



Cleaning equipment

NWT use **QLEEN** high performance professional cleaning systems made in Germany. **ROTAQLEEN**, a rotating brush that cleans quickly and smoothly, is specifically designed for use on solar PV installations.

With two 12 volt engines integrated into the brush head instead of using water flow to rotate the cleaning surface, **ROTAQLEEN** can remove heavily built up dirt, lichen, bird waste and tree sap effectively, achieving substantially superior cleaning results.

Watch the equipment in action at
www.nwtenergy.co.uk/maintenanceservices/solar-cleaning

So...

Now that your solar PV system has been in place for a while, we wanted to get in touch to let you know about NWT's operation and maintenance services for commercial installations. We can inspect your system to ensure that it continues to operate with maximum efficiency and to identify any potential condition issues before they have a chance to cause a problem.

Why proper cleaning is vital

- The income you receive from your solar photovoltaic installation is directly linked to its efficiency in terms of generating electricity from light and subsequently feeding this in to the electricity distribution network.
- Several factors can affect productivity, so effective operation and maintenance is key to protecting your investment.
- Since the Feed-in Tariff is paid over a fixed term, revenue lost through reduced productivity can not be recouped later.
- The longer it takes before it is rectified the more revenue will have been lost.

Clean panels = more electricity

The two major components of this productivity are the ease with which light reaches the semiconductor surface beneath the protective glass on a panel, and the efficiency with which the inverters deliver electricity in AC form to the network.

In the first case, regular panel cleaning will ensure that the maximum amount of light reaches the active surface of the panel. The second is more complex, with numerous potential risks to consider.

What next?

If you would like us to check your system is working as well as it can or have any questions at all regarding your installation, please call the office on **+44 (0) 1444 470018** or email us at **info@nwtenergy.co.uk**



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Solar PV Professional panel cleaning



Why solar PV cleaning matters...

- Light needs to get through to generate electricity
- Grime can come from dust, crops, bird waste or lichen
- Regular cleaning is essential to maintain output
- Persistent obstruction causes electrical 'hot spot' defects in solar panels

NWT's cleaning team use our own dedicated access equipment. Hiring in powered access equipment generally adds hundreds of pounds to the overall cleaning cost. By choosing NWT you are assured of a totally independent and cost-efficient service.



Electricity is generated by PV panels when light hits the semi-conductor surface beneath the protective glass.

Ensuring that the maximum amount of light reaches this surface will ensure that they perform as well as possible.

Dirt builds up on the surface of solar panels over time, reducing the amount of light that can reach the panel surface.

Periodic cleaning is essential in order to ensure maximum yield from the installation by ensuring that they receive as much sunlight as possible, as well as to prevent electrical issues that can arise from long-term partial shading of PV modules.

How often solar panels need to be cleaned will depend on site-specific circumstances and the amount of particles in the air, as well as the presence of wildlife. If the surface dirt is allowed to build too much it becomes difficult to remove it effectively, meaning the work takes longer and therefore costs more to rectify.

As a general rule, we recommend cleaning your system **at least annually** to ensure robust performance. In many cases there can be substantial reductions in the amount of electricity being generated because of surface dirt.

Depending on the inverter configuration, the modules are likely to be connected in 'strings' to the inverters.

This arrangement means that if even one of the modules is obstructed, the output of the whole string may suffer. If this is allowed to continue 'hot spots' can develop on your solar modules that will hinder the flow of electricity and cause panel damage.

This makes it is even more essential to ensure that the modules are free from dirt, leaves, bird droppings, etc.