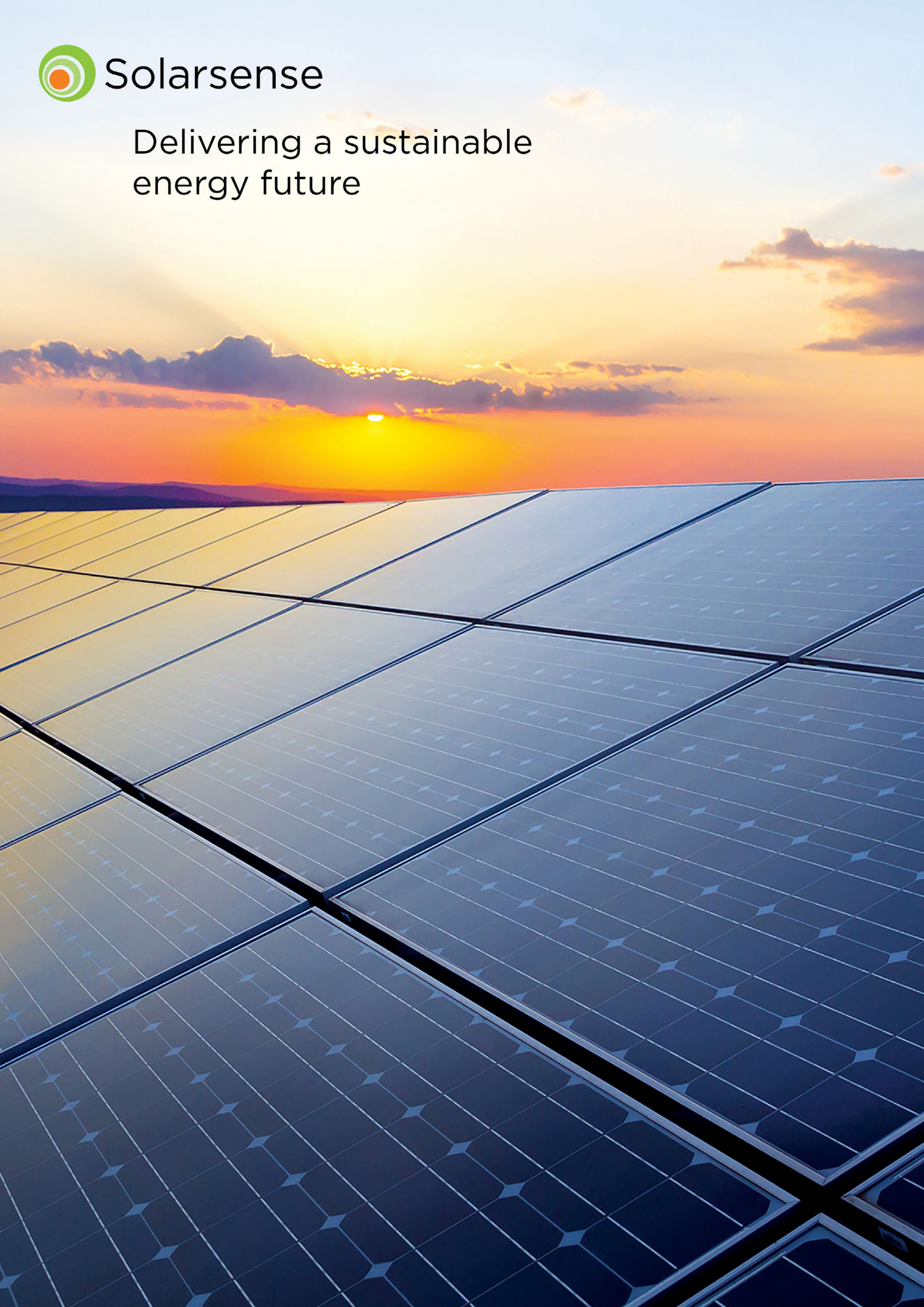




Delivering a sustainable  
energy future





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**Making the switch from expensive fossil fuels to sustainable and renewable energy technologies is a sensible, but long term commitment.**

It therefore makes **sense** to work with a resilient, reliable and experienced installation partner with an established track record.

We have seen the industry develop and are proud to have played a key role in driving forward the uptake of smart energy solutions throughout the Southwest and UK as a whole.

