



A GUIDE TO **COMMERCIAL SOLAR**

Discover your solar potential with Absolar



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Why solar?

**Discover the
true power
of your solar
potential**

Planning for the future

HOW SOLAR SAVES CO₂

Generate your own electricity, instead of using fossil fuels.

Solar power reduces CO₂ emissions by providing a clean and renewable source of energy. The panels are able to collect energy from the sun and convert it into renewable electricity, reducing the need for fossil fuel powered electricity.

The electricity generated from the solar panels will directly reduce the carbon footprint of the building underneath and improve its environmental performance. Plus, it will contribute to a greener and more sustainable National Grid as any surplus power is fed back.

Solar energy reduces water waste and water pollution because PV panels do not need water to operate as other manufacturing processes do. Sunlight is converted into electricity without the need for local water supplies. What's more, solar energy doesn't pollute our waterways like fossil fuels do.

A sustainable and long-term plan to reducing your carbon footprint.

A BRIGHTER WAY OF WORKING



Solar PV panels use sunlight to generate electricity. This electricity can be used to power computers, lighting and non-industrial equipment.



This process does not rely on fossil fuels or other products. None of the energy is wasted because it can be fed back to the grid for future use.



All the while fossil fuels are not being burnt to power your property, carbon dioxide is not being released into the atmosphere.

1
PANEL

=

TWO
metric tonnes
of carbon
saved over its
lifetime

HOW SOLAR SAVES COST

Did you know...

Just one solar panel can generate the equivalent of £116 in electricity per year.

As energy costs continue to rocket, solar is stepping in to offer a more affordable and stable option, and a faster route to reducing monthly energy costs.

3 ways to save with solar



Cut monthly bills and reduce price increase risk

Monthly energy bills, which are expected to remain volatile, can be reduced by the electricity produced by solar panels.



Generate a revenue through the export tariff

The surplus of electricity generation not used by your building could be sold for revenue, such as through an export tariff, to the grid or to private buyers.



Reduce corporation tax

Solar panels are qualifying assets under the 50% First Year Allowance and Annual Investment Allowance. This means that by investing in solar, you are highly likely to significantly reduce the amount of tax you pay.

GET THE BEST OUT OF YOUR INVESTMENT

How can I be sure solar will be worth it?

It's a completely valid question, and why you need comprehensive assessment before making any decisions.

The feasibility of a solar project is affected by a wide range of factors including building structural integrity, orientation, shading, budget, monthly energy bills, and whether there is enough capacity in the grid to get the solar system connected. Any of these factors could significantly affect the financial investments, and therefore alter the ROI of each project.



Reducing your solar installation costs

Find out your ROI, before you agree to installation

The Solar Audit is designed to provide you with an accurate report on your expected return on solar investment so you can make a decision that makes financial sense for your business, before entering into an installation contract.

Optimised solar system design

We use technology to design a fully optimised, bespoke solar system that will generate the greatest energy yield for your property. We'll also help you to find ways to reduce project spend across materials, supplier sourcing, storage and systems.

Save time, cost and risk with pre-installation checks

Prior to installation, there are a number of checks that need to happen, including a structural survey and obtaining the necessary permission from the local National Grid operator, commonly known as G99 permission. We'll take care of this for you, as part of the Solar Audit.

Financial support

Our team can help you to access grants and funding options to finance and save further costs on your solar energy project.





**Are you
ready to
find your
solar
potential?**

STEPS TO SOLAR - THE ABSOLAR WAY

Complete transparency, at every stage



We find your solar potential first, so that you can make an informed, data-led decision about whether solar is right for your property.

Investing in solar can be a daunting task. There's lots to think about, and areas to manage before panels are installed on the roof. We provide support from start to finish, creating an honest and transparent end-to-end solution.

1



Solar enquiry appointment

We take time to understand your energy goals, electrical consumption patterns and budget before arranging a Solar Audit.

2



Solar Audit

Absolar will conduct a comprehensive Solar Audit including creating an optimised solar system design, arranging a structural survey, submitting National Grid applications, as well as investigating financial planning and the expected return on solar investment.

3



Managed installation

We work closely with our trusted and installation experienced teams, and project manage the installation on your behalf from start to finish.

4



Warranty & monitoring

So that you always know how much you're saving, and we know how well the system is performing, we'll set up remote monitoring. All of our installations are MCS Accredited and come with industry-leading warranties.



