



# **SOLAR** Photovoltaics

Clean Renewable Energy Source

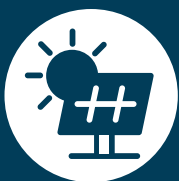


**Rethinking** Energy

# Solar Power Your Home



## Benefits of Solar PV



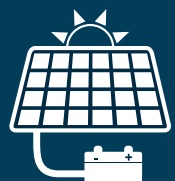
Renewable  
Energy



Free  
Electricity

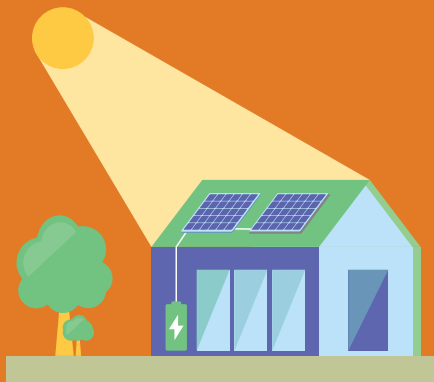


Reduces Carbon  
Footprint



Energy  
Storage





## What is Solar PV?

Solar PV is a technology that converts sunlight into DC renewable energy by absorbing the rays provided by the sun. Photovoltaics (PV) represents the use of semi-conducting materials that exhibit the 'photovoltaic effect'. The photovoltaic effect is the term for the conversion of sunlight into usable electricity. Utilising this phenomenon allows us to produce clean renewable energy while both reducing our annual electricity cost and our Carbon footprint.

## Why Choose Solar PV?

### Clean Renewable Energy Source

Reduces your carbon footprint. Under the Climate Action Plan 2023, in Ireland, we have committed to halving our emissions by 2030 and to reach Net Zero by 2050. This puts a responsibility on all of us, both individually and within the private and public sectors to take action to reduce our carbon footprint and emissions.

For EPS – and our community – sustainability has always been at the core of what we do and in addition to our core services and offering, we also have a responsibility to lead by example and to encourage and enable our employees, customers, supply chain partners to reduce their carbon footprint.

### Affordability

An EPS solar solution is an extremely cost-effective investment with an estimated payback period between 4-6 years depending on the system implemented with a lifespan of 25 years+ compared with market equivalent payback periods of 7-10 years.

SEAI also operates an incentive grant support scheme which provides up to €2,100 for each domestic system installed.

## Components Used in a PV System

The four main components used in a PV system are PV solar modules/panels, an inverter is required to convert energy to AC, (Alternating Current) a PV mounting kit/system and battery storage. Typically, the area that the PV system will be installed on influences the PV system's panels sizing and configuration, which, in turn, determines the system's generation potential, inverter size and optimum battery size required.

PV panels generate DC (Direct Current) power. Domestically, AC power is used and an inverter is required to convert the generated DC energy to AC, allowing the power travel over a distance without losing energy along its path safely.

Three types of inverters are used currently, namely:

- on-grid inverter
- off-grid inverter
- hybrid inverter



## PV Panels

Solar panels are referred to as PV modules in the PV industry. PV modules are the electricity generation part of any solar/PV system. The semiconductor material used in the modules generate DC electricity from solar radiation. Solar radiation is typically measured in  $\text{W/m}^2$  (watts per metre squared) which can fluctuate significantly from morning to night and from season to season, making the generation of electricity variable throughout the year.

Each module/panel undergoes testing referred on the module's datasheet as STC (Standard Temperature Conditions). For ease of standardisation, these conditions are at  $25^\circ\text{C}$  and a solar radiation of  $1,000 \text{ W/m}^2$ . In a real-life environment, both parameters will change over the course of the day, particularly solar radiation which can fluctuate between  $0\text{--}1200 \text{ W/m}^2$  here in Ireland, depending on the time of year. The power/electricity that a PV module will generate at any given time is highly dependent on the solar radiation that the PV module is exposed to. The higher the value of solar radiation, the higher the power or electricity that is produced.



## Inverters

Inverters are a crucial part of the PV eco-system. As the electricity from PV modules produced is DC form, the electricity must be converted to AC to be utilised within your home or for export to the grid. An inverter does this by converting the DC power generated to a sinusoidal wavelike AC power at either single phase (residential buildings/dwellings) or three phase (commercial entities).