**Image: We The Curious - Science Centre, Bristol  
49.29 kWp solar PV system & bespoke solar camera**

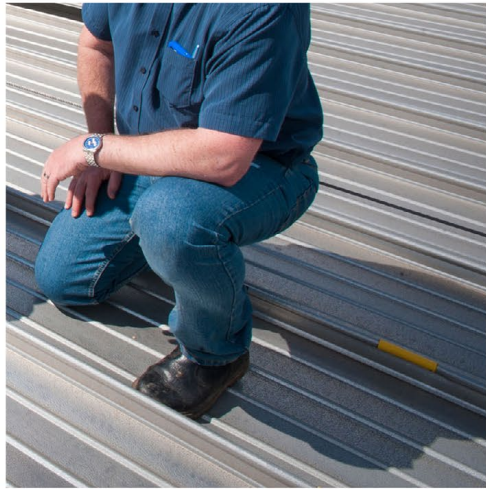
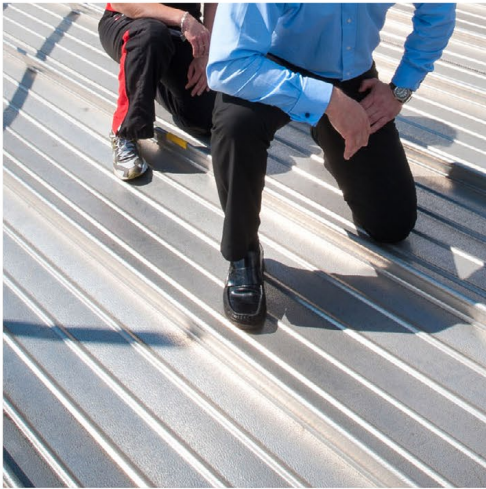
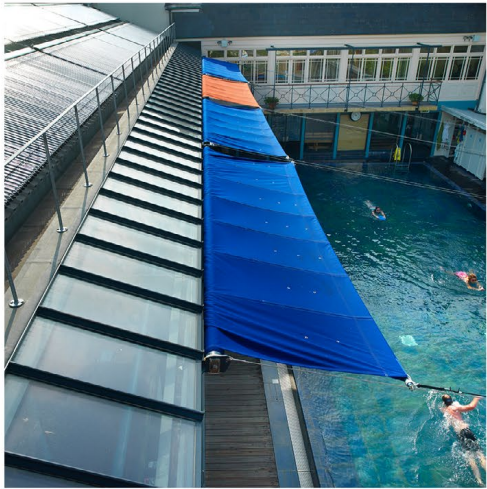
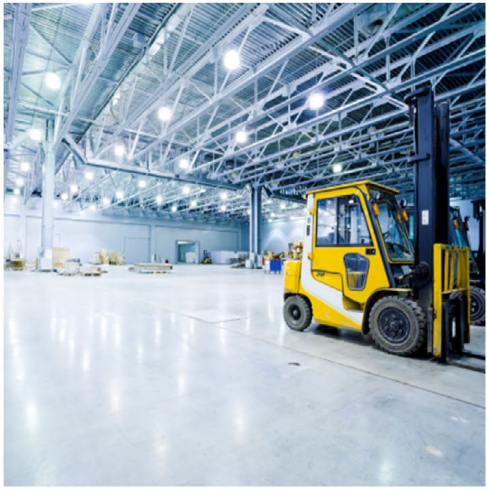
“The results we’ve produced over the year have been brilliant, and exceeding what we planned is fantastic.”

**Chris Dunford, Sustainability Engagement Manager**



Established in 1995, Solarsense has completed more than 10,500 residential, commercial and industrial installations and is responsible for powering some of the UK's leading organisations.

Solarsense specialises in the design, supply, installation and maintenance of ground mounted & rooftop solar photovoltaic (PV) systems, energy storage & solar battery storage solutions, commercial LED lighting, solar carports, ground source & air source heat pumps and associated renewable energy technologies.



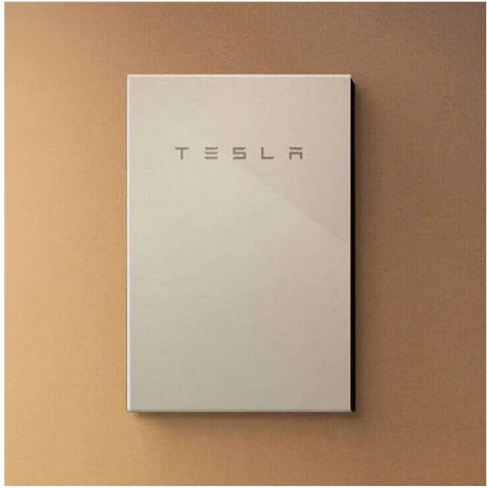
80,000  
MW OF  
ENERGY GENERATED  
EACH YEAR

10,500  
SATISFIED  
CUSTOMERS



18  
AWARDS  
WON

41,600  
TONNES OF  
CARBON OFFSET  
EACH YEAR





# Solarsense Zero Carbon Office & Training Centre

The new Helios House building plays a part in the overall aim to transform the Solarsense head office into a regional centre of excellence for renewable energy, sustainability and biodiversity.

