

Renewable technology application guidance – Building Regulations

Contents

Solar Photovoltaics (Solar PV)	1
Structural Safety	2
Electrical Safety	2
Grid Connection for Solar and battery storage	2
Ventilation	3
What happens if your solar panels don't comply with building regulations?	3
Air Source Heat Pumps (ASHP).....	3
MCS Planning Standards and noise level requirements.....	4
Grid Connection for a Heat Pump	4

Solar Photovoltaics (Solar PV)

Regardless of whether or not planning permission is required for the installation of your solar panels, the installation itself is still subject to standard building regulations.

Your solar panel installer will mainly focus on the building regulations that apply to structural safety, electrical safety, and ventilation. However, tradespeople have to comply with all building regulations while carrying out any job. This includes using materials that have been approved by relevant certification bodies (e.g. NAPIT), to ensure your solar installation doesn't endanger any occupants.

All standard health and safety measures must be adhered to, and you may have to prove to your local planning office that your property fully complies with these specific requirements. The best way for you to avoid any problems with building regulations is to use an MCS certified installer for the fitting of your solar panels. You can find a full list of them on the MCS website. Installers accredited by the likes of NAPIT can submit a building regulations application on your behalf.

Your installer is legally bound to adhere to all building regulations. If they don't, your local authority may serve you with an enforcement notice.

Structural Safety

You will need to check that your roof is capable of supporting the additional weight that comes with the solar panels. You will also be required to carry out any potential alterations to make it safe. Fortunately, most roofs in the UK are built to hold much more than a solar panel system, which usually weigh around 20kg per square metre when everything's included.

If you have a flat roof, hipped roof, or vaulted ceiling, your installer will likely arrange an in-person structural survey to make sure your home can hold the system without complaint. If there are any issues, your installer may recommend – or insist – that you hire a tradesperson to carry out some strengthening work.

It is possible that you will be asked to supply evidence in the form of a Structural Engineer's report that your roof will accept the new load.

Electrical Safety

All electrical work comes under Building Regulations and is notifiable to the local authority. Solar installers should provide a certificate for the electrical installation and make the notification to Building Control via their certification body (e.g. NAPIT).

Where responsible for notification under the Building Regulations, the MCS Contractor shall ensure notification has been completed prior to handing over the installation.

Your installer must also leave you with certificates, documents, and notes explaining the standard and nature of the work they've done. It may include operating instructions, logbooks, detailed plans, and/or permanent labels that clearly mark electrical connections, switches, and fuse boxes.

Grid Connection for Solar and battery storage

Your solar installer must also contact the Distribution Network Operator (DNO) via 'connect and notify' or 'apply to connect' to ensure that the system is authorised.

'Connect and notify' means the DNO application can occur after the installation. This involves completing a G98 application form within 28 days of the solar panels being in place. It is for smaller solar PV systems that are under 3.68kWp in size.

'Apply to connect' is for larger installations exceeding 3.68kWp and requires a G99 application. This is because the DNO will need to check whether the grid is able to take the extra electricity load before your system is up and running.

As the device owner, you are responsible for ensuring that your installer has notified the relevant DNO of the solar PV installation being complete – and if it was an ‘apply to connect’ project, that it was granted authorisation before the work was carried out.

If you’re installing a battery storage system alongside your solar PV, you will also need a DNO application. The process is the same as for solar panels as outlined above and again, your installer will be able to complete this for you.

Ventilation

Solar panel systems produce a fair amount of heat, from the panels themselves and connected equipment like inverters, cables, and solar batteries.

This heat must be ventilated properly – or simply given the opportunity to disperse – so none of these parts overheat.

If the panels are installed on your roof, the engineer must leave enough space under and to the sides of the system to allow heat to escape. They should do the same for your battery and inverter, whether they’re located in your loft, your plant room, or externally.

What happens if your solar panels don’t comply with building regulations?

- If your solar panels don’t comply with building regulations, they may not function properly and/or cause significant safety risks.
- If your system that violates building regulations, you’ll be served with an enforcement notice by the local authority to either remove the system or make changes to the installation.

Air Source Heat Pumps (ASHP)

Installation of either a ground source or air source heat pump will have to comply with the Building Regulations.

You should instruct an installer who can provide the necessary advice, preferably one who belongs to either the [Microgeneration Certification Scheme](#) or the relevant [Competent Person Scheme](#).

- Development is permitted only if the air source heat pump installation complies with the Microgeneration Certification Scheme Planning Standards (MCS 020) or equivalent standards.
- The volume of the air source heat pump’s outdoor compressor unit (including housing) must not exceed 0.6 cubic metres

- Only the first installation of an air source heat pump would be permitted development. Additional air source heat pumps at the same property requires an application for planning permission
- All parts of the air source heat pump must be at least one metre from the property boundary
- Installations on pitched roofs are not permitted development. If installed on a flat roof all parts of the air source heat pump must be at least one metre from the external edge of that roof
- Permitted development rights do not apply for installations within the curtilage of a Listed Building or within a site designated as a Scheduled Monument
- On land within a Conservation Area or World Heritage Site the air source heat pump must not be installed on a wall or roof which fronts a highway or be nearer to any highway which bounds the property than any part of the building
- On land that is not within a Conservation Area or World Heritage Site, the air source heat pump must not be installed on any part of a wall above the level of the ground floor storey if that wall fronts a highway.

Building Regulations parts A-T apply to ASHP plus Regulation 7. All of these need to be adhered to by the installer. See the planning portal approved documents page for more information: <https://www.planningportal.co.uk/applications/building-control/applications/building-control/approved-documents>

MCS Planning Standards and noise level requirements

The MCS Planning Standards (MCS 020) stipulate that noise levels for an air source heat pump on its own must stay at or below 42 decibels (dB) from a metre distance away from any habitable room. If it does, you'll need to get planning permission approval.

Grid Connection for a Heat Pump

Installing any heat pump adds a significant demand for electricity on the local grid. For this reason, the local Distribution Network Operator (DNO) will need notifying either before – apply to connect, or within 28 days once the installation is complete -connect and notify. This would be completed by the installer.

‘Apply to connect’ This applies to premises with new Maximum Demand (MD) between 60A and 100A inclusive. In this scenario, you must apply for a connection prior to installation by completing the heat pump connection form. The DNO will subsequently assess the supply capacity within 10 working days.

‘Connect & notify’ This scenario applies to properties with new Maximum Demand (MD) ≤60A and meeting all other relevant requirements. In this scenario, you can

connect the device(s) and should notify the DNO by completing the heat pump connection form within 28 days of the installation.