We are Irish distribution partners for eCactus.







## PV Mounting System/Kit

The mounting system is the stem of the PV system. Mounting systems can be designed for and positioned for on-ground or rooftop applications or in other spaces such as pergolas, car parks, bike shelters, etc. The location where the mounting system will be installed influences the design, as wind, snow and static loading must

be factored into the mounting system design to ensure that the installation is safe, secure and ensures structural integrity. The mounting systems are typically made from aluminium alloy and stainless steel and are anodised or galvanised to ensure weathering will not impede the lifespan of the mounting system.

## Battery Storage

A battery storage system is an excellent way to store surplus or unused power for use later when solar energy is no longer available. In effect, it extends the benefit of capturing and using the free energy from your PV system. A battery storage system is also excellent for storing electricity that you purchase from the grid at off-peak times at reduced costs for usage during peak cost times. A battery or energy storage system is an essential part of any PV system, as it allows the storage of energy at off-peak rates for use later and at the same time, allows for top up with solar energy throughout the day time.



# FuturaSun

## 570W M Silk Nova

### *All Black*

570W  
PANEL

The FuturaSun 570W Monocrystalline module is one of the highest quality PV modules currently offered on the market. The use of the newest half cut 144 cell technology allow for high performance for commercial and utility scale installations while cutting down on the number of panels required while maximising the usable area. These innovative solar modules are specifically designed to provide unparalleled efficiency and performance, elevating your solar experience to new heights.

The FU 570 M Silk Nova modules boast an impressive power output and are built with premium-quality materials, ensuring outstanding durability and reliability in any environment. The Silk Plus technology employed in these modules enhances light absorption, resulting in higher energy production even in low-light conditions. All PV modules come with a 25 year performance warranty and 15 year product warranty with third party insurance.

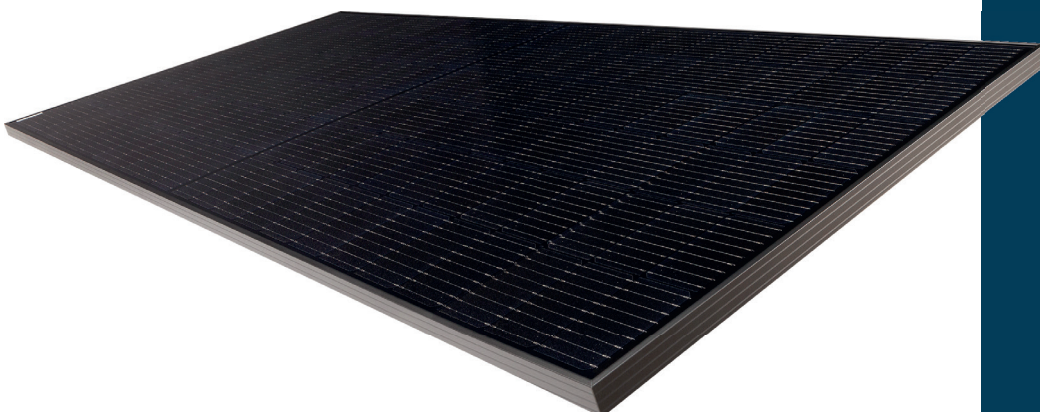


**FuturaSun®**  
anticipate tomorrow

**Exclusive Distributor**  
for Ireland & UK



- The new standard in photovoltaic technology
- Max power decrease from 2nd year 0.4%/year
- 144 M10 N-type half-cut cells first year
- High efficiency & enhanced low light performance





# FuturaSun

## 420W M Silk Nova

### *All Black*

420W  
PANEL

Silk® Nova is a monocrystalline solar panel with high-efficiency 182 mm n-type cells. The module configuration with 108 cells and a power of 415 Wp is perfect for residential and commercial installations.

The FU420M Silk® Nova photovoltaic panel stands out for the high efficiency of the module up to 22.53%, its reduced dimensions of 1722x1134x30 mm and its excellent thermal coefficient of  $-0.29\% / ^\circ\text{C}$  which ensures high performance even in cases of hot days with high operating temperatures.

This is more suited to smaller or restricted areas due to its smaller footprint.