The state of the art building was designed to generate more energy than it consumes and boasts an extensive array of fully integrated photovoltaic panels, smart energy controls, mechanical ventilation and heat recovery (MHVR).

The fully integrated solar roof is comprised of GB-Sol monocrystalline panels and has a capacity of 12.85 kWp. The building also boasts solar PV roof lights, battery storage, LED lighting, phase change hot water store, load diversion switch, ground source heat pump & electric vehicle charge-points.

This exemplary project was accepted for a West of England Regional Growth fund and offers both an inspiring work environment and engaging real life case study for those considering switching to clean energy technologies.





# Commercial & Industrial

Leading the industry through innovation, Solarsense are considered one of the UK’s leading clean-tech and sustainable solutions providers.

Working with blue-chip companies, local authorities and SME’s across all industry sectors, Solarsense offer a range of turn-key energy solutions to deliver financial savings, carbon reductions and energy independence.

Whilst many other installers have focused purely on solar PV, we take a holistic approach to energy generation and specialise across a range of clean and renewable energy technologies.

From our zero-carbon head office based outside of Bristol, we utilise our unparalleled 23 years experience to work with our clients, audit their current situation and identify the best suited technologies to meet their specific needs.

We work with you every step of the way, including; DNO/G59/grant applications, MCS registrations and planning permissions, right through to the hand over of the system.

Our multi-award winning company has partnered with some of the UK’s leading financial institutions. From asset finance and hire purchase to power purchase agreements (PPA), we will ensure you receive the best advice available and a bespoke package to suit.

We offer a comprehensive Monitoring, Operations and Maintenance service to ensure your system continues to perform at it’s peak efficiency for the duration of it’s lifetime.

**IMAGE (BELOW):**  
Renishaw Innovation Centre  
241.25 kWp solar PV system &  
49.89 kWp bespoke solar brise  
soleil shading system



**IMAGE (RIGHT):**  
Nottingham University  
230.91 kWp solar PV System  
Won: Best project category  
British Renewable Energy Awards



## Benefits at a glance

1. Significantly reduce business overheads, improve business operations and increase your bottom line with up to 100% savings on daytime energy costs.
2. Generate income: via the government feed-in tariff scheme if registered before April 2019.
3. Generate energy on-site: reduce reliance on the National Grid.
4. Energy Security: pre-purchase energy at a fixed unit price, forecast your long term energy costs & protect your business against future increases in utility prices and power shortages.
5. Make a statement on sustainability: solar carports, brise soleil and other technologies allow a business to visibly promote their CSR credentials & improve their corporate reputation.
6. ESOS solution: if your company qualifies to submit a madatory energy audit, Solarsense can help to identify how much energy your business could generate through our range of sustainable solutions.

## Strong track record

Our strong track record has seen us working with a number of leading brand names including; Renishaw, The RSPB, Brabantia and Clarks Village to name a few.

We also have a number of long term relationships with various councils, universities and other private organisations.

