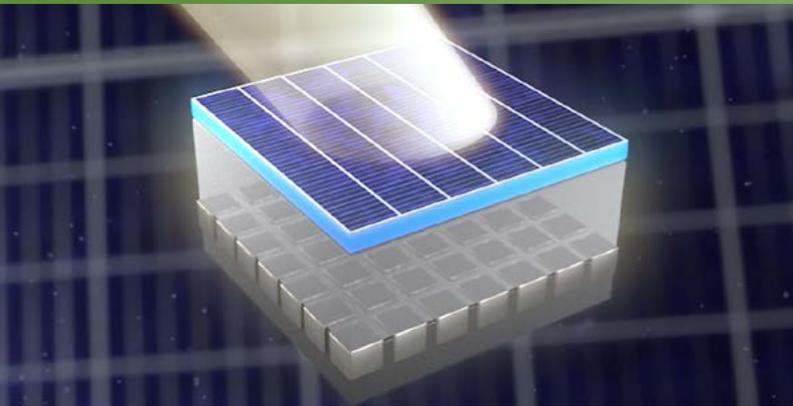


# REC TWIN TECHNOLOGY

REC's Twin Technology is an iconic advancement in crystalline solar panel technology that delivers a power boost of up to 20 Wp per panel compared to standard multicrystalline panels.

## Half-Cut Cells

REC's Twin cells are rectangular in shape, contrasting with standard full-square cells. Cutting cells this way reduces internal resistance, so cells work more efficiently and provide even more power than ever!

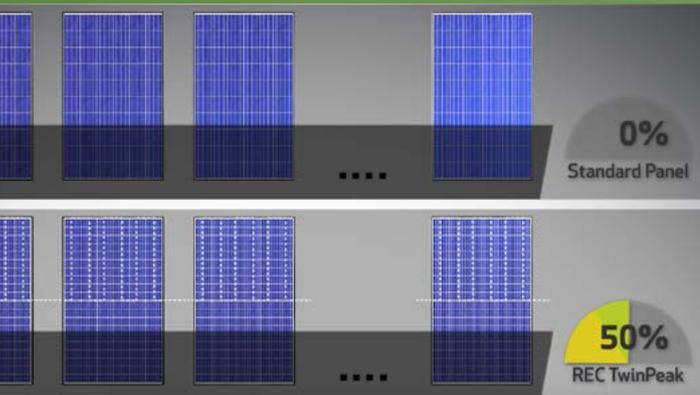
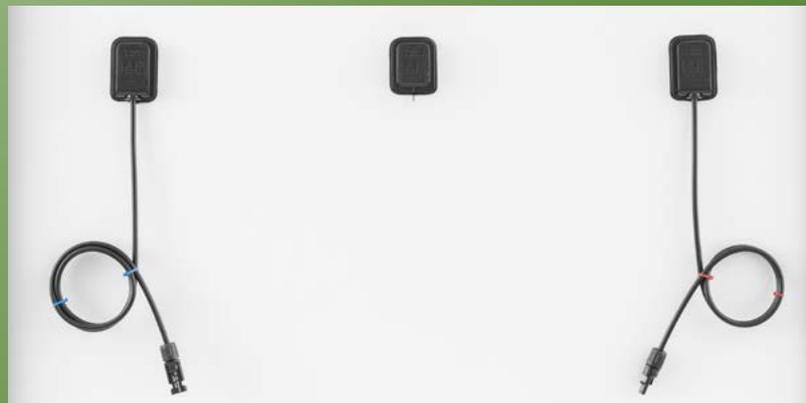


## Split Junction Box

The innovative 3-part junction box used in REC's Twin design is key to the distinctive layout of our products. The smaller boxes keeping the cells around 15°C cooler than a single box. With less retained heat, the whole panel is more reliable and efficient.

## PERC Technology

PERC is a special layer in the cell which helps keep it cooler and working more efficiently. It helps the cell absorb more light throughout the day, increasing production in low light conditions, e.g., under cloud and at dawn and dusk, for higher overall energy yield.