COMPLETE PROJECT MANAGEMENT

The Absolar team take care of some of the most time-consuming, yet important aspects of a solar planning and installation project.

Our unique approach

THE PROCESS

An end-to-end solar service

Absolar provides a supported route to solar. Our service is here to minimise your risk, to save time and complication and to help you to get the very best financial return on your sustainable investment.



1

SOLAR ENQUIRY

Book an appointment

All solar survey and installation projects start with an initial meeting. We can arrange this to take place in our office in Southampton, at your commercial premises or via an online meeting.

This meeting gives us an opportunity to get to know you and your team, your goals and more about your property, whilst giving you an opportunity to ask questions about our services and technology.

By giving us details of your property in advance, we will provide an early indication of your solar potential and indicative costs.

Tell us about:

A

Long term plans: tell us about your corporate sustainability goals and long-term initiatives.

B

The building: information about the property ownership, your building permissions and lease length.

C

Your energy costs: provide some information about your current tariff and whether you have half hourly consumption data.

2

COMPLETE SOLAR AUDIT

A three-stage audit that determines your solar potential

When considering a solar installation, there are a number of surveys and applications that you need to submit to find out whether your property is suitable for solar.

This is a key process of any solar installation project, that if done incorrectly, can often lead to delays and issues.

Our complete review takes care of this process for you

✓ G99 application

To install solar, you need to find out if you can connect to the National Grid. We'll create and submit solar system designs and manage your application.

✓ Structural survey

Finding out if your roof can support solar panels, our team will enlist approved and trusted structural surveyors to run the necessary checks.