## Award-winning approach

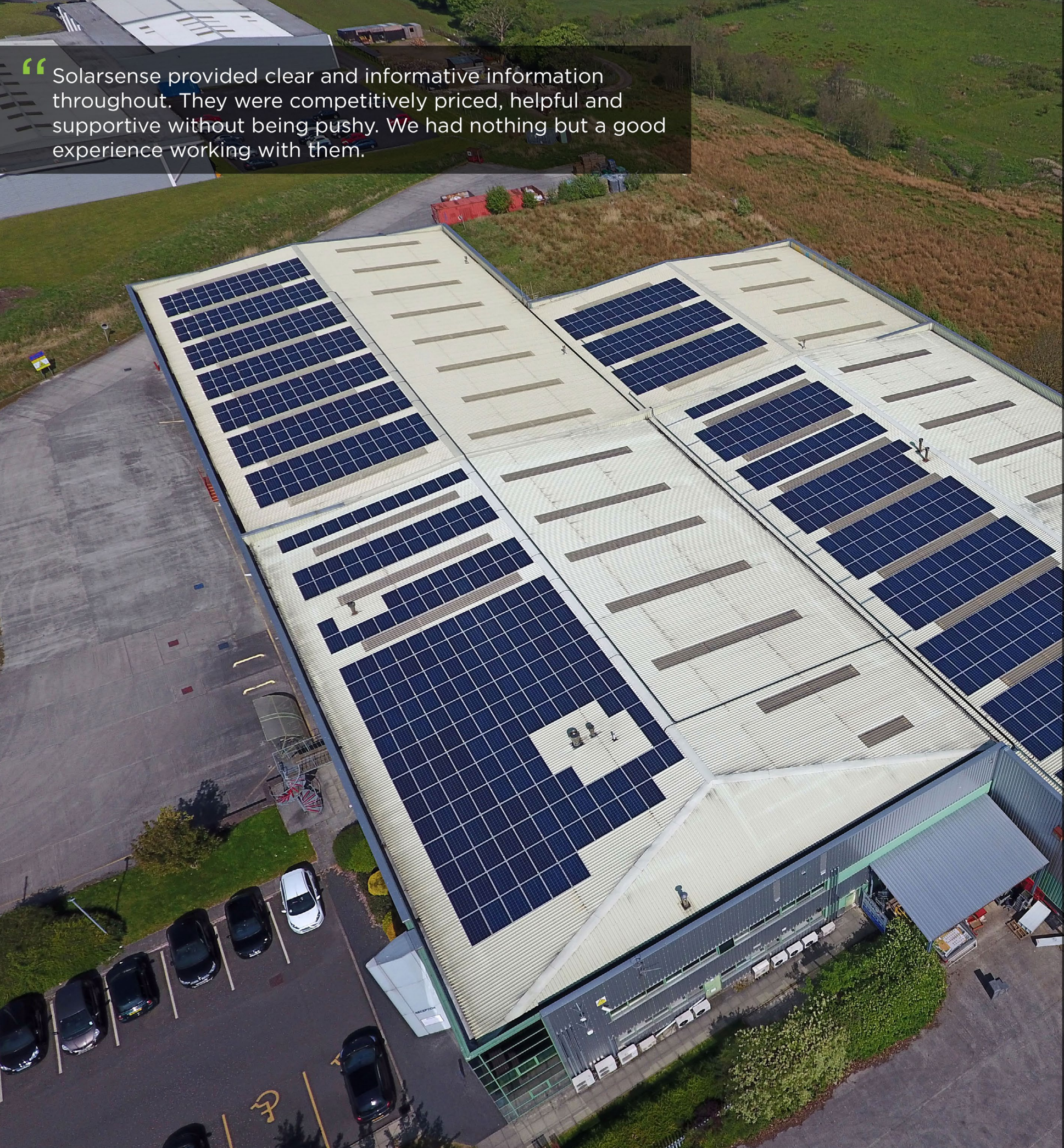
We place great emphasis on the quality of our installations and are proud to have won 18 regional, national and international awards in recognition of our expertise, customer service, and pioneering projects.

## Reputable & highly recommended

We pride ourselves on building strong, long lasting relationships, proven by our high rate of repeat custom and impressive feedback.

Over 92% of customer feedback from the last six months has seen us rated as “excellent” or “good”.





“ Solarsense provided clear and informative information throughout. They were competitively priced, helpful and supportive without being pushy. We had nothing but a good experience working with them.

## Manufacturing company Northwest, England UK

### 249.76 kWp solar PV and online monitoring system

Due to a colossal energy bill, this manufacturing company decided to review their energy options.

Solarsense were initially invited to tender for the work and were awarded the contract due to their expertise and range of technical solutions.

Following an initial audit of the companies energy use, Solarsense opted for a bespoke solar PV system with an integrated monitoring platform to allow the company to track their progress.

To date the system is producing 3% above forecast and has generated 150.5 MW of energy in 8 months (May - December).

In the event of low generation, the monitoring system has been designed to inform Solarsense via an email, prompting immediate investigation.

“ It's not a gamble. It makes great financial sense. Installing technology that will give you yield for more than 20 years is a sound long term investment.

It's not about being somewhere sunny, it's based on hours of daylight, based in the NW of England, one of the wettest parts of the UK and payback within 5.5 years, why wouldn't you do it?

Buyer - Manufacturing company



# Farming & Landowners

Solarsense has been advising farmers and landowners on how to reduce energy costs and earn more from their land for over 20 years.

From solar PV & battery storage to LED lighting and heat pumps, we understand the realities of installing sustainable solutions on working farms.

We are fully compliant with the latest regulations and protection measures concerning the installation of electrical systems on farms containing livestock.

All of our systems are fully tested and guaranteed against ammonia and salt mist attack and we are careful to ensure that our roof-mounted systems do not compromise natural ventilation pathways in cattle shed roofs.

We also offer a comprehensive Monitoring, Operations and Maintenance service to ensure that your system continues to perform at it's peak efficiency for the duration of it's lifetime.

With capital outlay often acting as a blocker for many farms, we have joined with a number of finance partners to aid initial funding.