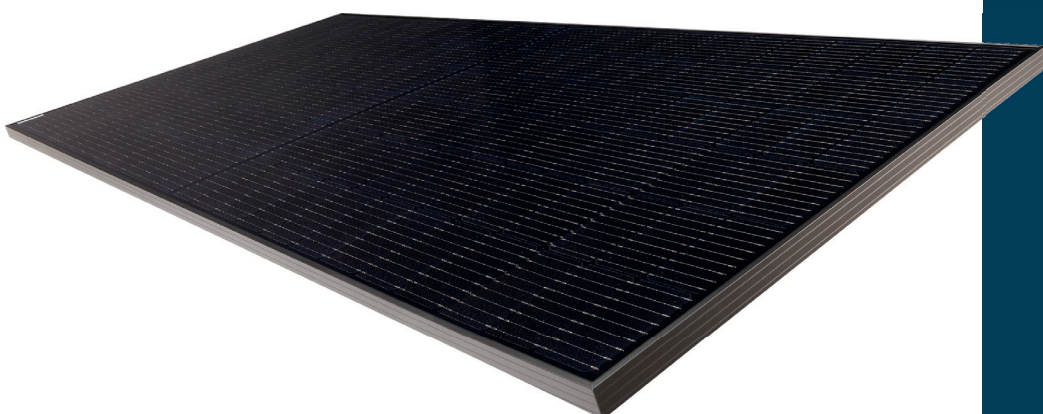


FuturaSun®  
anticipate tomorrow

Exclusive Distributor  
for Ireland & UK



- 25 year performance warranty & 15 year product warranty
- Up to 22% module efficiency equal to 220 Wp/m<sup>2</sup>
- 182 mm N Type cells
- Improved low-light performance
- Excellent temperature coefficient of  $-0.29\%/^{\circ}\text{C}$



# BISOL 530W PV

## *Bifacial Module* *25 Year Power Output Guarantee*

BISOL 530W PV modules use monocrystalline half-cut technology (132 cell). They are designed in the EU in Slovenia and boast a 21.5% module efficiency. The use of bifacial technology allows a gain of up to 20% in power when used on a flat roof mounted/ground mounted environment.

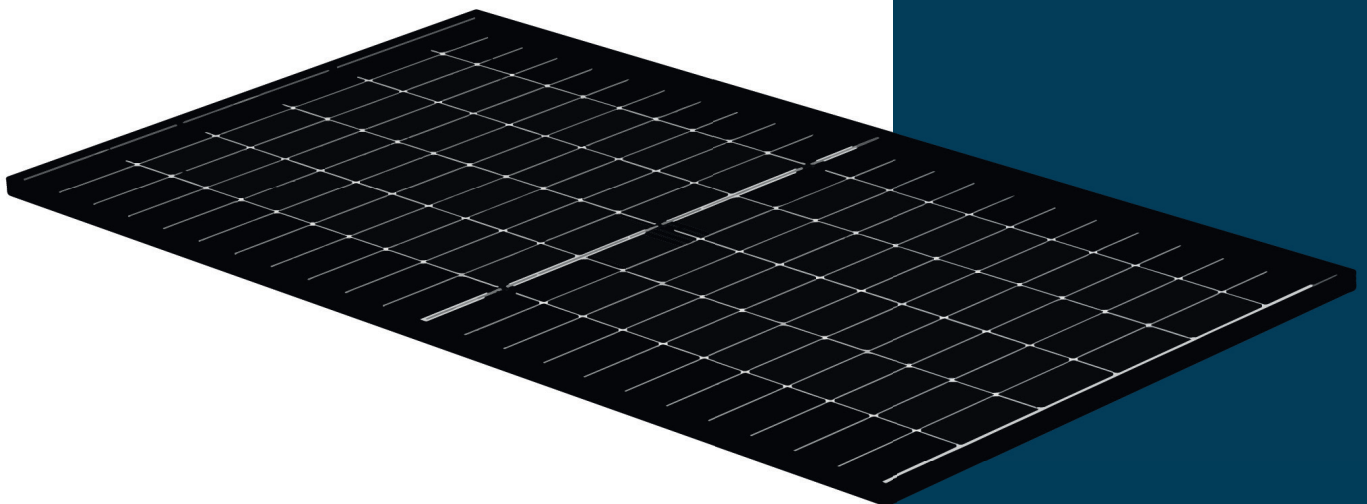


**Distributor**  
for Ireland & UK

530W  
PANEL



- 25 year performance warranty and 15 year product warranty
- Bifacial Module
- 21.5% module efficiency
- 132 Half-Cut mono PERC Bifacial s-Si cells
- Temperature coefficient -0.25%