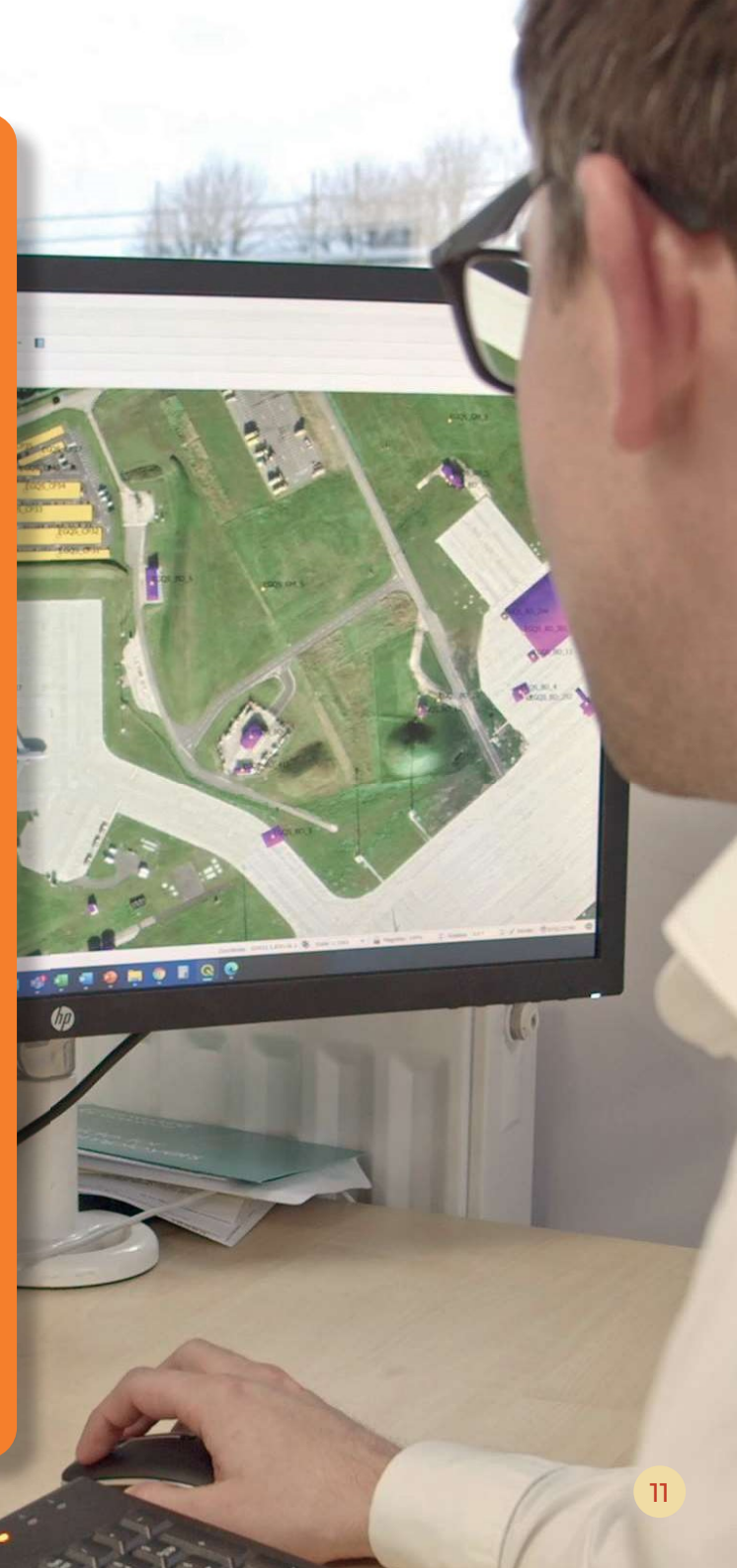
✓ Energy profile

We'll provide an installation quote, an energy analysis and use our technology to calculate the estimated solar ROI, annual carbon and cost savings.

✓ A full report

You'll receive a full audit report including the above, as well as details about available grants, funding options and the estimated project timeline.

- Get complete clarity as to whether solar is right for your business
- Reduce risk across the project and overall project length
- Calculate expected project costs and long-term savings
- Find out if your property can have solar before committing to investment





3

MANAGED INSTALLATION

A fully-managed solar installation project

Once the Solar Audit has been completed and approved, you're ready to proceed with installation. We'll project manage the entire installation process for you.



✓ Suppliers and contractors

Our team will source and manage any external contractors and suppliers working on the installation.



✓ Approved installers

All of our solar installation contractors are both MCS and Framework approved.



✓ Progress updates

We'll ensure that you receive regular updates on the project progress and timeline.

Finding the most cost-effective route

By carrying out intelligent purchasing, together with finding the most efficient processes that use less materials, utilising on-site storage and managing external suppliers such as scaffolders, we also help you to save costs during the installation phase, and pass these cost savings directly to you.

WARRANTY & MONITORING

On-going help and support on how to get the best out of your solar system



Your solar warranty

All of our installations are backed by industry-leading warranties that can be extended by request.



Monitoring your data

We will set up remote monitoring for you, enabling you to see how much you're saving, whilst informing us on how well your solar system is performing. By request, we can provide you with dashboard reporting for publication that can be shared with your customers or other stakeholders.



Solar support service

Should your needs change in the future, we can upgrade your system, add on battery storage or even decommission the solar system for you.

Using the most advanced data collection toolkit, we set you up to achieve the best possible outcome from your solar investment combined with expert-led, one-to-one project management to provide a smooth installation experience.

Project case study

SOUTHAMPTON SCIENCE PARK

An Absolar project



SUPPORTING THE PARK TO MEET ITS SUSTAINABILITY GOALS

University of Southampton Science Park is the South of England's leading innovation hub. The 72-acre Park is home to over 100 innovative science and technology businesses and start-ups.

A core initiative of the Science Park, and one that is shared with The University of Southampton, is sustainability, in particular pledging support for achieving Net Zero emissions by 2030.

One way they plan to achieve this, is by integrating solar as a renewable energy source.



THE 4 MAIN GOALS

The main goals for the client

1. Lower carbon emissions and energy waste
2. Reduce exposure to energy price volatility
3. Make data-led and justified decisions
4. Ensure disruption to tenants is kept to a minimum



THE PROCESS

Solar survey:

We provided the solar potential of 17 buildings situated in the campus, including the size of installation possible and expected cost savings to identify which were most suited to solar.

Solar Audit:

A 3-month process, including an analysis of the chosen building's energy profile, designing an appropriate solar system, submitting design plans to the National Grid to obtain the necessary permissions and surveying the roof structure.

Managed installation:

We managed the project from start to finish, including the supply of solar panels, storage and scaffolding.

The installation was successfully completed in just under 3 weeks.



THE RESULTS



235 kWp installation

= the max DC power generated by the solar system



17.8%

annual return on investment



522 panels

installed on the roof of the Kenneth Dibben House



58 tonnes

of carbon saved annually





"Working with Absolar has a real payback for the businesses working in this building."

Dr Robin Chave

**Chief Executive Officer of
University of Southampton
Science Park**



"Absolar gave us a rundown of what they thought as a best way to go. They are tremendous, they are energetic, they are passionate about what they do, working with them was a great opportunity for both of us."