## Improved Performance When Shaded

Splitting the panel into two sections creates an advantage under certain types of shading e.g., between rows. Where a conventional panel fully stops generation even if only a small part is shaded, REC's Twin design ensures continued production, improving overall yield.

# REC TWINPEAK 2 MONO SERIES

60 CELL

## 330 WP POWER

### High efficiency and energy yield

- PERC cell technology for higher power
- Lower operating temperatures for high efficiency

### More power through reduced resistance

- Halfcut cells for more power
- Better electron flow for stable power

### Improved performance in shaded conditions

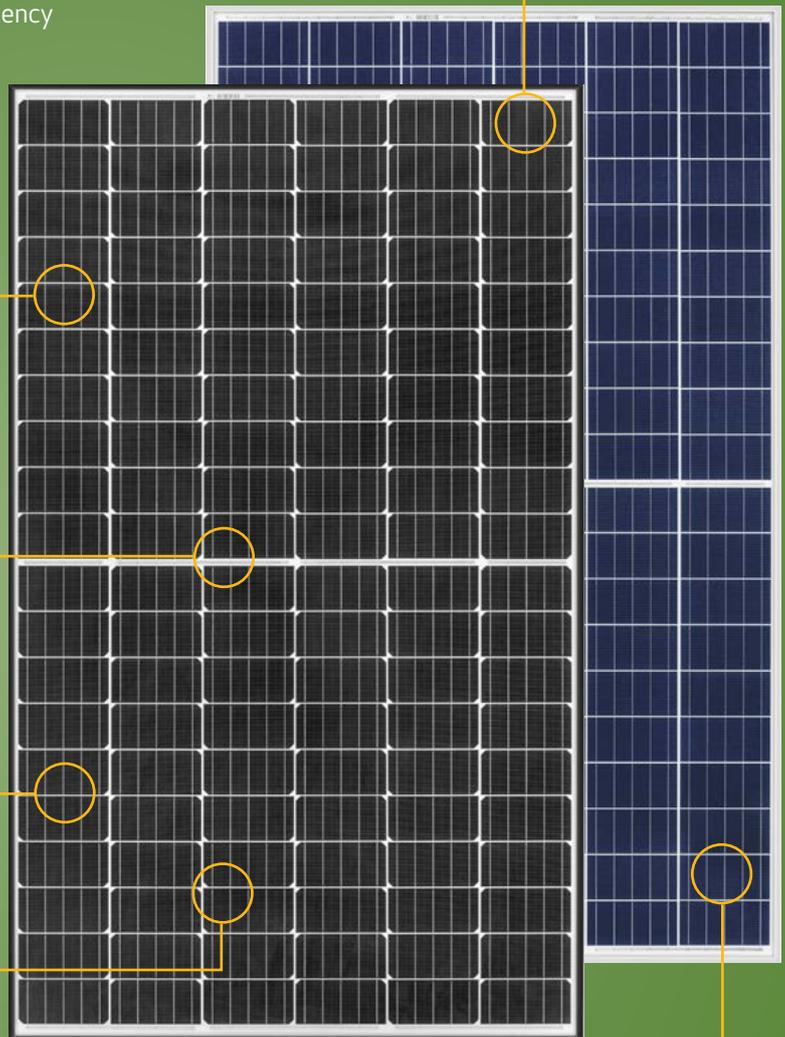
- REC's iconic Twin design generates more energy
- When one half is shaded, the other half can still generate electricity

### Darker appearance

- Monocrystalline cells for a uniform dark blue color and high efficiency

### Reliable production

- Lower operating temperature for better reliability
- Reduced chance of defects due to lower operating temperature



### Low CO<sub>2</sub> footprint

- Energy-efficient production process of REC's own silicon using drastically reduces environmental impact of panel production

