



# Solar Together

Solar PV & Battery Storage Information Pack

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# 1. About Solar Together

Solar Together is built on the belief that together we can achieve more, and key to this is collaboration between multiple parties: the winning installer, the manufacturer of the products, the participating councils and iChoosr. And of course, you! You can find out more about each party that is involved in this document.

## The winning installer

In the Solar Together auction, qualified installers competed, bidding to offer the most competitive price to the group of customers in your region. These installers have all passed a thorough qualification process and due diligence assessment. They have demonstrated they can deliver a high volume of high-quality installations and that their products and workmanship can comply with our predefined quality requirements.

The winning installer of the auction is the one with the most competitive price per installed solar photovoltaic (PV) system and this sets the price for all solar PV systems in the Solar Together scheme. The winning installer submitted their winning offer in the auction that took place on 23 March 2021. You can find more information about them in the document “About The Installer”.

After accepting your personal recommendation, you will have a contract with the winning installer, who will be your first point of contact for anything to do with your installed solar PV system. However, Solar Together will always remain available for help. We will mediate between you and the installer in order to come to a solution if necessary.

## The manufacturers of the products

The solar panels, the inverter and the mounting materials that are necessary to install your solar panels, may come from different manufacturers. In order to ensure the same high-quality standard across these different materials, Solar Together has set strict conditions for the manufacturers of these materials. Solar Together ensures that participating installers select their choice of solar panels from those known as the Silicon Module Super League (SMSL). This is a group of leading solar panel companies who deliver state-of-the-art panels to solar PV installers worldwide. For more information, please check page 15 about ‘Quality and warranties’.



## The councils

Local authorities have teamed up with iChoosr to organise this innovative scheme for homeowners as well as small and medium-sized enterprises (SMEs). Solar Together helps residents find a trustworthy installer and get a competitive price for a solar PV installation, as well as helping towards local plans to reduce carbon emissions.

## The organiser of the group-buying scheme: iChoosr

iChoosr is an independent group-buying specialist who has been organising schemes since 2008. They are known in the UK for working with councils to deliver energy switching schemes since 2013 and Solar Together schemes since 2015. Over seven million registrants from five different countries have participated in iChoosr's group-buying schemes for numerous products and services.

iChoosr has launched 58 group-buying schemes for solar panels since 2012. To date, almost 1 million solar panels have been installed for 90,000 households. In total, that makes for 374 MW of sustainable energy that is being generated every year. For more information about iChoosr, you can always visit [www.ichoosr.co.uk](http://www.ichoosr.co.uk)



## 2. After accepting your personal recommendation

1. After accepting the personal recommendation, you will be redirected to the online payment environment called Buckaroo, where you will be asked to pay a conditionally refundable deposit of £150 to our third-party account.
2. By accepting the personal recommendation and paying the deposit, you are agreeing to become a customer of the winning installer and to go ahead with your installation subject to a survey. You will be able to review the installer's terms and conditions for Solar Together before you accept, and you will receive a confirmation email which will include a copy of the terms and conditions of the installer and the product specifications for your installation. Other informative documents will remain available on the website. You will receive a link to this page in your confirmation email.
3. When Solar Together successfully receives your deposit payment, they will send your registration details to the winning installer. The winning installer will send you a welcome message within five working days.

### Preparing for your installation

Once your registration details have been exported to the installer, they will be your first point of contact. Solar Together will monitor the process of the installation and will always be available if you need our help.

### Survey of the roof

4. After you receive the welcome message from the installer, they will get in touch with you to arrange a date for the on-site roof survey. Please be aware that it may take a few months before the installer contacts you to make this appointment. Prior to your on-site roof survey, the installer will also carry out a remote, desk-based survey.
5. During the roof survey, qualified professionals will visit your home and evaluate how many solar panels will fit onto your roof. Moreover, the orientation of the available roof space, the pitch of the roof, shade factors, roof strength and so on will be taken into account. The survey will clarify whether there are any exceptional situations that could lead to additional costs. You can find out more information about this on page 22 about 'Additional costs'.





## Does the recommended number of solar panels fit on your roof?

6. In your personal recommendation, you see a suggestion of the number of solar panels for your house. Based on the surveys, the installer will assess whether this number is correct or not. There are four different options after the roof survey:

- a. The recommended number of solar panels fits on your roof. You receive the survey report and you can arrange a date for the installation.
- b. A higher number of solar panels can fit on your roof. You want to proceed with a larger system, in which case the installer will adjust your contract accordingly. Your contract will be based on the price per panel that was agreed in the auction. The prices for all packages are included in the product specifications and are also available on our website. You can then decide if you accept the changes to the contract.
- c. Fewer solar panels fit on your roof. A smaller system may still be a good investment and the installer will provide you with a new version of the calculated benefits of the installation and adjust your contract accordingly. Your contract will be based on the price per panel that was agreed in the auction. The prices for all packages are available on our website. You can then decide if you accept the changes to the contract.
- d. The number of solar panels differs from the recommended number and you do not wish to proceed with an adjusted contract. The contract with the installer will be cancelled and your deposit will be fully refunded.