Stuart Perry

**Operations Manager of
University of Southampton
Science Park**

**University of
Southampton Science
Park continues to work
with Absolar, to monitor
their impact and in
expanding solar panels
to more buildings
across the park.**

An aerial photograph of a city, likely Los Angeles, with a color-coded overlay representing solar potential. The overlay uses a gradient from blue (low potential) to yellow and orange (high potential). The text 'Absolar technology' is in the top left, and a large orange box with white text is in the center. The page number '18' is in a small circle in the bottom left.

Absolar technology

THE TECH BACKGROUND

Our technology plays a fundamental role in informing solar decision-making. The distinctive approach of combining energy and climate science with advanced technology and analysis allows us to undertake property assessments at scale, reducing the time and costs traditionally associated with assessments.

WE SURVEY BUILDINGS USING ADVANCED REMOTE SENSING



Remote surveys allow quick and precise assessment of solar potential for any property

Remote

Using LiDAR, photogrammetry, satellite imagery and AI-powered irradiance modeling, Absolar is able to locate, analyse and report on any property across the UK from our HQ in Southampton.

Accurate

Absolar's solar survey allows assessments to take place at every 30-minute interval throughout the year, rather than on the date of inspection. This means you get the most realistic and accurate real-time results to base decisions on.

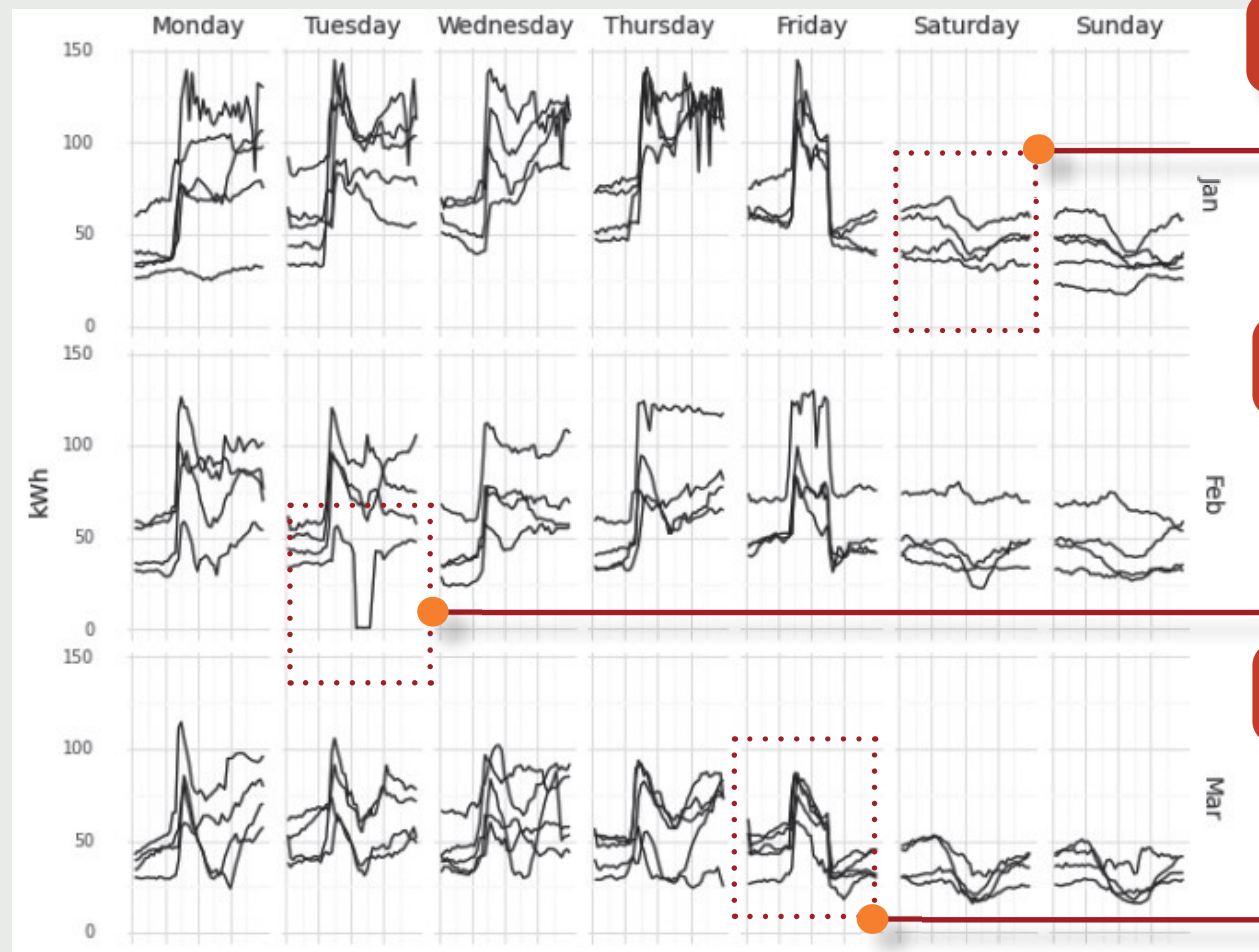
Scalable

Absolar's analysis is carried out over entire neighbourhoods, meaning solar surveys can be provided for one property, or one city. This gives unparalleled insight into the solar potential of portfolios or districts.



UNDERSTANDING YOUR ENERGY CONSUMPTION