# Livoltek

## 5kW/5-20kW Battery

### All-In-One

*Single Phase, 10 Year Warranty*

The Livoltek all-in-one system consists of a 5kW Hybrid inverter (single phase) and between 5-20 kWh of low voltage battery storage depending on the customer's requirements. The hybrid inverter can be loaded up to a 7.5 kWp system, while meeting all ESB Network requirements to avail of the SEAI grant. Its clean design ensures that the all-in-one can be installed anywhere within a domestic environment.



LIVOLTEK

Distributor  
for Ireland & UK

HYBRID  
INVERTER



- Hybrid Inverter
- Up to 150% Oversizing
- Wide MPPT Range: 125V-550V
- Max convertible Power: 5 kW
- Max Output Current: 23.9 A
- Low Voltage Lithium Battery



# eCactus AGAVE-SH 5kW + 5kWh/10kWh Battery

## All-In-One

*Single Phase, 10 Year Warranty*

The eCactus 5kW all-in-one storage system is a versatile, reliable, high-quality solar product, which ensures you get the most out of your PV system. It combines a hybrid inverter and an LFP (Lithium FerroPhosphate) battery into one unit, suitable for both on-grid and off-grid systems. The LFP technology provides improved thermal and chemical stability.

It offers up to 150% oversizing and has one of the highest DC/AC conversion efficiencies. It also has one of the best MPPT operating ranges in the market and is specifically designed to combat generation challenges in low light conditions such as Ireland & UK, particularly in winter. The system can use up to 10 kWh battery storage, more than enough to keep your domestic home powered by day, but with more compact options available for different needs. It complies with all ESB micro-generational regulations.

This unit is ideal for use in critical systems, as it includes a built-in backup box for UPS-level preparedness during blackouts, with a switching time of less than 10ms.



eCACTUS

Distributor  
for Ireland & UK

HYBRID  
INVERTER



- Hybrid Inverter
- Quick & Easy Installation
- Low Start up: 90V
- Wide MPPT Range: 100-550 V
- Max Convertible Power: 5kW
- Max Output current: 21.7 A
- High Voltage LiFePO4 Battery
- Accomodates up to 2 x 5.12kWh batteries



# ECOS App Home Energy Management System

*Helps manage your smart home*

ECOS HOME  
ENERGY APP

## Benefits

- › View energy usage in real-time
- › Record and summarise energy usage
- › Your home energy usage information will be instantly delivered, which will quicken your response
- › Insights into home energy use
- › Customise as you like

## Features

### Three-Mode: Efficiency Charging & Discharging

The ECOS Home Energy app comes with three modes: Self-Powered, Load-Shifting, and Back-Up

### Multiple-Mode Insight

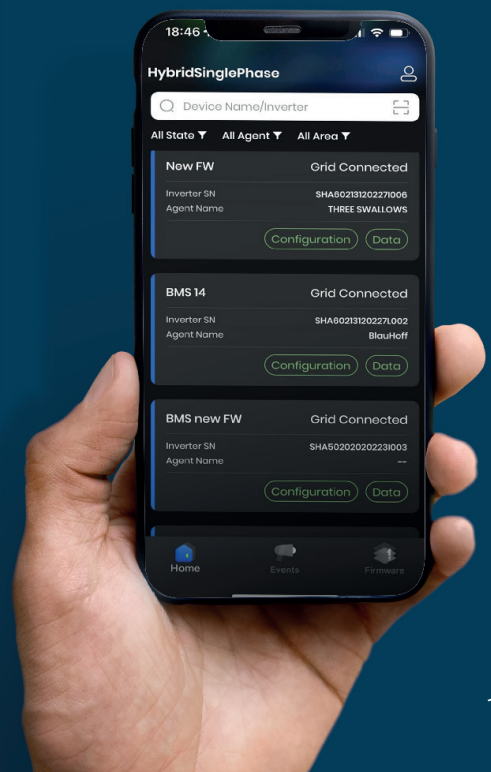
Get a superior insight into your home energy usage that will improve your power consumption and reduce emissions



