

# Solar Photovoltaics

Making the most of the sun in Menston

## Introduction



In recent years, the popularity of solar photovoltaic (PV) installations has skyrocketed, as more individuals and communities embrace renewable energy sources and take control of their own energy generation. Menston is no exception. If you're considering getting solar PV installed in Menston, this guide will walk you through key considerations, share insightful case studies from the village, shed light on the planning process (especially if you're in a conservation area), and highlight energy tariffs worth considering. Let's dive in!

## Case Studies from Menston Village

There are a considerable number of houses in Menston that have solar panels installed. To inspire and provide real-life insights, here are a few case studies from Menston:

## Bradford Road



**Size:** 4 kWp

**Number of panels:** 16

**Energy generation:** ~2913 kWh/year

**Energy exported to the grid:** unknown

**Orientation:** Half on East, half on West

**Additional systems:** Connection to hot water via Immersun unit

**Installer:** Yorkshire Electrical Solar Systems Ltd (no longer trading)

**Year of installation:** 2014

**Interesting facts/ lessons learned:** We very rarely heat our water from other sources between March and September.

We have individual microinverters for each panel. This means if one gets shaded it doesn't affect the electricity production of the rest.

## Cleasby Road



**Size:** 3 kWp

**Number of panels:** 16

**Energy generation:** ~2400 kWh/year

**Energy exported to the grid:** ~1500 kWh/year

**Orientation:** SSW

**Additional systems:** None

**Installer:** Affordable Solar (no longer trading)

**Year of installation:** 2010

**Interesting facts/ lessons learned:** Exports not enough to justify a battery.

## Norwood Avenue



**Size:** 4.29 kWp

**Number of panels:** 11

**Energy generation:** ~4000 kWh/year (estimated as only have 7 months data)

**Energy exported to the grid:** ~2000 kWh/year (estimated)

**Orientation:** South

**Additional systems:** Battery storage

**Installer:** P4 Solar

**Year of installation:** Nov 2022

**Interesting facts/ lessons learned:** As we are based in High Royds, we needed permission from Leeds City Council and also Trinity Estate before installing the PVs. We have modular battery units which fit under the stairs.



## Oakridge Avenue



**Size:** 2.88 kWp

**Number of panels:** 12

**Energy generation:** 2340 kWh/year

**Energy exported to the grid:** ~2000 kWh/year (estimated)

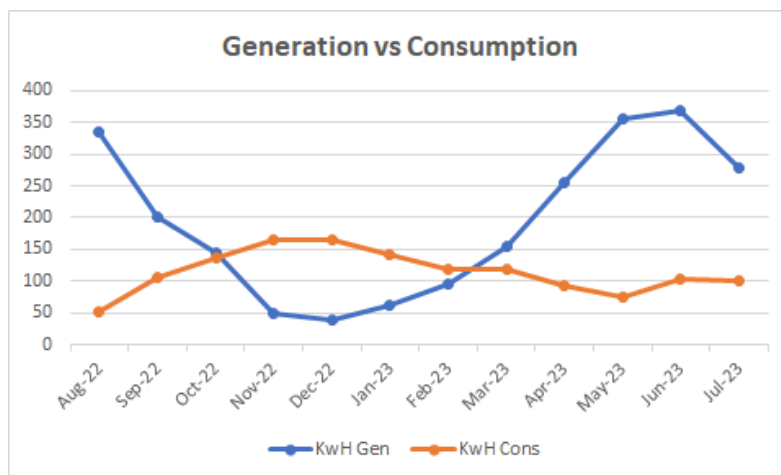
**Orientation:** South & West

**Additional systems:** None

**Installer:** Leeds Solar

**Year of installation:** Oct 2011

**Interesting facts/ lessons learned:** We have generated approximately 28,000 kWh since installation. On the best days we can generate 17 kWh of electricity, and are a net producer of electricity. The graph below shows the consumption and production of electricity over a year