Dimensions:	1675 x 997 x 38 mm
Weight:	18.5 kg
Efficiency:	19.8 %
Power Density:	198 W/m <sup>2</sup>
Max. System Voltage:	1000 V
Temperature Coefficient:	-0.37 %/°C



ELIGIBLE

# REC TWINPEAK 25 MONO 72 SERIES

## 72 CELL

### 72-cell format

Larger format helps reduce balance of system costs and the 30 mm frame makes this the lightest 72-cell panel on the market

**400 WP** POWER

**20 YEAR** PRODUCT WARRANTY

**25 YEAR** PERFORMANCE WARRANTY

### High efficiency and energy yield

- PERC cell technology for higher power
- Lower operating temperatures for high efficiency

### More power through reduced resistance

- Halfcut cells for more power
- Better electron flow for stable power

### Uniform appearance

- Monocrystalline cells for a consistent dark blue color with high efficiency

### Improved performance in shaded conditions

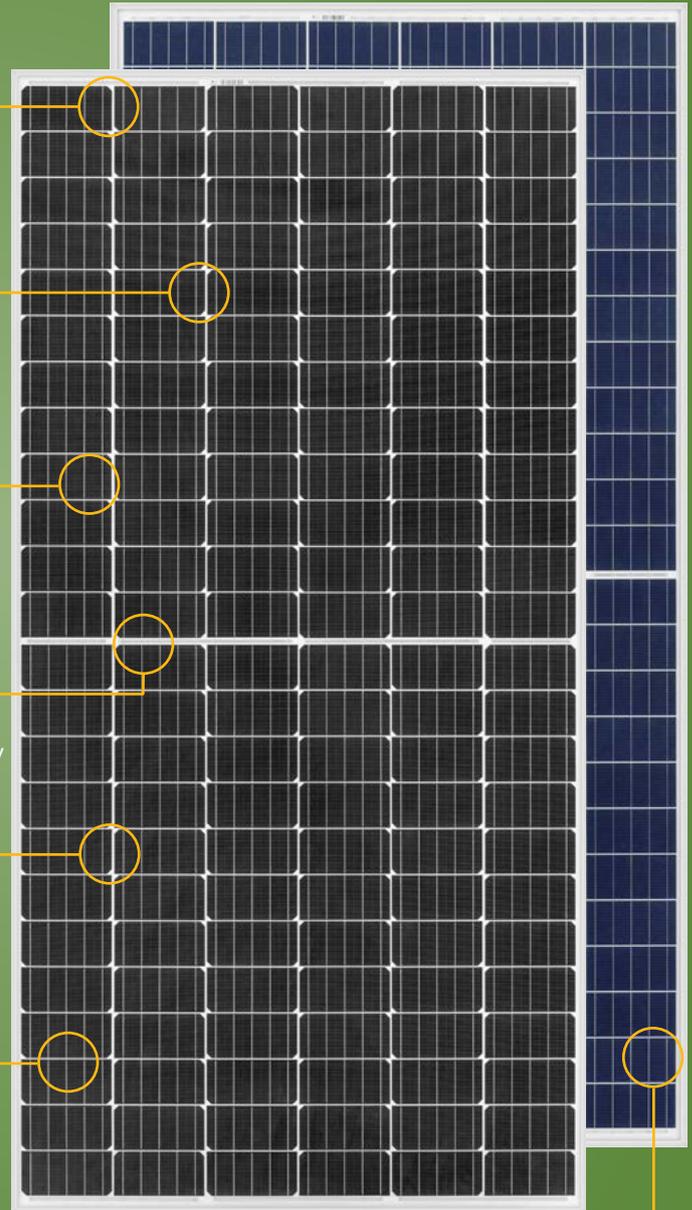
- REC's iconic Twin design generates more energy
- When one half is shaded, the other half can still generate electricity

### Reliable production

- Lower operating temperature for better reliability
- Reduced chance of defects due to lower operating temperature

### Robust and durable

- REC's unique frame design makes the panel even more robust
- Extra protection against bending under load ensures a lifetime of high power generation