iOS



Android



# KSTAR

## 10kW/10-40kW Battery

### *All-In-One*

*Three Phase, 10 Year Warranty*

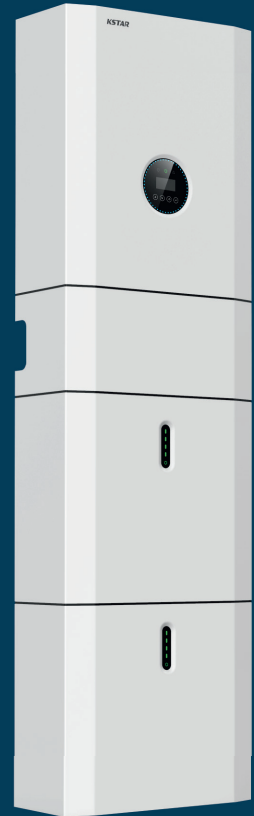
HYBRID  
INVERTER

The KSTAR All-In-One 3 Phase 10 kW inverter and 10 kWh battery is one of the most unique products on the current market. It allows for up to 200% oversizing allowing a 20kWp system to be applied which is hugely beneficial for the Irish climate. It also has the benefit of using CATL batteries, which have a cycle lifetime of >10,000 cycles, almost twice the lifespan of other batteries. Its aesthetic look allows it to slot into any commercial environment with minimal fuss. This all-in-one system also complies with ESB Networks regulations.



**KSTAR**

Distributor  
for Ireland & UK





# Pro Line Range

## What We Offer!

- › German made
- › 10 year warranty
- › Lightweight aluminium
- › Stainless steel materials
- › Bespoke design for each application
- › Allowance for various loads wind/rain/snow

## Roof Mounting Panel

- › Slate
- › Tile
- › Flat
- › Trapeze

## Ground Mounting

Our ground mounted system is designed for small solar projects. The high quality support construction guarantees a high corrosion resistance. The mounting system allows three different types of ground foundation and different solar module sizes.

- › Stainless steel and aluminum components
- › Domestic and commercial use
- › Portrait or landscape mounting
- › Corrosion resistance

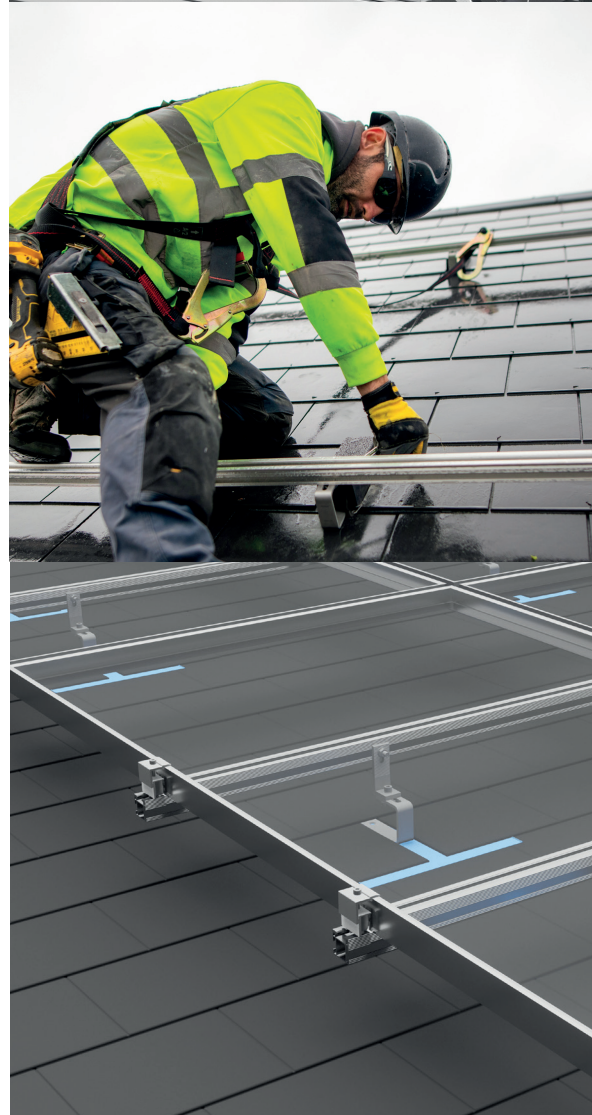
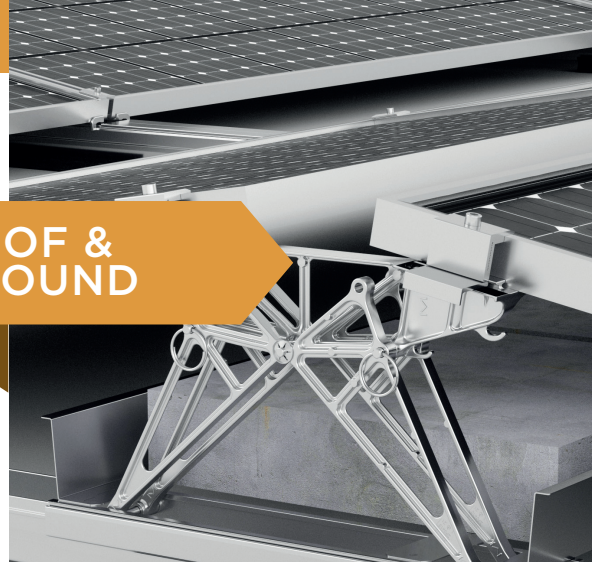


