

# Power to your business

Episode 2: Solar Finance, Funding and ROI

NOVEMBER 2023

## On-site renewable energy generation is helping thousands of UK businesses become more sustainable, reduce costs and achieve long term energy security. But how do businesses pay for it and justify that investment?

For the second webinar in the 'Power to your business' series, Solarsense brought together an expert panel to address some of the financial questions that businesses face when considering a switch to solar energy or expanding an existing solar installation.

Drawing on first-hand experience from businesses and organisations which have already invested in solar, as well as inside knowledge from two finance industry experts, the panel addressed topics including the procurement process, energy export, finance options and the effect of rising interest rates.

This paper captures key messages that came out of the event. To watch the full webinar, please click [here](#) or for any questions contact Solarsense at [info@solarsense-uk.com](mailto:info@solarsense-uk.com) or con **0333 772 1800**.

### With thanks to our panel



**Stephen Barrett** is Managing Director of Solarsense which he founded in 1995. The company has since installed more than 15,000 renewable energy systems in the UK and won numerous industry awards.



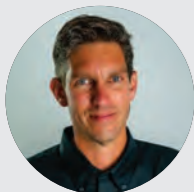
**Kevin Mulvaney** is a Sustainability Consultant for England Rugby and Vice Chair of the Board of Directors for St Mary's Old Boys RUFC in Bristol, where he managed a £57,000 solar and battery storage project.



**Peter Booth** is Group Finance Director of MSE Group, one of the UK's leading suppliers of commercial transport solutions. The company used Smart Ease finance and worked with Solarsense on its latest solar installation.



**Gaige Ross** is Smart Ease's UK National Sales Director and has worked with companies across the UK to find and deliver payment solutions for those who want to benefit from renewable energy and move forward towards net zero. Smart Ease works in partnership with Solarsense to provide funding for solar energy projects.



**Tim Cook** is a Renewable Energy Consultant at Solarsense. He has more than a decade of experience in the clean energy sector and works with a wide range of businesses to deliver strategic direction for their on-going energy needs.



**Ele Smith** has a career spanning over three decades in commercial banking and has established herself as a prominent figure in asset finance. She specializes in renewable energy funding solutions and has been a driving force behind the renewable energy sector market at Ignition Credit.

## The time is right for solar



In the early days of solar there was no financial return. People mainly installed solar for environmental reasons, often with government grants. But after 30 years of development, the improved efficiency of solar panels, combined with changes in the energy market, puts us in a radically different situation.

*"The advances in technology mean the payback we've seen this year has been as little as two to three years, which I've never seen before, even when the government had a feed-in tariff," says Stephen Barrett of Solarsense. "Panels now cost a 10th of what they did even ten years ago. It's that, combined with the rising cost of electricity, which means we've never seen such good returns."*

**"So it's the perfect time now to be looking at solar energy. And it's great to see that businesses can now invest, get a good return and help save the environment." – Stephen Barrett**

## What are the first steps?

Before even contacting a potential installer, there are some preparatory steps that businesses can take to get the ball rolling.

**"You need to try and do everything you can to reduce consumption. Ultimately, that's the cheapest form of electricity – the electricity you don't actually use." – Peter Booth**

## Get ready for solar

- Establish how much energy you are currently using by looking at your fuel bills and half hourly metering (if available) for the past two years.
- Consider energy efficiency improvements you could make to reduce your energy usage, such as switching to LED lighting and improving insulation.
- Put together a specification and tender document.
- Conduct a solar energy feasibility study.

Our panellists talk about using external consultants such as Auditel and Severn Wye (which covers Gloucestershire, Swindon and Wiltshire) to help with these stages of the process.

*“We’d already done various things to reduce our usage,” says Peter Booth of MC Group. “We’d installed LED lighting at all of our sites, we’d done some controls on boilers and we got the lights to automatically turn off. But then obviously you get to a point where there’s only so much you can do. The solar scheme seemed the next step and the sensible thing to do.”*

*“We created a tender document. We sent it out to about five different potential suppliers. Initially it was to work out which suppliers could do it in a reasonable timeframe, and then we had our criteria to score suppliers and Solarsense came out on top.”*

The next stage is to conduct a feasibility study. Solarsense uses specialist software to predict how much energy a system will produce, taking into account its location in the UK, angle of the panels and likely weather conditions. Putting this information together with the business’s existing electricity costs means a realistic payback figure can be calculated.