# Key things to think about

## 1. Understanding your energy needs



**Assess your average electricity consumption:** Take a look at your energy bills to estimate your average electricity consumption. Ofgem, the energy regulator, provides helpful estimates for different types of households. For example, low users (such as flats or 1-bed houses) typically consume around 1800kWh/year, while medium users (2-3 bed houses) consume around 2,900kWh/year, and high users (4+ bed houses) consume around 4,300kWh/year. You can find more information at: <https://www.ofgem.gov.uk/information-consumers/energy-advice-households/average-gas-and-electricity-use-explained>

**Consider your peak usage times:** Take note of when you use electricity the most during the day. If you're typically at home during daylight hours, you'll be able to maximise the use of energy generated by your PV system. If you mainly use electricity in the evening, you might want to consider incorporating battery storage into your solar PV setup. Additionally, if you can time certain high-energy-consuming appliances, such as washing machines or dishwashers, to run when the sun is at its peak, it can help you make the most of your PV system.

**Future changes in energy usage:** Think about any future changes in your energy needs, such as changes in the numbers of people in your household, purchasing an electric vehicle, or switching to heat pumps. These factors may impact the size and capacity of the solar PV system you choose to install.

## 2. How much energy can you generate



**Analyse your roof's solar potential:** A south-facing roof with minimal shading offers the highest solar yield. However, even east or west-facing roofs can still generate significant electricity. For example, a south-facing house in Menston with a 4kWp (~10 panels) array could generate around 3600kWh/year. If the same array was east or west facing it would generate around 2700kWh/year and north facing around 1700kWh/year. You can find more information on potential solar generation at <https://globalsolaratlas.info/map> and <https://pvfitcalculator.energysavingtrust.org.uk/>

**Consider your roof size, slope, and structural integrity:** Take into account the size, slope, and structural integrity of your roof. These factors will play a role in determining the number of panels your roof can accommodate and also how much energy they could generate. Your solar PV installer should provide guidance on roof suitability and provide an estimate of the number of panels that can be installed when they give you a quote.

**Explore additional options:** Depending on your energy needs, you may want to consider additional options such as battery storage or connections to hot water tanks. These solutions can help you store excess electricity or utilise solar energy for heating water. Your installer can guide you on the suitability and location requirements for these additional features.



### 3. Budget and financing



**Assess your budget:** Begin by determining your budget for the solar PV installation. Consider how much you're willing to invest upfront and evaluate your financial resources to see if PVs are the right choice for you at this time. Having a clear budget in mind will help guide your decision-making process.

**Consider payback periods:** Solar PV installations are a long-term investment that offers significant returns over time. While the payback period is typically around 10 years, it's important to note that beyond this point, you'll continue to save money on your energy bills through the electricity you generate and potentially export to the grid. This steady stream of savings makes solar PV an attractive option for homeowners. To estimate the approximate time it will take to break even on your investment, you can use helpful tools such as the solar energy calculator provided by the Energy Saving Trust at <https://energysavingtrust.org.uk/tool/solar-energy-calculator/>

### 4. Finding the right installer





**Seek certified installers with a proven track record:** Look for certified solar PV installers who have a track record of successful installations. Check their credentials and certifications to ensure they meet industry standards. It's also beneficial to read customer reviews and testimonials to get an idea of their reputation and customer satisfaction.

**Request quotes from multiple installers:** To ensure competitive pricing and quality workmanship, request quotes from multiple installers. This allows you to compare prices, services, and warranties offered. Keep in mind that the cheapest option may not always be the best, so consider the overall value and reputation of the installer.

**Verify MCS Certification:** If you plan to export excess energy to the grid, ensure that the solar PV installer is Microgeneration Certification Scheme (MCS) certified. This certification is required for eligibility to receive payments for exporting electricity.

**Seek referrals from PV owners in the village:** Reach out to other Menston residents who already have solar PV installations and ask for their referrals. Not only can this help you find trusted local installers, but some referral programs may even offer savings for both you and the referrer.