7. After the survey you will receive a complete report with:

- a. The product specifications and recommended design of your solar PV system.
- b. An illustration of how the solar PV system will be placed on the roof.
- c. Any adjustments in the number of solar panels or any expected additional costs and an updated calculation of the benefits of the system.
- d. Any adjusted pricings (due to factors that lead to custom work or a changed number of solar panels – you decide if you accept the changed contract).

The date of your installation will then be arranged. Due to logistical advantages, the installer may group installations according to postcodes. Therefore, we cannot provide you with a specific date on which your installation will take place at this stage. We have agreed with the installer that the installation will take place before the end of October 2021. Please be aware that due to the large volume of installations that result from the Solar Together group-buying scheme, it may be several months before your installation will take place. By taking advantage of the group buying scheme's significant price discounts, we ask homeowners to be flexible in accepting the dates for the roof survey and installation as provided by the installer.



## What if the recommended number of solar panels does not fit?

If the solar PV system does not fit on your roof or the installer cannot continue with the installation, the installer will cancel your contract and iChoosr will refund the £150 deposit to your bank account. The following situations are viable reasons for not continuing with the installation:

- the system does not fit on the roof physically;
- it is dangerous to place the system, e.g. because the solar panels are a risk to your roof;
- additional costs are needed to place the system (and you don't agree);
- the roof's orientation turns out to be unfavourable;
- your roof is too shaded to deliver a decent yield, which is estimated at a minimum of 70% of the system's Wattpeak;
- your roof contains asbestos.

## What happens if you cancel the contract?

The offer can be cancelled up to 14 days after accepting your personal recommendation, without any reason, as part of the legal cooling-off period. You can also cancel if the solar PV system does not fit on your roof, as described in the situations mentioned above. In case the installer provides you with an amended offer, a new 14 day cooling-off period starts. For more information about the agreements regarding cancellation and the refunding of your deposit, please have a look at page 9 to read more about our 'Deposit Refund Conditions'.

## Installation of your solar PV system

8. Certified installers will carry out the installation of the complete solar PV system, after which you will generate your own electricity. You will find some extra information about the installation process on the next page.

9. After the installation, the installer will ask you to sign a "satisfaction note" to confirm that you have received the commissioned installation.

10. After the installation of the solar PV system, the installer will provide you with the final invoice. This invoice will consist of the total price of the installation, minus your deposit of £150. Solar Together will check these invoices.



## Extra information about the installation

### Work description

Solar Together ensures that the winning installer's installation complies with the Guide to the Installation of Photovoltaic Systems (2012) from MCS. Moreover, the installer must follow the safety measures that are set for solar PV installations under the regulations in the UK (e.g. Engineering Recommendation G98 and G99). Full details on these requirements are available on request from the Solar Together help desk.

### Installation of the solar panels

On pitched roofs, the solar PV system will be fitted directly on to the roof. This means that the system will be installed on top of the tiles or other roofing materials by using roof anchors, mounting rails and clamps. The mounting rails are fixed to the roof anchors by using a locking system and the panels are then fixed to the mounting rails with clamps.

On a flat roof, the solar panels will be installed in frames at an angle of approximately 15 degrees facing south. The frames that hold the panels will be weighted with ballast (e.g. tiles) to keep the system in place. Please note that it is very likely you will need to obtain planning permission for a solar PV system on a flat roof.

### Installation of the inverter

The inverter is normally installed close to the solar PV system. This is most often the loft space. It can however be installed in a linked garage as well. There should be adequate ventilation in whichever room the inverter is placed. During the survey you can discuss where to put the inverter, together with the installer.

### Cabling

To install the solar PV system, two cables are needed: one cable goes from the solar panels to the inverter and another cable from the inverter to the consumer unit. These cables will be mounted with special cable conduit or cable duct on the wall. The installer will use as little cabling as possible and this will not cause any disruption to your home.

### Consumer unit (fuse board)

For installing the solar PV system, a circuit breaker is needed in the consumer unit. If your consumer unit is not yet equipped with a circuit breaker, the installer will install an additional circuit breaker, free of charge. However, if your consumer unit does not comply with the current regulations in the UK, the electrician will ask you if you agree to adjust your consumer unit.