At the feasibility stage it’s also important to consider the structural aspects of the work and to seek approval from the local Distribution Network Operator (DNO). It’s worth doing this as early as possible because the DNO could refuse permission or limit the size of the system. Lack of grid capacity is becoming a bigger issue and for larger systems it can take as much as 4-6 months to gain approval.



## How to maximise your ROI

The more panels, the more energy you can generate – but the more the system costs. So what is the optimum size of system for a business?

*“You really want to be using 70% of the power or more to get the best return,” explains Stephen Barrett.*

Exporting energy may only pay 5-10p per unit, compared to a typical cost of 30p or more to buy electricity. This means businesses that operate during daylight hours can get the best return by using as much energy as possible themselves.

**“For us it was all about trying to use [the energy] internally because that’s where you get the quickest return on investment, we use 70 – 75% of what we generate.” – Peter Booth**

## The case for battery storage

Solar generation works particularly well for businesses such as factories that operate from 9-5 and use most of the energy themselves, usually without the need for a battery.

*“We would look at it as a case-by-case basis, looking at the half hour data, if we’ve got it, or just taking into account the business’s operating hours to work out whether a battery makes sense,” says Tim Cook of Solarsense.*

St Mary’s Old Boys Rugby Club proved a good example. The club uses most of its energy at night and so battery storage maximised the benefits of its solar panels.

*“As a winter-based sport, the biggest draw on our energy, probably like any club, is our back bar and cellars and they run 24 hours a day,” says Vice Chair, Kevin Mulvaney.*

*“So we put the energy into the clubhouse during the day and then we have two eight kWh batteries. They work brilliantly and allow us to run the floodlights at night and the back bar for 24 hours a day.”*



## Calculating the payback in a changing energy market

MC Trucks took the decision to invest in solar in 2019/20 when the prices were at an all-time high of around 60p per kWh.

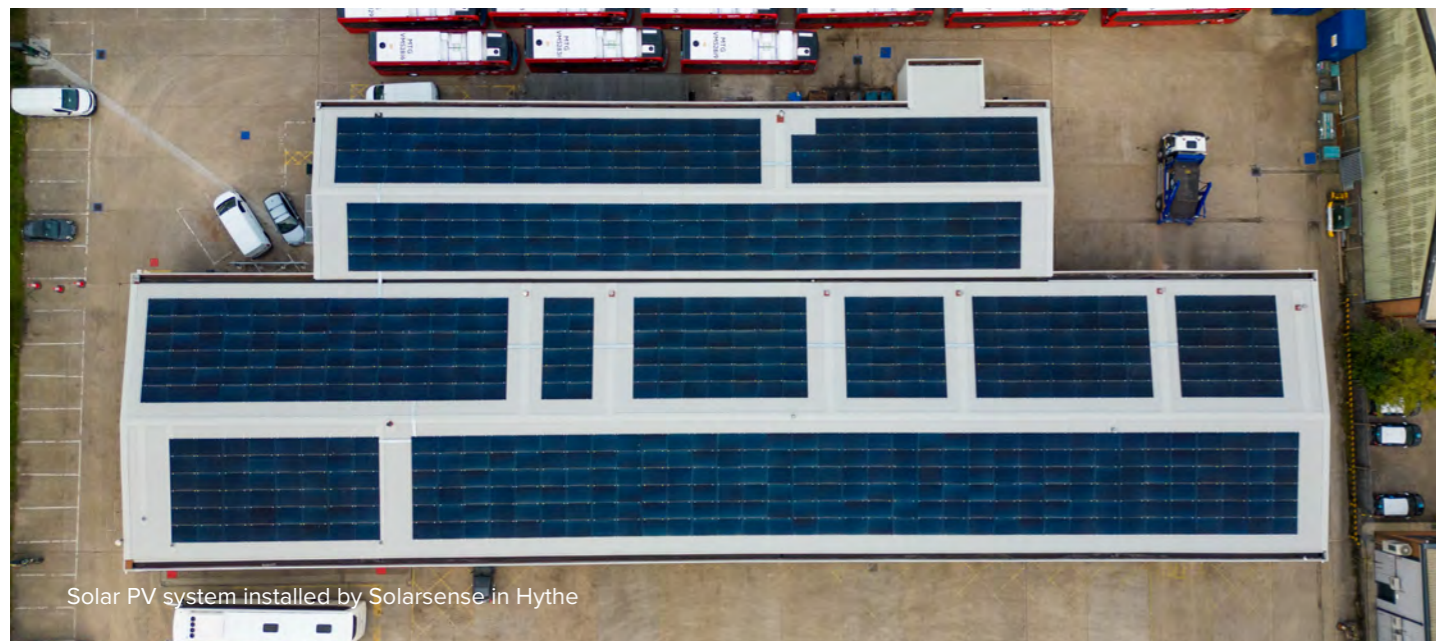
*“The question was, what is going to happen to energy prices in the future? says Peter Booth. Our view was that although prices were very likely to come down within the next 12 to 18 months, we didn’t feel they would ever come down to the levels they were before, which is why we worked out the payback on a price around about 30p a kilowatt hour.”*