mounting  
systems

Exclusive Distributor  
for Ireland & UK



ROOF &  
GROUND



# EPS Wall Mounted

WALL  
MOUNTED

## 7kW EV Charger

- › Single phase
- › Type 2 charging gun
- › User-friendly app
- › WIFI Enabled
- › Compatible with all European EVs
- › 2 year warranty

## 11 kW EV Charger

- › 3 phase supply
- › Type 2 charging gun
- › User-friendly app
- › WIFI enabled
- › Compatible with all European EVs
- › 2 year warranty

## 44 kW EV Charger (2x 22kW)

- › 3 phase supply
- › 2 x Type 2 charging guns
- › User-friendly app
- › WIFI enabled
- › Compatible with all European EVs
- › 2 year warranty
- › Security user card





# EPS

## Floor Mounted

FLOOR  
MOUNTED

### 22 kW EV Charger (2x 11kW)

- › 3 phase supply
- › 2 x Type 2 charging guns
- › User-friendly app
- › WIFI enabled
- › Compatible with all European EVs
- › 2 year warranty
- Security user card

### 44 kW EV Charger (2x 22kW)

- › 3 phase supply
- › 2 x Type 2 charging guns
- › User-friendly app
- › WIFI enabled
- › Compatible with all European EVs
- › 2 year warranty
- › Security user card

**NOTE:** Chargers up to 250kW available on request.





# Livoltek Wall Mounted

WALL  
MOUNTED

## 7.3 kW Domestic Charger

- › Single phase supply
- › Type 2 charging gun
- › WIFI enabled
- › Compatible with all European EVs
- › 2 year warranty