We also offer a "free" solar PV proposition through our Power Purchase Agreement (PPA). This will allow you to take advantage of a free solar PV system and then purchase back the electricity generated on-site at a pre-agreed rate, (typically, around half of what you pay your current energy supplier).

We will guide you through the entire process including; DNO, planning & grant applications - right through to the handover of the system.

**IMAGE (BELOW):**  
Duchy of Cornwall Estate  
99.64 kWp bespoke solar PV system  
One of six Solarsense installations  
Estimated annual output: 86,695 kWh  
Actual annual output: 98,850 kWh



**IMAGE (ABOVE):**  
Varley Farm  
50 kWp standard solar PV system  
Metal corrugated roof  
Delivering 10% more than predicted



**IMAGE:**  
Dillington Estate & Farm  
116.82 kWp bespoke solar PV system  
CIS technology & export limitation system  
Estimated annual output: 104,197 kWh

## Benefits at a glance

- 1. Significantly reduce business overheads and increase your bottom line.
- 2. Generate income: via the government feed-in tariff scheme if registered before April 2019.
- 3. Generate energy on-site: reduce reliance on the National Grid.
- 4. Energy Security: pre-purchase energy today at a fixed unit cost & protect your business against future increases in utility prices and power outages.
- 5. Reduce your carbon footprint: increase operational value, enhance green credentials and improve reputation with supermarkets and supply chains.
- 6. Diversify land-use: our solar farms are designed with dual-land use in mind.
- 7. Our smart energy solutions pay for themselves: typical payback period between 6-7 years.
- 8. Tax benefits: solar panels are classed as plant and machinery and are eligible for capital allowances.

### Efficient systems & healthy returns

The numbers stack up and our systems speak for themselves.

Our systems are designed by energy experts and deliver returns of up to 16%.

### Strong relationships & repeat business

"Having three or four systems speaks volumes in my book, we're more than pleased" - Steve Kearle, Farm Manager -Worthy Farm, Glastonbury.

### Well established & reliable

We were one of only a small minority of UK solar energy firms that were rated as financially strong in a business analysis conducted by Plimsoll.





# Worthy Farm & Glastonbury Festival

At the time of commissioning the initial 200 kWp system on the Glastonbury Festival farm site was the largest privately-owned solar PV system in the UK.

Installed on a commercial cow shed the system helps to offset the dairy farm's energy use and can generate enough power for 80% of the farm's electricity demand, exporting any excess to the grid.

Due to the success of the first system and the healthy returns generated, Mr Eavis returned to Solarsense for another four solar PV systems - both for the farm and his house.

Solarsense has been working with Worthy Farm on their on-going energy projects since 2012. We are currently exploring a number of battery storage options to power the robotic milking parlour after the sun has set.

“ I installed solar on my farm as I believed it was the right thing to do. It has turned out to be an excellent investment, a return of more than 12% in the first year. - Michael Eavis, Owner

“ It's all about efficiency & cost savings. Having three or four systems speaks volumes in my book - we're more than pleased” - Steve Kearle, Farm Manager

## Farm solar PV system

System size: 249.84 kWp

Estimated annual output: 235,099 kWh

Annual CO2 emissions offset: 123 tonnes

## Other technologies

Battery storage, bespoke sprinkler system.

“ We now not only do the best festival in the world, we also have the best solar power system.” M. Eavis





# For Home

**With over 10,000 residential installations alone, Solarsense offer unparalleled knowledge and expertise.**

Solarsense has been designing and installing award-winning sustainable solutions for homeowners since 1995.