*“And that works out to a payback period of around about five years for the schemes we had in place. And we felt, for essentially an asset with a 20 year life, a five year payback is pretty good. It also provides us with a very good hedge against future electric volatility.”*

**“We know the cost of 40% of our electricity for the next 20 years. It takes quite a weight off your mind.” – Peter Booth**

Tim Cook agrees: *“Energy prices have skyrocketed over the last 24 months and whilst they now seem to have stabilized, they’re probably not going to go back to the levels that they were pre 2019/20. The return on investment we’re now seeing is as good, if not better than it would have been back in the days of the feed-in tariff.”*

**“I think there is this kind of misconception that when the feed-in tariff was here, that was the heyday. Have we missed the boat? The response to that is definitely no, you have not, because the capital cost of investing is now so much lower.” – Tim Cook**



## Can solar make your business carbon neutral?

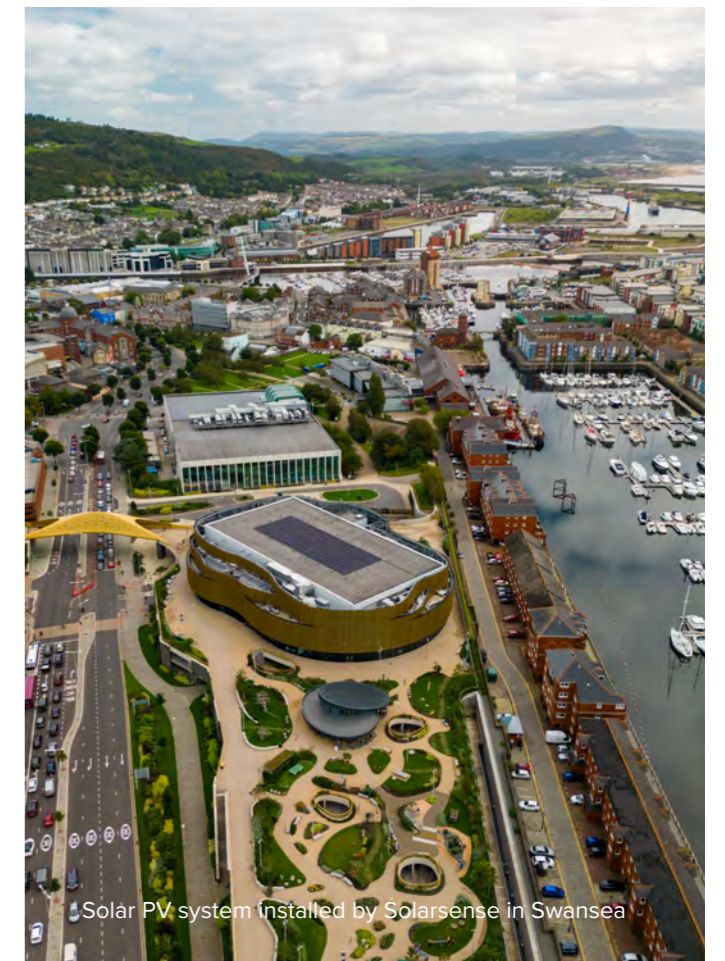
As well as the financial benefits of on-site renewable energy generation, many businesses are considering solar as part of a wider sustainability strategy. To what extent can installing solar panels make your business carbon neutral and put an end to electricity bills?