## 22 kW Commercial Charger

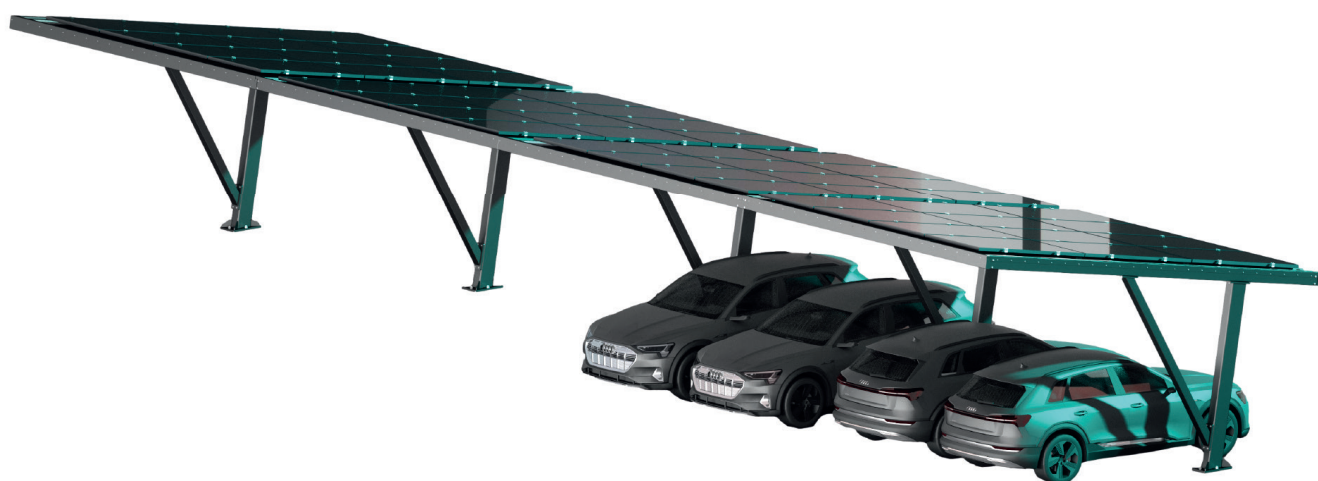
- › 3 phase supply
- › Type 2 charging gun
- › User-friendly app
- › WIFI enabled
- › Compatible with all European EVs
- › 2 year warranty



# Solar Structures /Car Ports

Solar car ports or solar structures are an innovative way to maximise the use of existing space for the provision of PV solar solutions for domestic or commercial use. Any solar structure design can be robust and optimised to ensure maximum power

generation for all sites. In addition to roof space, the option of utilising free space over car parking areas, patios, sports grounds and supermarkets can provide the ideal opportunity for a solar installation.



# Don't just take our word for it...

*I wanted to go solar, but despite the grants, it was just too expensive. When I heard about EPS' Employee Solar Incentive Scheme, I couldn't get over the savings. We got the exact same spec system we were looking at previously for almost half the cost. It was a no-brainer!*

**Katie Fitzgerald, Abbeyfeale**

*We're delighted to be one of EPS' installation partners, they have sourced affordable, high quality products and our customers are extremely happy with the results.*

**North Cork Electrical, Mallow**

*Through the professional support & advice from the team at EPS, combined with the exceptional value for money, we were finally able to install solar. With production rates currently exceeding our consumption we are generating credits to offset the bills throughout the winter months.*

**Lillian Walsh, Mountcollins**

*I am so delighted that EPS has been supporting us to go solar through the Employee Solar Scheme program and offering premium-quality solar equipment at a very affordable price available for us. I am happy to see the savings on energy bills.*

**John Healy, Carragraigue**

*It's a good investment and yet a better alternative against rising electricity costs. It doesn't require much maintenance and the compact All-in-One (Inverter +Battery) looks so sleek and aesthetic that it didn't bother me placing it inside the house.*

**Tadgh Mullane, Ballymacmurragh**

*I have high energy consumption and going solar was my ultimate option. When EPS released the Employee Solar scheme, I signed up right away! Not only am I reducing the carbon emissions, but the best part is - it reduced my electricity bills significantly.*

**Eugene Lynes, Glanycummane Lower**

*I couldn't be happier by going solar, especially when I received my payback, and I got 100% free electricity! I am delighted that EPS has offered an Employee Solar Scheme programme, making going solar affordable for us.*

**John O'Brien, Ballard**

*As a customer of EPS, I was able to avail of their Solar PV Incentive Scheme and got a hugely discounted price for my PV system, while not compromising on the quality of course. The app used with the system is great and I can already see how much money I am saving!*

**Mary Murphy, Abbeyfeale**



# Installation Partners

EPS, with our official installation partners, provides premium Solar PV equipment exclusively to our employees, customers and partners nationwide, through our PV incentive scheme.

Nearing 100+ installations and supported by SEAI accredited installation partners & One Stop Shops, the scheme is delivered to the highest quality standards.



**gosolar**.ie

**NCE**  
NORTH CORK ELECTRICAL

 **ASEI**  
ALL SOLAR ENERGIES IRELAND

 **ashgrove**  
renewables  
One Stop Shop

**F4**  
energy

**Laltec**  
ELECTRICAL & PV SOLAR

 **EnviroBead**  
INSULATION SYSTEMS

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Rethinking Energy