In the survey report, the installer will inform you about any additional costs. If you decide that you do not want any adjustments to your consumer unit, the installer cannot install the solar PV system. You can decide to have your consumer unit fixed by another electrician of your choice. This work should be done before the installer starts their work on the installation of the panels.





# 3. Deposit refund conditions

If you accept your personal recommendation, you will be asked to pay a conditionally refundable £150 deposit, which is stored in a third-party account managed by iChoosr. When your installation is completed, this deposit payment is deducted from your final invoice for the solar PV installation and released to the installer.

If the agreement (i.e. the contract / installation) is cancelled, the deposit may be refundable subject to the conditions and criteria listed below.

## **You will get a full deposit refund if:**

- you cancel the agreement before the roof survey is carried out, regardless of the reason for cancelling;
- you cancel because you did not obtain the necessary planning permission for your installation (in this case, cancellation needs to happen up to 5 days before the installation);
- you cancel because you were not granted a personal loan for which you applied prior to accepting the offer (in this case, cancellation needs to happen up to 5 days before the installation);
- the installation has to be cancelled for one of the following reasons:
  1. the system does not physically fit on the roof;
  2. it would be a mistake to install the system, for example because the solar panels pose a risk to the roof;
  3. custom work or unforeseen additional costs are required to successfully install the system, and you do not agree to this;
  4. the roof's orientation turns out to be unfavourable;
  5. there is too much shade on the roof, meaning the system would not be able to live up to the expected generation;
  6. the roof contains asbestos.



## You will get no deposit refund if:

- the installation of the solar panels has already been completed and signed off;
- you cancel the agreement without a valid reason (as outlined above), and the on-site roof survey has already been carried out (you will receive the survey report as proof of the service that was provided);
- the on-site roof survey has been carried out, and the installation is cancelled by the supplier because the customer was unresponsive despite multiple attempts to make appointments or discuss arrangements regarding the installation.

## Some examples of non-valid reasons for cancelling are the following:

- You want to cancel the agreement, even though the contract remains unchanged after the roof survey - i.e. the “original” offer is suitable for your roof.
- When you request additional (non-mandatory) components like a battery or bird protection, this is added to the original contract as an additional order. You have the right to cancel on the extras, but then the original contract still stands. If you then also want to cancel the original contract, this would be regarded as a non-valid reason for cancelling.



# 4. Installation guide

In the following months, professional and certified installers will carry out the installation of your solar PV system. We have already made a list with some guidelines that you might want to take into account when thinking about your installation. Keep in mind that once the installation is finished, the installer will discuss and check a number of important points with you, which will be summarised in the sign-off document. The sign-off document will contain the details of the solar PV installation and relevant documents.

## 1. Is your house easily accessible?

During the installation, the installer will need to access your roof, your electricity meter and the space where the inverter of your solar PV system will be installed.

## 2. Is someone present to sign off the installation?

Please keep in mind that on the day of the installation, someone who is authorised to sign off the installation of the solar PV system should be present at your property.

## 3. Scaffolding

If scaffolding is needed during the installation of your solar PV system, this might be put up a few days before the installation day. The scaffolding may also stay up a number of days after the installation to allow our scheme-appointed inspector to access the roof.

## 4. The inspection

Approximately one in 25 installations will be assessed by our independent scheme inspectors. These inspectors will need to access your roof but will fully identify themselves. If an inspection is to be carried out on your installation, you will be contacted in advance with a request to perform the inspection. The installers may also take photos of the installation and the cabling involved to support remote inspections that also form part of our quality checks.

### **5. Do the solar panels extend to the edge of the roof?**

The solar panels should be placed well within the confines of the roof surface, on both flat and pitched roofs.

### **6. Does the colour of the solar panels look even?**

There should be no colour differences between the various solar panels.

### **7. Are the panels being installed in a safe manner?**

The installers follow strict safety measures and will report to their supervisor if they believe the environment is unsafe to install.

### **8. Did the installer work neatly and are the solar panels clean?**

Remains of packaging or used materials should not be left behind at the property.

### **10. In case of damage, has this been resolved in the sign-off document?**

In some rare cases, it is possible that minor damage may be caused to the roof. It is very important that if this happens, this damage is fixed and settled with you, by means of clear agreements on the final sign-off document.

### **11. Does the in-home monitoring tool work immediately after the installation or is a manual provided?**

The in-home monitoring tool allows you to check how much electricity your solar panels generate. For proper functioning of the monitoring tool, it is necessary to have a good WiFi connection. You will also need your WiFi network name and password at hand, as part of its set-up. Without it, the installer may need to provide you with a manual on how to connect the tool yourself at a later point. If you have problems with setting up the in-home monitoring you will need to contact the installer.