*“It’s part of the mix,” says Stephen Barrett. “You should be doing LED lighting, insulation and then looking at what else you can do. Obviously solar power on the roof is the easiest thing.”*

*“A lot of people say that they’re going to have a surplus in the summer that would offset the winter and be carbon neutral over the year. But normally it’s a percentage - it could be 40%, it could be 60% of your power, which is good. That’s a big step.”*

Although solar PV gives a lower output during the shorter days of winter, it’s worth noting that solar panels still work on cloudy days.

**“Even in the worst days of the winter, we are still generating 30% of our electricity. So it has a massive impact on our costs, even at the worst times of the year.” – Peter Booth**



# Funding options for solar

## 1. Asset finance

Asset finance is the third most common source of finance after overdrafts and loans. It is often used to obtain tangible assets – from coffee machines, to manufacturing plant to solar panels. Asset finance can offer significant cash flow and tax benefits for businesses.

Hire purchase and lease are both types of asset finance with some key differences. Using an asset finance specialist can help you to understand which option is best for your business.

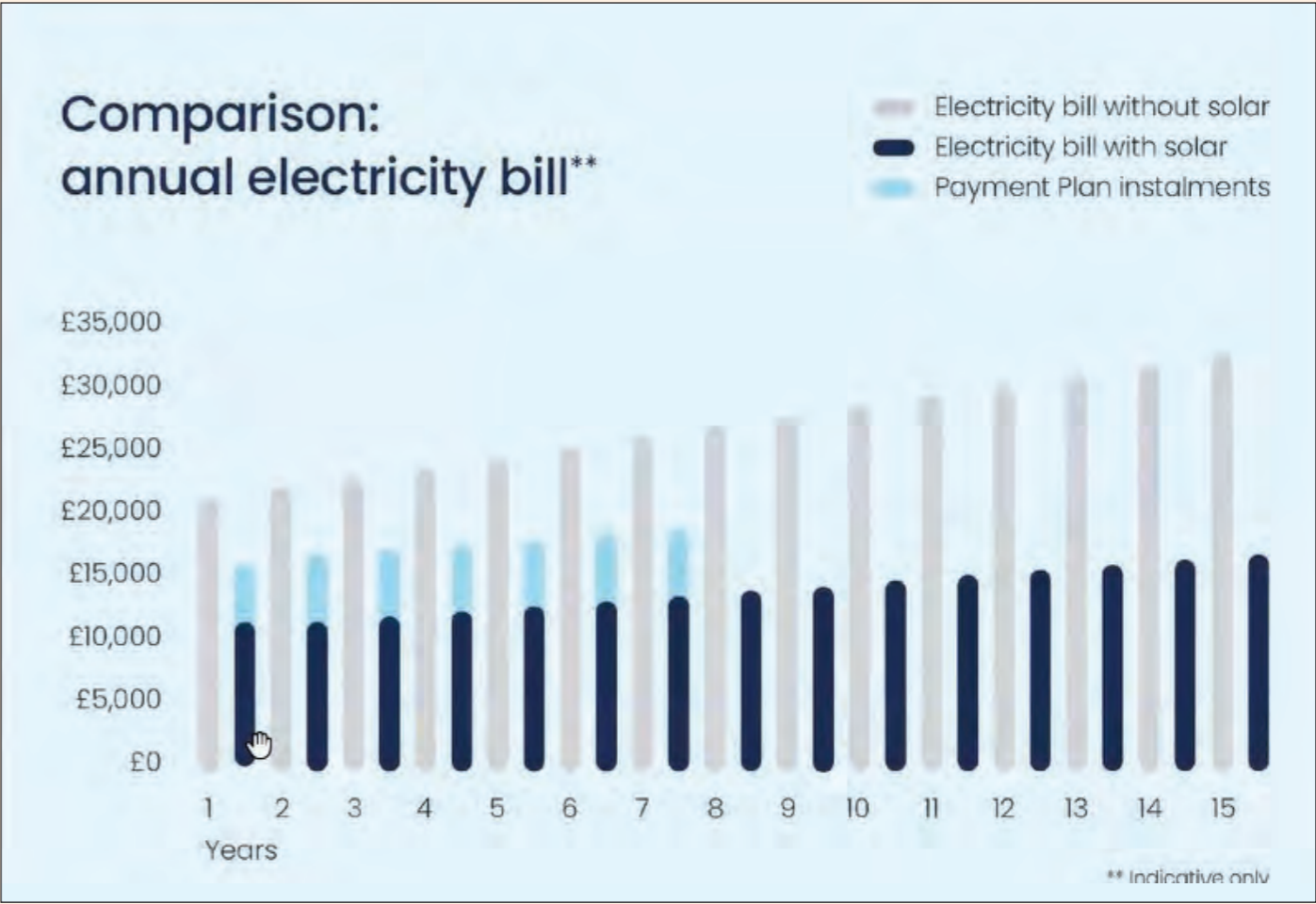
Hire purchase	Lease
<ul style="list-style-type: none"> <li>A “rent to own” agreement</li> </ul>	<ul style="list-style-type: none"> <li>A “pay to borrow” arrangement</li> </ul>