An in-depth analysis of your energy consumption data



Standby (phantom) load

Baseline consumption of the building caused by constantly connected equipment such as fridges and internet routers.

Power incidents detection

Detection of abnormal incidents such as power cuts or surge protection, reducing the chance of disruption or data losses.

Daily energy profile

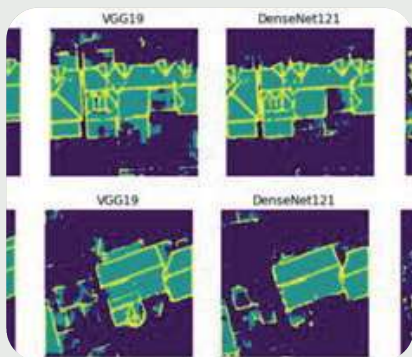
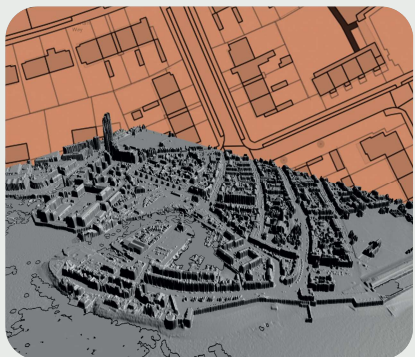
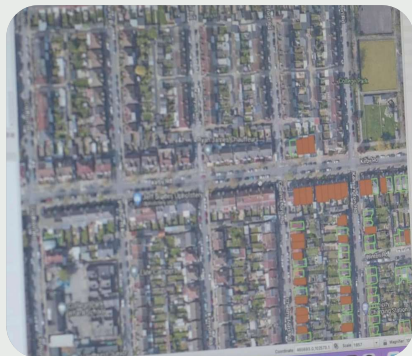
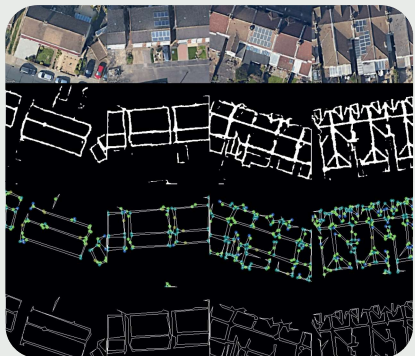
Caused by operations within the building and conventionally has a 9am-to-5pm pattern. This amount of energy consumption should aim to be offset by solar production.

WE ELIMINATE THE GUESS WORK

The very best data-led decision making

We provide accurate production assessments unique to your building combined with overlaying your energy demands.

These results allow you to confidently understand the benefits of solar and make the decision to invest using reliable and independent data.



THE POWER OF AI TECHNOLOGY

See building details with computer vision

By training Deep Learning computer models on thousands of roofs, artificial intelligence (AI) technology is able to provide an accurate prediction of solar power production. We combine the use of computer vision with historical solar data and forecasts to produce a precise energy system assessment.

AI models have been trained using industry leading techniques to recognise roof structure, roof objects and skylights. We combine these outputs with our 3D LiDAR data to identify the optimal rooftop area, including shading analysis. This allows us to fit the optimal number of solar panels, clear of any objects and skylights on the roof.

From this model we calculate the installation cost, savings, export income and payback.