**Explore group buying schemes:** Consider engaging with others on your street or in the village who are interested in solar PV installations. Group buying schemes, such as Solar Together, can provide collective purchasing power, potentially securing better deals and reducing costs for all participants.

**Consider waiting times:** It's important to be aware that there is currently a high demand for solar PV installations. As a result, waiting times for installation may be longer than usual. Take this into account and plan accordingly.

## 5. Navigating planning requirements



**Permitted development for most properties:** In England and Wales, the Government's Planning Portal states that solar panels are generally considered "permitted development," meaning you usually don't need to apply for planning permission. However, there are a few exceptions to keep in mind.

**Exceptions:** Flat roofs, listed properties, and those located within conservation areas may require planning permission for solar PV installations. It's important to note that part of Menston Village falls within the conservation area, also properties on certain developments such as High Royds might need planning permission. You can find a map of the Menston conservation area at <https://www.bradford.gov.uk/media/2476/menston.pdf> <https://leedsgis.maps.arcgis.com/apps/MapSeries/index.html?appid=daeefe7a292b4f80a0ee284afe0926e4>

**Developer conditions:** In some cases, planning approval may be necessary for houses due to specific conditions imposed by developers. For example, a recent enquiry to Leeds City Council highlighted that planning permission was required for a PV installation on a new build house in High Royds due to Condition 35 in the Town and Country Planning Order 1995. It's crucial to be aware of any conditions that may apply to your property.

**Consult your local planning authority:** To understand the specific regulations and guidelines for solar PV installations, it's best to contact your local planning authority (Bradford Council or

Leeds City Council). They will provide you with information on any restrictions and requirements. Some planning authorities may require mock-up visualisations or detailed plans to assess the visual impact, and your solar PV installer can usually assist in providing this information.

**Planning permission process:** If planning permission is required, the process typically takes around two or three months. It's important to factor in this timeline when planning your solar PV installation.

## 6. Energy tariffs to consider



When you have solar PV installed, you'll have the opportunity to consider various energy tariffs. Here are a few worth exploring:

**Export tariffs:** These tariffs allow you to earn money by exporting excess electricity back to the grid by making use of the Smart Export Guarantee (SEG) scheme. It's important to compare export tariff rates from different energy suppliers to maximise your earnings. Some suppliers, such as Octopus, offer export tariffs that vary at different times of the day.

**Time-of-use tariffs:** These tariffs offer different rates for electricity consumed during different times of the day. If you can adjust your energy usage to align with off-peak hours, you may benefit from reduced rates. If you have battery storage and you're on a flexible 'time-of-use' energy tariff, with cheaper electricity overnight for example, you can charge the battery at cheaper times from the grid and use it to power your house during more expensive hours.



# Conclusion



We hope this guide has shed light on the exciting possibilities of solar photovoltaics in Menston. By considering your energy needs, assessing your roof's potential, budgeting wisely, selecting the right installer, and understanding the planning process, you're well on your way to harnessing the power of the sun and reducing your carbon footprint.

But our journey doesn't end here! We'd love to hear more about your experiences with solar photovoltaics in Menston. If you have any inspiring case studies or success stories to share, we encourage you to reach out. Your firsthand knowledge can inspire others to join the solar revolution and make a positive impact on our environment.

Together, let's power Menston with renewable energy. Whether it's for financial savings, environmental consciousness, or a desire to be part of a sustainable future, solar photovoltaics have the potential to transform our village.

So, let's continue this conversation. If you have any questions, additional information to share, or simply want to learn more about solar photovoltaics in Menston, please don't hesitate to get in touch. Together, we can make a difference, one solar panel at a time!



To contact Climate Action Menston :

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**Disclaimer:** The information provided in this guide is for general informational purposes only. While we strive to provide accurate information, we cannot guarantee its completeness or suitability for your specific circumstances. It is essential to consult with professionals and local authorities for precise advice regarding solar photovoltaic installations. We assume no liability for any damages or losses resulting from the use of this information. Please conduct thorough research and make informed decisions based on your individual needs.