<ul style="list-style-type: none"> <li>You take automatic ownership at the end of your payments</li> </ul>	<ul style="list-style-type: none"> <li>At the end of the term you can either extend the term (at a reduced rate), sell the equipment or purchase it at a fair market value</li> </ul>
<ul style="list-style-type: none"> <li>Typically a 5 or 6 year term</li> </ul>	<ul style="list-style-type: none"> <li>VAT is paid on each monthly payment (rather than upfront)</li> </ul>
<ul style="list-style-type: none"> <li>Pay a token ‘option to purchase’ fee at the end with no further charges</li> </ul>	<ul style="list-style-type: none"> <li>Payments may qualify for tax relief</li> </ul>
<ul style="list-style-type: none"> <li>Payments are fixed throughout the period</li> </ul>	
<ul style="list-style-type: none"> <li>VAT is paid upfront</li> </ul>	
<ul style="list-style-type: none"> <li>Qualifies for capital allowances in year one</li> </ul>	

Ele Smith specializes in renewable energy funding at Ignition Credit, which is both a broker and a funder.

“There are significant cash flow and tax benefits to using asset finance,” says Ele. “Hire purchase, for example, qualifies 100% for capital allowances in year one.”

Another advantage of asset finance is that customers can have flexibility over the term length. The longer the term, the better the cash flow.

“We can do anything from two years up to ten years,” says Gaige Ross of Smart Ease. “So it may not be cash flow positive on a three year term, but it might be cost neutral on a five year term and cash flow positive on a seven year term.”



