MAKING SOLAR STANDARD

Buyers Guide for Construction:-
7 things to consider when buying Solar Panels

Do you need some extra points to meet a planning or SAP requirement or are you thinking about installing solar panels on your development?

What should you consider when specifying solar and selecting a solar installation contractor?

Here are some things to consider that you might find helpful when selecting an installation contractor:

1. **Drawings and Designs**

   A good installation contractor will provide drawings for each building or plot and a full design of the system with schematics – free of charge.

   This should be considered part of a professional package – not an optional extra!

   You should also expect the installer to be flexible with designs and be prepared to show you a number of options if necessary to allow you or your client to decide what fits best for the scheme.

2. **Make sure that the panels will fit and look neat**

   We have long since graduated from the “green halo” – where it is OK to install badly fitting or unattractive products as long as it is sustainable or ticks a box! Now these products need to look good, fit properly and the work should be properly supported with cast iron warranties. There are now available solar panels which fit neatly into the roof (as opposed to on it), panels that are all black in appearance including the frames. Also available are solar tiles and even brown coloured solar tiles to blend in with a terracotta roof.

   These panels will not only look nicer, they are also less obviously visible as they are matched to the roof covering.

   Your installer should have a range of these available to offer you and the expertise and experience to advise you on the advantages and implications of each.

3. **Ensure that your installation contractor has experience of the entire installation**It is common for trades to have experience of some of the aspects of solar installation e.g. roof work to install panels or electrical work to connect to the mains. However, in order to make certain that the system works as a whole, the installer needs to understand the whole process of design, roof installation, electrical installation, commissioning, troubleshooting and support.

   It is also essential that the installer has the relevant certifications; at a minimum:

   - Microgeneration Certification Scheme (MCS)
   - CHAS or Safecontractor
   - NICEIC or NAPIT

   Ask the solar installation contractor how many solar PV installations they have completed. Ask to speak to several references and see examples of their work.

4. **Don't choose a "contractual" installer**

   Some organisations are culturally wired to maximise their profits by being contractual; in other words doing no more than they are contractually obliged to do without further money. Works on building sites can be unpredictable and require the cooperation of many trades, so it is essential that they get on and work together effectively without unnecessary conflict and finger pointing where additional works are required to get the job done or in the unfortunate event of something going wrong or not to plan.

   A contractor that will go the extra mile to be helpful without demanding additional compensation can be worth their weight in gold when you are up against it or need a job to get finished.

5. Look for value for money as well as lowest price

Installers should offer many extra benefits for free including:

- Designs with output estimates, visuals and schematics
- CAD drawings for all buildings and plots
- A cast iron warranty
- A complete installation including any re-visits without demanding extra compensation
- Effective and organised communication to attend site when promised to avoid delays to your programme
- National coverage and an understanding of the clients expectations for meeting strict deadlines

6. Ensure that the installer can work with other trades on site

Installation of solar involves close cooperation with your roofers, scaffolders, electricians and many other trades. It is essential that these companies – and their operatives on site – can work together to build the complete building to time and budget. See “contractual” installers in 4 above.

Cooperation between trades can provide many benefits where work can be completed more quickly; for example where the site electricians can run DC cables for the solar installation whilst wiring the building.

7. Make certain that your installation contractor has experience of working "on-site"

There are many solar installers in the market that have little or no experience of commercial or site work and have experience of domestic work only or commercial retrofit at best. These installers may struggle to understand the vagaries of construction sites and the need for:

- The relevant Health & Safety requirements including Risk Assessments and Method Statements, the correct certification (e.g. CHAS or Safecontractor), CSCS cards and PPE.
- The cooperation between trades on site that is required to get the build finished on time.
- The uncertainty of the build plan and that things can change in short notice. It is essential to be flexible in your planning.
- The commercial complexities of valuations and invoicing leading to misunderstandings and disputes on site. This can cause work to be delayed.
- Solar PV installation can be disjointed as it can be a small part of the build resulting in many short visits to site. Therefore the ability to resource multiple sites or multiple projects simultaneously rather than just being set up to work on one project to completion before leaving site is very valuable.
- National coverage and an understanding of the clients expectations for meeting strict deadlines

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Some Solar basics that might be of interest

What is Solar Power?

The sun provides a free source of carbon free energy in the form of sunlight. You can capture some of this free energy directly to convert sunlight into electricity using solar photovoltaic (PV) panels.

How does solar PV work?

Solar PV systems convert light into electrical power using a thin layer of semi-conducting material, usually silicon, encased between a sheet of glass and a polymer resin. These solar panels or modules can be grouped together to form an array. When exposed to daylight electrons in the semi-conducting material become energised. These electrons are then able to flow through the material generating a direct current (DC). The DC is carried through wiring to an inverter which converts the current to 240V alternating current (AC) so it can be connected to the building's electricity supply.

What does kWp and kWh mean?

Solar electricity systems are given a rating in kilowatts peak (kWp). This is the peak performance for example at noon on a sunny day. The total amount of electricity the system actually generates in a year is measured in kilowatt hours (kWh). This will depend on the system's orientation, shading and location, as well as the size of the system (in kWp) installed. Each kWp should generate around 800 to 900kWh per year if unshaded and roughly south facing with a pitch of around 30-50°.