#### **Do you have any questions or need advice?**

Our customer service team is available Monday to Friday, from 8:00 am to 5:00 pm. You can use the contact form on the website to send us an email or call the 0800 free phone number, which is shown in the contact block on the website.



# 5. Service and maintenance

## Service

Once you have accepted your personal recommendation, the installer will receive your registration details and you become one of their customers. As soon as they have sent you their welcome message, they are your first point of contact when you have questions about your solar PV system. If you believe your solar panels are not working properly, you should contact the installer. They will answer your questions and investigate the problem if necessary.

Solar Together will always remain available to mediate between you and the installer, in case you cannot come to a solution by contacting them directly.

The winning installer has made the following agreements with Solar Together:

- They will respond within two working days after you notified them that your solar PV system does not work properly.
- They guarantee, if reasonably possible, to repair the solar PV system (in accordance with the 'Quality and Warranties', see page 15) within 10 working days after you notified them that your solar PV system does not work properly.

## Maintenance

The Solar Together offer includes an in-home monitoring solution. With this tool you can check how much electricity the solar panels on your roof produce on a daily basis as well as your panels' complete generation history.

The monitoring tool can be connected to a personal device like a smartphone or (tablet) computer through WiFi or a cable. Monitoring is a required and very useful solution as it allows you to verify if your solar panels are working correctly.

There are a few things to keep in mind to optimise the performance of your solar panels:

- When the inverter is processing the sunlight into electricity, it will give off heat so it needs enough space to lose this heat. It is therefore important that the inverter is installed somewhere with sufficient space for ventilation. The majority of inverters are fixed in lofts. We also recommend that you keep the inverter free from any surrounding storage.
- Normally, it is not necessary to clean your solar panels. There's plenty of regular rainfall all year round in the UK to keep your solar panels clean. If you want to clean your solar panels, it is best to use distilled water. You could also ask a professional cleaner for their services. Window cleaners have started to include solar panel cleaning in their services as well, since they usually have the specialist equipment to clean them without needing to climb on the roof. Do not use regular cleaning products as they can damage your solar panels.
- Birds might build nests under your panels. More often than not, the solar panels become too hot and the nests will be empty. However, you could perform a yearly check to see if there are nests being built and remove them. During the roof survey, the installer will carry out basic checks to determine whether your roof is often visited by birds. In the event this issue is evident, they will highly recommend the use of bird netting. This can be installed alongside your solar panels at an extra cost, which the installer will inform you about.



# 6. Quality and warranties

The winning installer is obliged to comply with the fixed conditions and guarantees that are set by the Solar Together group-buying scheme.

## Product Quality Conditions

In order to ensure the quality of the solar panels that are offered by the winning installer, we have asked them to select their choice of solar panels from those known as the Silicon Module Super League (SMSL). This is a group of leading solar panel companies who deliver state-of-the-art panels to solar PV installers worldwide.

### The solar panels:

- comply with the MCS005 quality standards
- comply with international standards for quality (IEC 61215, IEC 61730)
- carry a CE mark (demonstrating conformity with EU safety, health and environmental requirements)
- have a module-efficiency of at least 18.1%
- are supported by a worldwide recycle scheme like PV-Cycle
- minimum product warranty of 12 years

### The inverters:

- comply with the Engineering Recommendation G98 / G99 (as applicable)
- meet European efficiency of at least 94% (as defined by BS EN 50530)
- comply with international standards for quality (EN 50524)
- carry a CE mark (demonstrating conformity with EU safety, health and environmental requirements)
- are supplied with a monitoring solution, enabling residents easy access to generation data

### Mounting materials:

- mounting equipment for pitched roof installations conforms to MCS012 quality standards

### The power diverter:

- has a product warranty of 2 years



## The battery storage system:

- has an expected service life (e.g. guaranteed duty cycles) of more than 4,500 cycles at 60% rated capacity or the equivalent 10-year warranty
- has more than 89% efficiency for battery charging and discharging
- has system round-trip efficiency at 25°C as defined by BS EN 62933-2 (>90%)
- complies with Building Regulations; CE Marking Directive; Health and Safety Regulations; Waste Batteries and Accumulators Regulations; Electrical Waste and Electronic Equipment (safety) Regulations

## Installer Quality Conditions

Solar Together has set up strict qualification requirements, which installers must meet before they can participate in the auction. Part of these requirements is the quality of the installation and of the materials used. Installers that participate in the auction have declared that their products meet the required standards. By accepting the standards we defined, installers have to offer brands of high quality:

- the installer is certified according to the Microgeneration Certification Scheme (MCS)
- the installer is certified according to Renewable Energy Consumer Code (RECC) or Home Insulation & Energy Systems Contractors Scheme (HIES)
- the installation of the solar panels complies with all standard electrical and engineering practices
- the installer passed a due diligence procedure, which qualifies them as a capable and reputable company

## Warranties

Solar Together demands a minimum set of warranties that have to be offered by the participating installers and the manufacturers. These warranties include:

### 1. Workmanship Warranty

This warranty is valid for 10 years. With the workmanship warranty, the workmanship regarding the correct functioning of the various system components such as solar panels, inverters, mounting material and other materials is guaranteed. The installer guarantees the correct operation of the entire system, and ensures a cost-free repair if the system does not operate correctly due to bad workmanship.

This workmanship warranty is safeguarded by an Insurance Backed Guarantee, which means an insurer will take over the warranty in the event that installer ceases to trade in the future.

### 2. Product Warranty on the solar panels, inverter and mounting materials

The solar panels, inverter and mounting materials all have a product warranty of at least 10 years. If a solar panel or inverter is not working correctly, the product will be replaced by an identical or at least equivalent product.

Registrants should note that the lifespan of the materials varies: panels are known to last 25 to 30 years, but an inverter likely needs to be renewed after about 13 years. The cost for this replacement is likely to be around £350 for a 10 panel system, and twice as much for double the size. We believe it is safe to assume this cost will be even lower after 13 years.

### 3. Warranty on power output

Just like other electrical appliances, the total amount of power output of the solar panels will decrease over the years. However, this regression is subject to certain limits. The warranty on the power output of the solar panels guarantees a power output of 90% of its maximum in the first 10 years, and a power output of 80% of its maximum in the next 15 years.

This applies to the power output of the solar panel under standard test conditions. This power output is expressed in Watt-peak (Wp). A solar panel of 300 Wp still needs to have a power output of 240 Wp after 24 years. The warranty on power output only applies when the power output is lower than expected and this isn't caused by a defect in the materials other than the cells. A defect of the materials falls under the Product Warranty.

If the solar panels do not function as they should within the period of the warranty, the customer will be compensated accordingly. Please be aware that the generated kilowatt-hours (kWh), your earnings and your savings are not guaranteed by the installer.

There are external factors such as the annual hours of sunlight, electricity prices and the influence of shade that cannot be taken into account by the installer. Included in your solar PV system is a monitoring device. With this device you can monitor the generation of the system via your personal computer, laptop, tablet or smartphone. If you believe that the generation of your solar PV system is lower than expected, please contact the installer.

### Inspection of installations

An independent and specialised third party will thoroughly audit about one in every 25 installations. These audits will include at least:

- a basic mechanical check
- a basic electrical check
- inverter mounting and security check

For this scheme, iChoosr has contracted industry experts to undertake the inspections. If an inspection is to be carried out on your installation, you will be contacted in advance with a request to perform the inspection.

The winning installer promises to take care of:

- a professional installation by qualified, trained and certified personnel;
- an electronic connection compliant with the relevant regulations;
- an installation compliant with the relevant regulations;
- the required safety measurements;
- quick response times in case of complaints and problems (see 'Service and Maintenance', on page 13 for more information).

After the installation you will receive an invoice from the installer (total price minus the £150 deposit). Important: please save the invoice as it functions as your warranty.

If the installer needs to replace a product when the solar PV system does not function correctly, they will not charge you for the material costs but can charge you for man-hours that are necessary to repair the solar PV system. Replacement of the product will not lead to an extension of your warranties. The original warranty period remains applicable.

Your claim for warranty can be denied in case of improper use, poor maintenance or extreme conditions. If you make modifications to the solar PV system yourself, the warranty will be void. We recommend you read the Terms and Conditions of the installer.

The manufacturer of the solar panels limits the warranties in situations of extreme weather. Damages due to weather conditions are normally covered by your home insurance.

# 7. Savings and earnings

## How much electricity will you generate?

Just like other electrical appliances, electricity generated by a solar PV system is measured in kilowatt hours (kWh). The maximum power output in standard test conditions is expressed as Watt-peak (Wp).

The product requirements for solar panels in Solar Together schemes specify that installers must offer panels that have a maximum power output of at least 330 Wp. This means that in ideal conditions, one solar panel would produce approximately 330 kWh per year. However, in the UK panels typically produce a slightly smaller amount of electricity. The panels offered by your winning installer may be higher than 330 Wp, you can find detailed information about them in the document 'Product Specifications'

The panels offered by Solar Together are mono-crystalline panels, also known as high-performance panels, and generate more electricity than poly-crystalline panels. High-performance panels are ideal for people with smaller roofs who want to maximise the electricity they can generate with their installation.