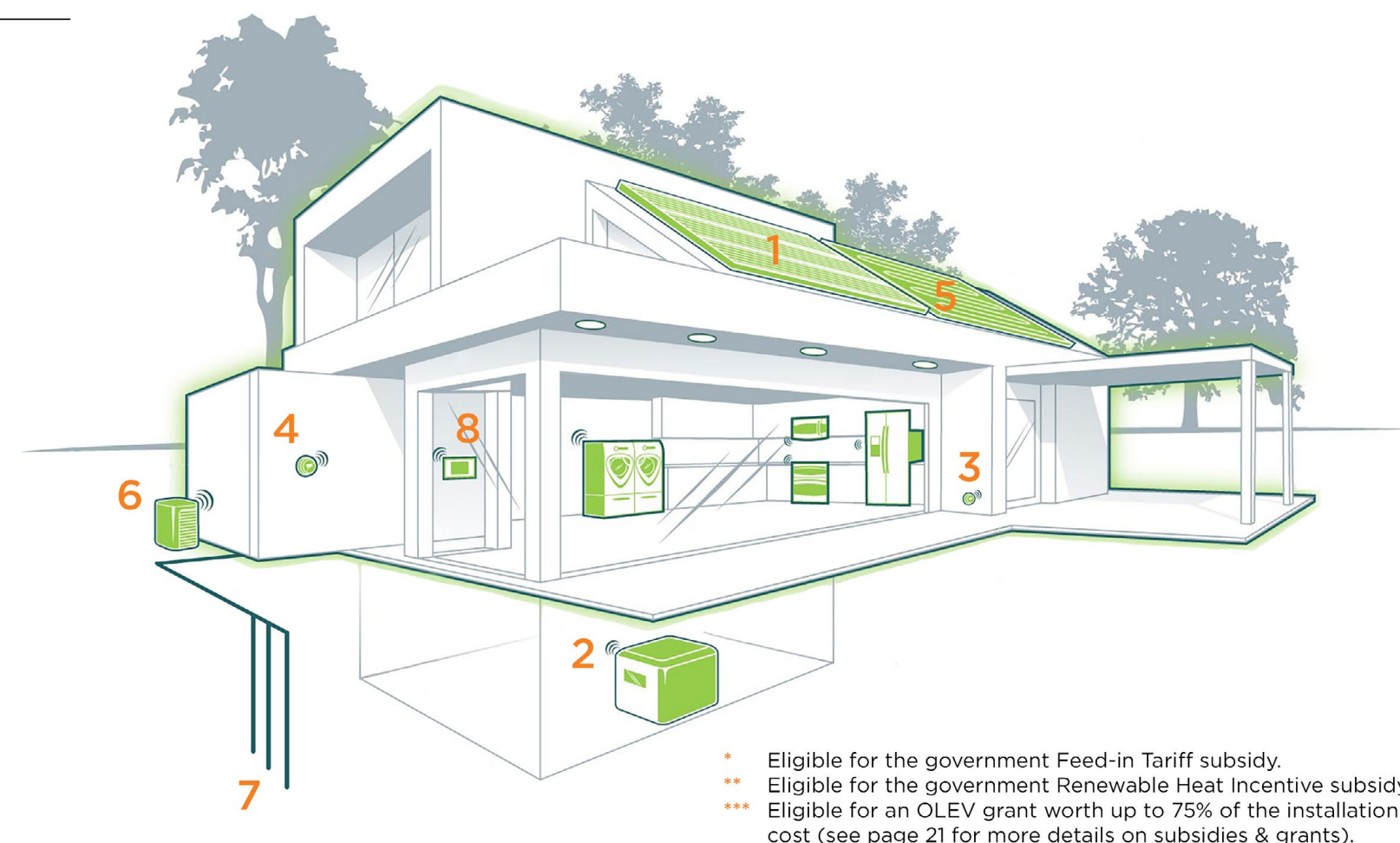
Whether you're looking to install a fully integrated home solution or a single technology – Solarsense possess the technical skill to design a bespoke system capable of reducing your carbon footprint and increasing your bank balance.

We retro-fit to existing homes and work with architects to design systems for new builds. We also offer a number of solar PV upgrades and accessories to improve your current system and increase your return on investment.

We do not hard sell. We offer industry leading advice. Whether your motivation is financial, environmental or both we will design a bespoke system that delivers results.

We will guide you through the installation process and offer help in regard to applications, commissioning your energy performance certificate (EPC) and even assist with planning applications - if needed.

We pride ourselves on building strong relationships and are happy to go the extra mile. Many of our previous customers are even happy to speak with those considering switching to renewables.



\* Eligible for the government Feed-in Tariff subsidy.  
 \*\* Eligible for the government Renewable Heat Incentive subsidy.  
 \*\*\* Eligible for an OLEV grant worth up to 75% of the installation cost (see page 21 for more details on subsidies & grants).

**Our smart energy technologies can be installed individually or combined to create a bespoke solution. Each technology offers significant cost savings and a range of further benefits.**

Every home differs in size and shape and the way we use our energy. Our team of experts will offer advice as to what suits your particular home. We use industry leading software to accurately predict the performance of your system and the overall benefits you are likely to receive - all as part of your free, no obligation desktop survey.

## 1 Solar Photovoltaic (PV) Panels \*

Generate free, clean electricity from the sun to power you're home.

## 2 Solar Battery Storage

Store the excess electricity your solar PV system produces to use after the sun has set.

## 3 Electric Vehicle (EV) Charge-Point \*\*\*

Make charging your EV safer, faster and more convenient. Charge for free if combined with solar PV.

## 4 Load diversion switch

Use all the surplus power generated by your solar PV system to produce hot water.