Optimise

We calculate the optimal installation size and impact



Plan

We can detect roof obstacles and factor this into installation



Payback

We calculate the payback and savings for your building

Solar energy

FAQS

What is a Solar Audit and why haven't I heard of it before?

Solar Audits are unique to Absolar and we use them to correct an inefficiency in the current solar installation market.

Currently, solar energy quotations are provided without knowing all the relevant information such as whether the property can be connected to the National Grid and what your energy requirements are.

This leads to either inflated quotations, to allow for changes or increased costs during the project that are passed onto the client, as well as estimated energy bill savings rather than data-led analysis. This causes errors and unpleasant surprises for clients.

A Solar Audit explores all these areas up front, providing you with all the facts and figures before committing to the investment with certainty.

We rent/lease our building from a Landlord, is solar still an option?

Even if you don't own your roof, solar is still an option by reaching an agreement with your Landlord to use the roof in line with existing tenancies. Absolar can review the lease and liaise with the Landlord on your behalf.

What if we need to move property?

Solar will mean your property has lower energy costs and carbon emissions compared to other properties without solar, resulting in a premium property that will likely make it easier to sell or lease.

In many circumstances we can decommission the installation and even move it to your new premises if desired, but this tends to be rare as the new occupants often take over the installation as their own.

Can a solar system be upgraded?

Yes, if your energy circumstances change you may want more power or battery storage. All our installations are able to accommodate flexible upgrades. Simply contact us to discuss your changes.

How will I monitor performance and bill savings?

Absolar can provide you with a full monitoring platform that lets you see how much energy you have saved, both in terms of financial savings and carbon emissions. This includes an annual report to meet your carbon reporting requirements, if required.

The monitoring platform also lets us track how well the system is performing, making any adjustments needed to ensure you get the best out of the solar system.

What are the financing options?

The three most popular ways to pay for solar on a commercial property: cash, loans, or a Power Purchase Agreement (PPA). As part of the Solar Audit, Absolar helps you assess these options and determine the best for your business.

We always recommend choosing a cash purchase whenever possible as it offers the most favourable returns, simplifies ownership, and maximises tax incentives.

Low-interest loans offer the next best return on investment and can often be matched against your energy bill savings.

PPAs are a common way to finance commercial solar installations where a third party investor pays for the installation on your roof and you agree to pay for any power generated that you use, often at a rate far lower than the current electricity price, giving you renewable power at a significant discount.

Can solar panels be temporarily removed for roof maintenance?

Yes, modern installation methods mean that solar panels can be removed for maintenance if required.

How long does it take to install solar, and does it cause disruption?

It can take around 6 months from making your first enquiry to having solar power working on your roof.

Most of this is due to obtaining permissions from the Distribution Network Operators in your area and any planning permission requirements that can take 3 months.

Once permission is received, installations can happen quickly and in line with your schedule.

A solar installation causes very little disruption. Scaffolding will be required to access and provide protection on the roof during the installation and there may be a day or two where electricians need to be inside the building to connect everything up.

Often this is carried out in evenings or weekends to minimise disruption to your business.

What are the biggest risks?

As with most infrastructure projects, there are risks that should be appropriately managed. These risks can be significantly reduced by employing a high-quality installer with experience project management to carry out the work, and not going for the cheapest quote available.

Once installed, a key risk is failing to monitor and maintain the system correctly which means possible faults could go undetected, reducing system performance and your savings.

Another possible risk is the installation not producing the promised savings. This is why it is important to have a clear understanding of current and projected future energy demand as part of the project appraisal process and assessing these against the solar system's production.

Absolar's Solar Audit assesses these risks upfront to significantly reduce this risk.

Finally, another risk is that your business doesn't need as much energy in the longer term owing to changes in your circumstances. These factors can be taken into account in project planning but changes in energy demand surrounding the electrification of heat and vehicles does mean a reduction in your energy demand is unlikely.

The failsafe in this regard is the financial return that the project will deliver purely from selling electricity to the grid. If a solar project breaks even, based on exporting one hundred percent of the electricity it produces to the grid, then there is minimal financial risk.

The next steps

FIND YOUR SOLAR POTENTIAL WITH ABSOLAR

Book an appointment

The easiest way to start is to book a quick meeting with one of our team at absolar.co.uk/book



Financial projection



BOOK A SOLAR APPOINTMENT

Online or face-to-face,
we're ready to start the
conversation

Email us

info@absolar.co.uk

Call us

02382 680106

Visit our website

absolar.co.uk

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