Annually, a solar PV system installed in the UK will generate approximately 90% of its Watt-peak power. In the Solar Together package, a 16-panel system has a maximum output of 5,280 Wp, but will produce approximately 4,750 kWh. We use the official MCS datasheets to calculate the output of the solar panel system, based on the information you provided in the registration. It is worth noting that in southern regions in the UK generation can go up to and above 100% of Wp power [in kWh] if the roof is south facing.

On every rooftop the total amount of generated electricity will differ. Ideally, a solar panel should be placed in a location that is south-facing and shade-free. A solar panel produces the most electricity at an angle of 30-35 degrees on an inclined roof. If a roof is flat, solar panels will be placed in an angle of approximately 15 degrees. This will slightly decrease the output, but this construction needs less ballast and will result in more available roof space for a higher number of solar panels.





## How will you save and earn money with the solar PV system?

Solar panels only generate electricity when there is daylight. This means you will be able to use the solar-generated electricity directly during the daytime, rather than having to import it from the grid. The more you use your electricity during the day, rather than at night, the more you will increase the savings on your energy bill. Every kWh of electricity that you use from your solar panels is a kWh you don't have to pay to your energy supplier.

This means that in order to maximise the benefit from installing solar panels, you should look for ways to decrease the amount of electricity you use at night and thus import from the grid. Instead, we advise you to use your electricity during the day as much as possible.

### How to increase your daytime electricity usage:

The average consumer can use up to 45% of their total electricity consumption during the daytime. Reaching or even increasing that percentage, and thereby making the investment in solar panels more beneficial, is a matter of changing your usage habits. Here are some tips on how to increase your daytime electricity usage:

- schedule the use of home appliances during the day instead of the evening;
- try to run high-wattage appliances on sunny days instead of cloudy ones;
- schedule high-wattage appliances like washing machines and dishwashers to run during the day;
- recharge electrical devices during the day;
- where it is unavoidable to use some appliances at night, such as lights, you may wish to replace high-wattage spotlights with warm white LED lights.

## Including additional devices in your solar PV package

### Power diverter

Another way you can increase your self-consumption is by adding a power diverter to your solar PV package. A diverter is a device that detects when your solar PV system is exporting electricity to the grid and will divert the generated energy to heat the water in your immersion heater. This means you will consume more electricity from your system, and thereby increase your overall savings.

### Battery storage

Regardless of the measures you take to maximise self-consumption it is likely that there will be times when you generate more electricity than you need, with the surplus being exported to the grid.

Battery storage saves the unused energy that is generated by your solar panels, meaning you can use the solar generated energy whenever you want, instead of only during the day. This would allow you to use the energy generated during the day in the evening, when you're watching television or turning on the dishwasher instead of drawing electricity from the grid via your supplier.

Your personal recommendation will include information about the benefits of adding battery storage to your solar panel system, so you can see how much additional solar energy you would be able to use by adding a battery.

Fitting battery storage is not just a way of increasing the amount of your self-generated energy you can use, for many this is a further step towards becoming less dependent on grid electricity suppliers, whilst at the same time reducing your carbon footprint.

### If you opted for an EV charge point consultation

The installer will discuss your requirements as part of the survey process, and you will receive a separate quote so you can decide if you want to go ahead with an EV charge point installation as part of your solar installation.

## Exporting electricity to the grid

All medium and large energy suppliers are required to offer tariffs that pay you for the energy you export to the grid from your solar PV system. This payment is called the Smart Export Guarantee (SEG) and applies to all electricity companies with more than 150,000 customers.

All Solar Together installations are certified Microgeneration Certification Scheme (MCS) as standard. This means your Solar Together installation will meet the requirements to apply for SEG tariffs so you can sign up and start earning as quickly as possible.

Energy suppliers are allowed to set their own SEG prices. These prices must be higher than zero, and they can be variable similar to variable gas and electricity rates. To apply for the SEG, you do not necessarily need to buy your electricity from that supplier. Instead, you are free to choose from any supplier that offers this.

In order to be eligible to receive payments under a SEG export tariff, you need a meter capable of taking half-hourly measurements, most energy suppliers will suggest a Smart Meter installation if you don't have one already. Please note that if you do have a Smart Meter, not all currently available Smart Meters allow you to switch to another supplier without losing functionality.

If you have a battery you could take advantage of variable export tariffs which would allow you to store energy and export it to the grid at peak times and get paid a higher rate.