## 5 Solar Thermal Tubes or Flatplates \*\*

Naturally heat your water for free by harnessing energy from the sun.

## 6 Air source heat pump (ASHP) \*\*

Absorb heat from the outside air to heat radiators, underfloor or warm air heating systems.

## 7 Ground source heat pump (GSHP) \*\*

Extract heat from the ground to heat radiators, underfloor or warm air heating systems.

## 8 Smart Home Automation

Control lights, heating and other appliances via the central mini server or a smart phone application.





# Croyde Cottage

Located in a popular coastal resort, the client's cottage was undergoing a complete refurbishment.

To satisfy planning requirements and ensure the support of local residents, Solarsense developed a bespoke, integrated 7.7 kWp solar roof for this coastal cottage.

To ensure the efficiency of the system Solarsense designed and installed bespoke flashing with ventilation holes to the ridge and eaves, coloured to match.

Incorporating solar PV, solar thermal, energy efficient lighting and a bespoke flashing/cooling system, the roof provides enough energy to power and heat the cottage as well as charge the owners' electric vehicle.

Heating for the cottage is electric and is fed from the solar PV system with excess electricity diverted to an immersion tank.

The 4m<sup>2</sup> solar thermal system supplies a space-saving side-mounted, unvented cylinder with any excess sent to a dual energy towel rail. A second cylinder supplies hot water for the outside hot tub.

All lighting in the cottage is LED and a personal EV charge-point was installed to charge the client's electric car from the free solar energy.

As a result of the complete solar roof, the cottage is now an annual net exporter of energy. The system generates 6,050 kWh per year - 2,050 more than the average UK household.

Generation to date has been 10% above initial predictions and the owners running costs have been reduced by 90%.

This pioneering project has been awarded two national awards including "Domestic Rooftop" at the Solar Power Portal Awards and "Best Project" at the British Renewable Energy Awards.

**SOLAR  
POWER  
PORTAL**  
AWARDS 2015  
**WINNER**

“ Better than I ever imagined. We all love it - including the neighbours - and the savings on our bills are amazing! Mrs B - Homeowner.





# Empowering schools and communities with solar

Community solar can be developed in many ways, from installing on a community centre, church or school through to the development of a community owned solar park.

The key is that the system is owned by the community so the benefits are enjoyed by the local community rather than investors or companies from outside the local area.

To date Solarsense and their community group partners have delivered over 4MW of community solar power.

We support local groups and community energy benefit societies through the full process; from assessing the site or building, developing planning applications through to the design, installation and monitoring of the system.

**Case Study:**  
**Northleaze Primary School, Long Ashton**  
50 kWp solar PV system & online monitoring system.

Funded by our partners Low Carbon Gordano and installed by Solarsense the bespoke 50 kWp solar PV system delivers over 48,000 kW hours of electricity and reduces the school's carbon footprint by the equivalent of 25 tonnes of CO2 per year.

The bespoke system includes an online monitoring system so that the school can develop an education program focusing on renewable energy and combating climate change.

The system also includes a real time display monitor in reception for pupils, parents, governors and staff to keep an eye on what the array is generating and how much CO2 they are offsetting to help tackle climate change.



Staff & pupils of Northleaze Primary School celebrate their brand new solar PV system before their first lesson in sustainability.

## Sharing our knowledge

We take our social responsibility seriously and feel it is only right that organisations do what they can to share their knowledge.

Each year we invest our time and expertise in direct support of selected charitable projects throughout the UK and beyond.



### Beso Rural Medical Centre Ethiopia

A specialist team from Solarsense travelled to Ethiopia to install a solar powered, medical vaccination fridge at the Beso rural Medical Centre in the Addis Alem region.

This replaced an inefficient and expensive kerosene fridge and enabled the vaccines to be safely stored for approximately 3000 people who rely on this health clinic.

The fridges are used to store six vaccines that protect against diseases including Tuberculosis, Polio, Tetanus and Diphtheria - all of which are potentially fatal but easily preventable by immunisation.



### Ankara Forest research & conservation station Madagascar

In late 2016, Solarsense sent a dedicated team to Madagascar to install a solar PV and LED lighting system for one of Bristol Zoological Society's in-country wildlife conservation projects.

By generating their own electricity, the research team are able to ensure the highest levels of research can be carried out and most importantly, provide further care for wildlife.

Solarsense also installed a range of small solar systems for a number of tourist camps and throughout the local village to provide vital electricity for the community.





## Finance and funding

There are three key ways to finance a commercial renewable energy project. Whilst self-financing is the most popular and offers the best returns over the lifetime of the system, many companies have restricted budgets and therefore a finance option may offer the right solution. Solarsense do not offer finance for residential systems.