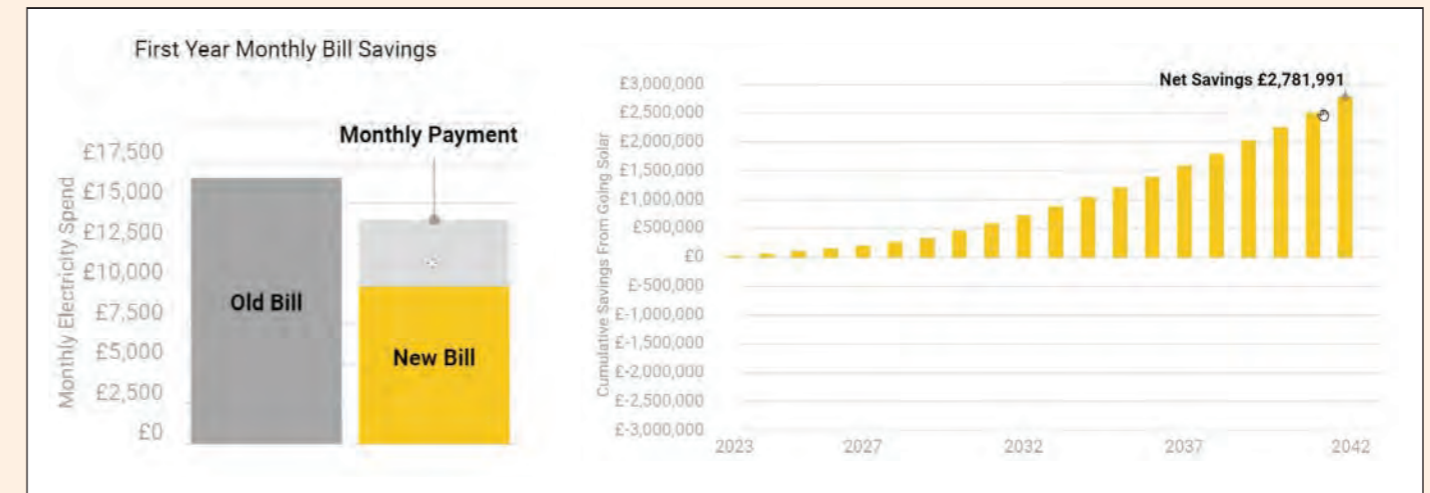
Typical example of a payment plan for a system funded by asset finance. Based on a recent installation funded by Smart Ease.

“From our perspective it was a question of where do we want to use our cash? We considered using retained reserves but it made more sense to use asset finance. It’s a 20 year investment. The first five years will be cash neutral, maybe slightly positive, but then after that it’s pure cash positive.” - Peter Booth

## Case study: Cornish Premier Pasties

Ignition Credit recently worked with Cornish Premier Pasties to provide asset finance for the installation of a 320 panel, 131kWp solar PV system.

*“This was the right solution... it was a no brainer,” says Ele. “The payback will be in under five years and 20% of their energy will be produced over the year. On a sunny day they can generate as much as 98% of their energy, which is huge. And obviously from the green perspective, they are saving 50 tonnes of CO2 a year, which for the community is absolutely brilliant.”*



The above example is based on 300,000 kW (£250,000) system funded by Smart Ease. The customer will make £30,000 savings in the first year and stands to save £2.7 million in the lifetime of the system. Figures provided by Smart Ease.

## 2. Power Purchase Agreements

Power Purchase Agreements (PPAs) are the main alternative to asset finance. An on-site PPA is like a long-term electricity supply contract. The PPA provider owns, operates and maintains the solar system and sells the electricity back to the business. In effect, it enables a business owner to install solar on their premises without any capital outlay.

*“You pay for what you use,” explains Gaige Ross. “It’s typically significantly lower than what you would pay for grid sourced energy, typically 50% less if you’re paying 30p per unit – the PPA is often pinned to 13p per kilowatt hour. It’s ideal for larger businesses that operate during daylight hours.”*

## Is solar a sound investment in the current financial climate?

With 14 rises in the Bank of England base rate since December 2021, should businesses be concerned about taking on extra borrowing to fund solar power?

Both Ele Smith and Gaige Ross acknowledge that this is a common question from clients, but both remain confident of the case for solar.

*“Solar is one of the best investments business owners can make because it pays for itself and in most scenarios, you’re looking at a solution whereby just short of five years you’ve got payback and then you’re going into a positive cash flow afterwards,”* Ele explains.

The growing popularity of solar is testament to this: according to Solar Energy UK, more solar PV systems were installed in the first 8 months of 2023 than the whole of 2022, and it is expected that the all-time annual record for solar installations - set during the height of the Feed-in-Tariff – will be broken by the end of the year.