If you decide not to take a battery you could still benefit from your excess energy by exporting to the grid and getting paid by energy suppliers through an export tariff.

## 8. Additional costs

When installing solar panels or battery storage there are some scenarios where it is necessary for non-standard elements that may require additional costs. In this document we describe the scenarios, their impact and the consequence. Some of these additional costs may already have been identified as likely and added to your personal recommendation, based on your registration details. If a survey shows these costs are not needed, these costs will be removed and you will not be charged.

We also list some costs for additions to your system that you may want to consider but are not strictly necessary to install the system. It is always allowed to order more panels or other extras. All costs mentioned include VAT.

If additional costs are required in order to safely install the solar PV system you will receive a revised contract from the supplier after the survey of your roof. If additional costs are necessary to install the system and you were not made aware of this possibility when accepting your offer, you will have the right to cancel and receive a refund for your deposit. If the supplier cancels the contract due to one of the situations described below, your deposit will be refunded.

### **DISCLAIMER**

In this document we mention the most common scenarios leading to additional costs or making the installation of the solar PV system impossible. Be aware that this document does not cover every possible scenario.

Situation	What is the impact?	What will happen?
You have a roof with: <ul style="list-style-type: none"> <li>- Slates;</li> <li>- Plain or rosemary clay tiles;</li> <li>- Corrugated steel;</li> <li>- Seams (e.g. Calzip);</li> <li>- Torching, mason or lime mortar behind the tiles or slates;</li> <li>- Bolted tiles;</li> <li>- Insulation sprayed tiles/slates.</li> </ul>	On some types of roofing the work involved or special mounting material needed may lead to additional costs.	After the survey of the roof you will receive a report of the survey including the additional costs. You then decide again if you are still interested in the recommendation.  Installing panels on a slate roof or rosemary tiled roof will come at an extra cost of £20 per panel.
You have a roof with: <ul style="list-style-type: none"> <li>- Sedum (eco-roofs);</li> <li>- Zinc;</li> <li>- A rounded surface;</li> <li>- An overlaid roof;</li> <li>- Insulation on the outside (soft roof);</li> <li>- With bitumen, EPDM or mastic with an inclination of more than 5 degrees.</li> </ul>	Most likely the supplier cannot install solar panels on these types of roof material.	If the supplier cannot provide you with a revised contract, your contract will be cancelled.
Your roof material is glass, thatch or contains asbestos.	It is impossible to install solar panels on these types of roof.	Your contract will be cancelled. Please note: after you have the asbestos removed, your roof is suitable for installing solar panels.
You want solar panels installed on multiple rooftops.	The string inverter cannot cope with a split of smaller systems, an uneven split over multiple roofs, or differences in orientation and pitch.	The installer will probably need to look at a different inverter solution to support you. After the survey of the roof you will receive a revised contract. Also, extra costs will be attributed for erecting scaffold at multiple sides of your home. (see further in document)

Situation	What is the impact?	What will happen?
<p>You need planning permission</p>	<p>Solar panels cannot be installed on a building that sits within the grounds of a listed building.</p> <p>Planning permission is required:</p> <ul style="list-style-type: none"> <li>· For Residential Solar PV if the property in question is in a conservation area. Costs differ per Local Authority but can be considerable. Typically costs include a Local Authority fee and planning consultant fee.</li> <li>· For commercial property, a prior approval application is required as standard.</li> <li>· For non-standard commercial property installs, a planning permission may involve additional costs for you. These costs vary per Council. Get in touch with your Council for more information.</li> </ul> <p>Typically, 7-12 weeks are required for application preparation and Local Authority planning application processing.</p> <p>The requirement for planning permission for solar PV installation on flat roofs will vary by Local Authority and will depend on a number of factors including whether the modules can be seen over the top of a parapet wall.</p>	<p>A planning application may involve additional cost for you. These costs vary per Council. Ask your Council for more information.</p> <p>You can accept the recommendation conditionally, depending on whether permission is granted or not. This is detailed in the Terms and Conditions that come with the contract once you accept the personal recommendation. It may take some time before you receive permission. Your installation date will be planned after you receive the permission.</p> <p>If you notify the installer that you are accepting the recommendation subject to planning permission being granted, and the permission is not granted, you can cancel and receive a refund for your deposit.</p>