### 1. Self-financed

As well as offering the best return on investment, your business may be eligible to offset up to £100,000 of the investment in tax through your annual investment allowance (AIA). We will help you investigate your entitlements as part of our consultant-led service.

### 2. Finance Package

We offer a range of finance packages through our carefully selected partners. From asset finance to hire purchase, we will ensure you receive the best possible advice and a package best suited to your specific business.

### 3. Purchase Payment Agreement (PPA)

Reduce your energy costs and enjoy all the benefits of solar PV with no capital investment. Simply lease the airspace above your roof for 25 years and pay a reduced rate for your electricity. After 25 years, ownership of the system transfers to you and you enjoy free solar electricity for the remaining life of the system (c. 10 years).

## Grants

The Carbon Trust and other organisations offer a number of grants on top of the Government subsidies available. Solarsense will always advise you on what is available as part of your free, no obligation survey and quote. See below for recent examples.

### Carbon Trust Green Business Fund

The Carbon Trust is offering a capital contribution of up to 15% of the project cost (up to a max of £5,000) to small and medium sized businesses. This support is available for a limited period on a first come, first served basis for businesses in England, Scotland and Wales.

### Rural Development Programme England (RDPE): Countryside Productivity Scheme

Farms (including livestock, dairy, arable and horticulture) are being offered up to 40% of the eligible costs of a solar battery storage system. This large-scale grant is for a minimum of £35,000 and capped at £1m.

### Office for Low Emission Vehicles (OLEV) Grant

OLEV offers grants for homeowners as part of the Electric Vehicle Home-charge Scheme (EVHS). The grant is a 75% contribution towards the cost of one chargepoint and its installation up to a maximum of £500 (including VAT).

OLEV offers a grant for businesses through the workplace charging scheme (WCS). The WCS contribution is limited to £300 for each socket up to a maximum of 20 across all sites for each application.

## Government subsidies

The UK Government has committed to making renewable energy technology more accessible. To this end they have introduced a number of financial schemes to incentivise buyers.

### Feed-in Tariff (FIT)

The FIT was introduced in 2010 to incentivise homeowners and businesses in England to invest in solar PV with guaranteed, index linked payments for 20 years.

Under the government's feed-in tariff (FIT) scheme, you will be paid for every unit (kWh) of electricity your solar panels generate, whether you use the energy or not. You will also be paid for the free, unused electricity you export back to the grid.

The Feed-in Tariff (FIT) scheme is scheduled to close in April 2019 for new registrations. For more information visit: [www.solarsense-uk.com/fit](http://www.solarsense-uk.com/fit)

### Domestic Renewable Heat Incentive (RHI)

The domestic RHI was introduced in 2014 to incentivise homeowners to invest in green, renewable heat technologies.

Under the government's domestic Renewable Heat Incentive (RHI), you will receive quarterly cash payments for seven years if you install an air source heat pump, ground source heat pump or solar thermal heating system in your home.

In September 2017, the UK Government increased the RHI for air source heat pumps from 7.63/kWh to 10.18/kWh, returning over 33% more on tariff payments. This increase in real terms means that the subsidy is in many cases enough to cover the cost of installing an air source heat pump in your home.

### Non-Domestic Renewable Heat Incentive (RHI)

The non-domestic RHI was introduced in 2011 to provide a financial incentive for businesses, the public sector and non-profit organisations to invest in green, renewable heat technologies.


Under the government's non-domestic Renewable Heat Incentive (RHI), you will receive quarterly cash payments for twenty years if you install an air source heat pump, ground source heat pump or solar thermal heating system on your premises.

## Free, no obligation desktop survey & quote

All of our quotes include a realistic demonstration of how much renewable energy can be generated and used in your home or on-site. We provide detailed economic efficiency calculations to ensure you understand exactly how and when you can expect to break even, the structure of repayments and income, and the overall profit you are likely to receive.

To arrange your free survey and quote, simply call our head office: 01275 461 800 or visit our website: [www.solarsense-uk.com/contact-us](http://www.solarsense-uk.com/contact-us)



A large-scale solar PV installation on a roof, with rows of panels stretching into the distance. The scene is captured at sunset, with a warm, golden light illuminating the sky and the panels. The sun is partially obscured by clouds, creating a dramatic effect. In the background, silhouettes of trees and a distant structure are visible against the bright sky.

Leading the way in shifting the UK  
from the fossil fuel era to a future  
based on clean, renewable energy.

**Worthy Farm & Glastonbury  
Festival Site, Pilton**  
249.84 kWp solar PV system  
& energy storage system

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