### Low CO<sub>2</sub> footprint

- Energy-efficient production process of REC's own silicon using drastically reduces environmental impact of panel production

Dimensions:	2005 x 1001 x 30 mm
Weight:	22 kg
Efficiency:	19.9 %
Power Density:	200 W/m <sup>2</sup>
Max. System Voltage:	1500 V
Temperature Coefficient:	-0.37 %/°C

# REC REFERENCE INSTALLATIONS



SUPHANBURI, THAILAND  
REC PEAK ENERGY SERIES

<b>72 MW</b>	<b>2014</b>	<b>110223 TONS</b>
System size	year installed	CO <sub>2</sub> emissions saved annually

SCOTTSDALE, AZ, USA  
REC N-PEAK SERIES

<b>21.8 kW</b>	<b>2019</b>	<b>25 TONS</b>
System size	year installed	CO <sub>2</sub> emissions saved annually



BATTICALOA, SRI LANKA  
REC TWINPEAK 72 SERIES

<b>1.6 MW</b>	<b>2017</b>	<b>1175 TONS</b>
System size	year installed	CO <sub>2</sub> emissions saved annually

KAUA'I, HI, USA  
REC PEAK ENERGY SERIES

<b>14.5 MW</b>	<b>2015</b>	<b>12731 TONS</b>
System size	year installed	CO <sub>2</sub> emissions saved annually





COBBITTY, NSW, AUSTRALIA  
REC TWINPEAK 2 MONO SERIES

10 kW System size  
2019 year installed  
16 TONS CO<sub>2</sub> emissions saved annually

SAN FRANCISCO, CA, USA  
REC TWINPEAK 2S 72 SERIES

905 kW System size  
2019 year installed  
927 TONS CO<sub>2</sub> emissions saved annually



RUDAWA, POLAND  
REC TWINPEAK BLACK SERIES

9.9 kW System size  
2016 year installed  
12 TONS CO<sub>2</sub> emissions saved annually

DEN BOSCH, NETHERLANDS  
REC PEAK ENERGY SERIES

921 kW System size  
2013 year installed  
656 TONS CO<sub>2</sub> emissions saved annually



# REC CERTIFIED SOLAR PROFESSIONALS

The REC Certified Solar Professional Program was created with installers and end customers in mind, providing numerous advantages to both.

Not every installer can call themselves an 'REC Certified Solar Professional': members of the Program are carefully selected to undergo a unique installer certification program. Through this, we ensure solar installers are equipped with the know-how and best practices to install REC panels and can in turn, assure end customers that in addition to high-quality REC solar panels, they will receive a high-quality solar installation.



## QUALITY PRODUCT, QUALITY INSTALLATION

Knowing that not only is the panel of high quality, but also that the person installing it is highly skilled and trained, gives end customers greater peace of mind for the quality of their installation.

## ADDED COMFORT

Take comfort in knowing that your solar installer has been carefully selected, trained, and certified by REC. To be an 'REC Certified Solar Professional', the installer must be offering best-in-class service and reliability.