**“We’re seeing that the confidence is there; there is traction in the market. Solar is absolutely the best way to go forward from an energy perspective.” – Ele Smith**

*“There is truth that the interest rates have risen over the last 12 months and that does have an effect on the payback,”* agrees Tim Cook.

*“But because the cost of electricity has gone up so astronomically as well, that actually brings the payback back into a very favourable position. And most clients are seeing an under six-year payback for their solar system, which is very attractive.”*



Solar PV system installed by Solarsense in Miskin, Wales

## Solar carports: are they a good investment?

More commonly seen in warmer countries such as France or Italy where they are used as shades to stop cars overheating, car ports are covered structures that sit over the tops of parking spaces. They provide a useful additional area for solar panels and Solarsense has installed them across the UK. Should more businesses be looking to invest?

*“Car ports are always a second choice to the main roof,”* says Tim Cook. *“If your roof can sustain it, that would be where you would start. And then as a further expansion, we would look at doing solar carports.”*



Car port installed by Solarsense in Bicester

Carports are a great option for expanding an existing system and can help towards charging electric vehicles. They also provide a very visible indication of a company’s commitment to sustainability as they are often more prominent than roof mounted panels.

However, they are more expensive than roof mounted systems because of the additional cost of building the carport structure. A carport alone may not provide enough power to charge a fleet of vehicles so would always be connected the main building.

*“A carport would never be a standalone system. It would contribute towards the general business premises supply. And then when the cars are plugged in and that demand really peaks, any requirement from the building can help the solar panels meet that,”* explains Tim.

## Are many businesses taking advantage of the Smart Export Guarantee scheme or are most using all the generated electricity from their solar?

The Smart Export Guarantee Scheme is mainly aimed at the domestic market. It essentially means that energy suppliers have to pay for the electricity a household or business exports, but there is no set rate so it could be as little as 3-5p per unit.

Solarsense works with a number of specialist off-takers – companies that want renewable energy and are willing to pay a premium for it – which means that businesses can get rates nearer 10p a unit for the electricity they export. To access this, businesses must have a compatible meter and enter into a meter operator contract.

*“We can set that all up for you,” says Tim Cook. “There is quite a quite a big additional saving if you’ve got a reasonable amount of export. If you’re only exporting a small amount, then you might as well go through the Smart Export Guarantee.”*

*“I think it’s everybody’s ambition to use all the energy they generate on site,” adds Tim. “But it’s worth pointing out that you can only do that in real time - if your solar system is producing 100 kilowatts and you are only using 50 because it’s a weekend, you will be exporting 50 to the grid. So if you haven’t set up any export agreement, whether that’s through the Smart Export Guarantee or a third party off-taker, you will just be giving the power company that electricity for free.”*

**“It’s important that you set up an export arrangement or, if not, you consider having a battery where you can store energy for use at an alternative time.” – Tim Cook**



## What about businesses that don’t own their own premises?


Many businesses prefer to rent, rather than own, their premises – can they still access the financial and environmental benefits of solar power?


*“Yes of course,” says Gaige Ross. “Both asset finance and PPA models work well for tenants and those who lease their buildings. From an asset finance perspective, it’s no different. If your landlord says you can install solar panels, you can go ahead and do it and it’ll be fully funded.”*


*“From a PPA (Power Purchase Agreement) perspective, you as a tenant can align the PPA contract with your existing lease contract. Your landlord will sign a rooftop lease and we’ll provide a share of the revenue we receive. At the end of the term, we can either gift the solar system to the tenant or the landlord. Ultimately what it boils down to is the tenant can receive a reduced energy cost and the landlord sees a revenue stream without taking on any additional risk.”*

*“We as the PPA fund would own, operate, maintain, and insure the solar PV system. Overall, that works for us as a funder, it works for the landlord, as the building owner, and for the tenant who’s ultimately looking after the electricity contract.”*

If you have further questions or want to find out if your building is suitable for solar contact Solarsense on **0333 772 1800** or email **[info@solarsense-uk.com](mailto:info@solarsense-uk.com)**

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