Situation	What is the impact?	What will happen?
You want solar panels on the roof of a separate building instead of the main building where the consumer unit is situated.	To install the solar PV system, you might need an additional consumer unit, and/or a reconfigured consumer unit. The cost of trenching and extra cable per meter will depend on whether there is a soft or hard surface to work through, e.g. lawn or tarmac.	After the survey of the property, the installer may agree to provide a revised contract along with the report of the survey.
You have a roof, which is unfelted, very old or fragile.	There is a heightened risk of your roof being severely damaged during the installation or the installation will cause leakages.	After the survey of the roof you will receive a report of the survey. The supplier will inform you and will ask you to reconsider installing the solar panels on the roof, as he will not bear the risk. When you insist to have the solar PV system installed, the supplier might ask you to sign a waiver for potential damages to the property.
Your property has three stories or more, a flat roof, or needs multi-side or complex scaffolding (e.g. a conservatory blocking standard scaffolding).	Additional safety measures are needed for installation Additional ballast or anchors are needed for wind conditions Potentially a specialist needs to investigate the construction of the roof.	After the survey of the roof you will receive an revised contract along with the report of the survey. If you do not wish to accept the revised contractor your contract will be cancelled and your deposit will be refunded in full. Extra cost elements: - One additional elevation of scaffolding above 2 stories (one side): £250 - Additional full scaffolding for extra side of the house: £400 - Transport of scaffolding through the house: £100 - Beam over conservatory: £100

Situation	What is the impact?	What will happen?
The consumer unit does not comply with regulations.	If your consumer unit is not compliant with regulations, it will need to be adjusted by the installed in order to expand the consumer unit for your solar PV system.	After the survey you will receive a revised contract along with the report of the survey. You may choose to have an electrician repair your consumer unit before the supplier installs the solar PV system.
Connection to the network may be impossible.	<p>Installing a Solar PV System and connecting it to the network may not be allowed. Your District Network Operator (DNO) determines this. A study may be required.</p> <p>Typically, Solar PV systems sized over ~12 modules, and on single phase 16A electricity supply, or ~35 modules on 3-phase electricity supply will need a G99 DNO permission.</p>	The appraisal fee is determined by the DNO with and without an additional cost for local grid reinforcement. If the study by the DNO results in a negative conclusion, you may cancel your contract and you will receive your deposit back in full.
Your roof is visited by many birds.	<p>Although the wildlife is often much appreciated, in some locations, birds may sometimes nest under the panels.</p> <p>It is usually the case that panels become too hot for birds to permanently remain, but on rare occasions birds may result in yearly maintenance, and if neglected pose a threat to the PV system.</p>	<p>You might want to consider applying bird-netting which prevents birds from nesting under the panels. you might want to consider adding this at an extra cost of up to £600 (up to 20 panels)</p> <p>Your surveyor or installer will be able to discuss the suitability of bird netting for your situation with you.</p>

Situation	What is the impact?	What will happen?
Your roof is partly shaded.	Significant shading will mean your PV system will perform far less than expected. This is because a shade on one panel will impact the performance of the whole system.	The installer can provide your PV installation with "optimisers". Each panel will work on its own, thus reducing the impact from shading. This comes at an extra cost of £30 per panel. You will need to assess if the improved performance outweighs the extra cost. If you have registered and told us you have a shaded roof, we will assume all of your panels need to be optimised and have included a cost for this in your personal recommendation. Alternatively, the installer can offer a solution to optimise only a few panels, with optimisers that can be added separately to the panels. These come at a cost of £50 per panel. The aforementioned solutions do not provide individual performance monitoring of the panels. Please discuss the possibilities with the installer to provide you with the best solution.
Your roof requires an intrusive structural survey.	If the installer has reason to doubt the strength of the roof, which is often the case with flat roofs. If the structure of the roof is invisible, an intrusive structural survey may be required.	The installer will inform you as early as possible, as an intrusive structural survey could come at a considerable cost.

Situation	What is the impact?	What will happen?
You want to add a power diverter.	If you have a hot water tank with an immersed heating element, you can divert excess solar power to heat your water. This solution is recommended in your personal recommendation if applicable.	The extra cost for the power diverter is set at £450.
You want to add Emergency Power Supply to your battery storage.	You may require access to a small number of power points in the event of a blackout or you may look to add an uninterrupted power supply meaning that you had full protection from blackouts.	The installer will discuss with you whether or not you are able to have Emergency Power Supply, and if so, will discuss the best option for you as well as associated costs.
You want to add battery storage in addition to your solar PV system.	There are three storage capacity options available – small, medium and large. Your personal recommendation will show the option that is most suitable for your solar PV system size and usage profile.	<p>The cost for the battery storage is determined in the auction and included in your personal recommendation.</p> <p>You may discuss with your installer and decide to opt for a different capacity to that which was included in your personal recommendation, in which case the price will be amended.</p>

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