## EXTENDED WARRANTY

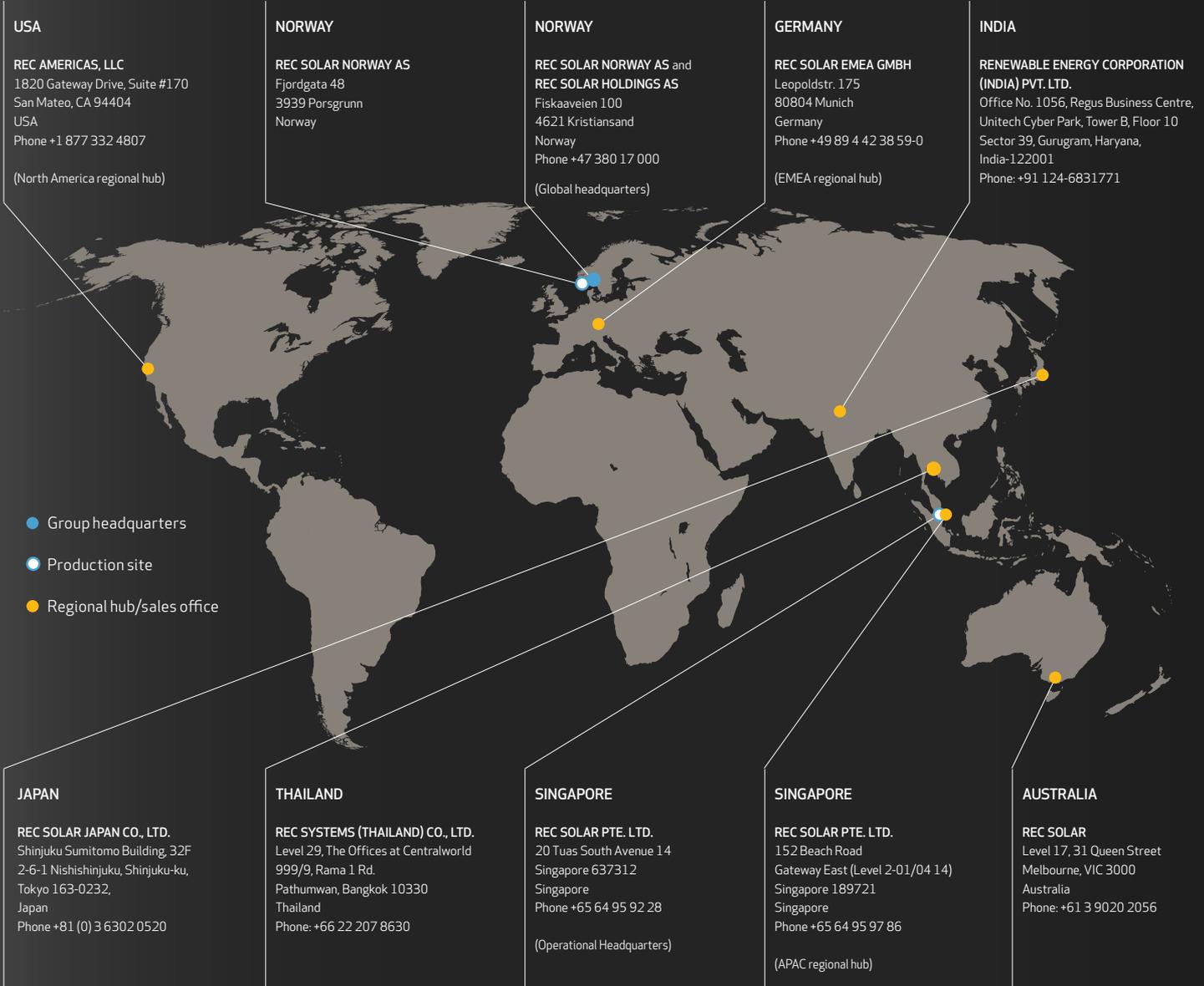
By choosing an REC Certified Solar Professional for your installation, you can benefit from REC's unique REC ProTrust Warranty package at no extra cost. The REC ProTrust Warranty gives you an extra 5 years product warranty cover (25 years total) and up to 25 year labor cover\* in addition to REC's 25-year performance warranty.



\* Conditions apply. See [www.recgroup.com](http://www.recgroup.com) for more details



# GLOBAL PRESENCE



Founded in Norway in 1996, REC is a leading vertically integrated solar energy company. Through integrated manufacturing from silicon to wafers, cells, high-quality panels and extending to solar solutions, REC provides the world with a reliable source of clean energy. REC's renowned product quality is supported by the lowest warranty claims rate in the industry. REC is a Bluestar Elkem company with headquarters in Norway and operational headquarters in Singapore. REC employs around 2,000 people worldwide, producing 1.5 GW of solar panels annually.



[www.recgroup.com](http://www.recgroup.com)

