

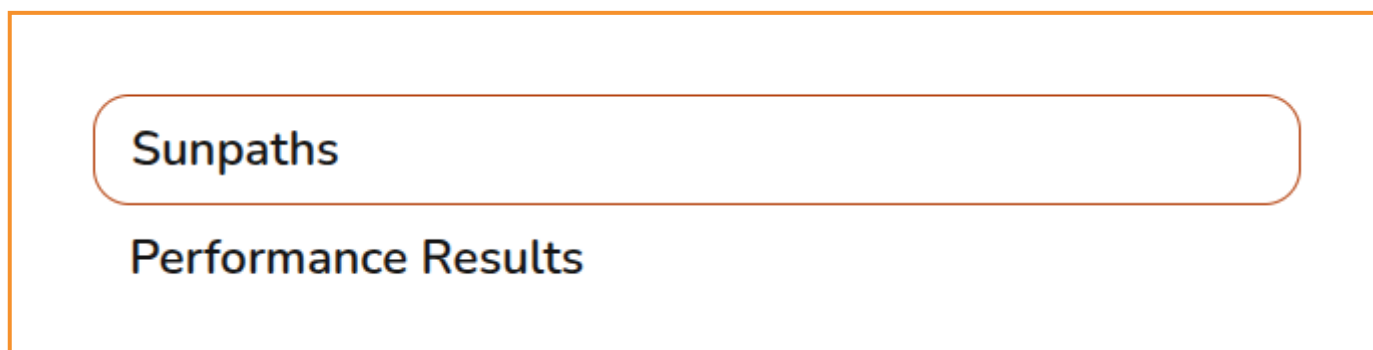
Performance task

This guide applies to beta.easy-pv.ie version of Easy PV. The information provided here may not be accurate for easy-pv.co.uk, easy-pv.com and easy-pv.ie.

The performance task uses the location, roof inclination and orientation and shading information to estimate the annual output of the system. This is then used in the [consumption task](#) to estimate how much of what is generated will be used directly, used to charge a battery or exported to the grid, which is needed to estimate the [financial benefits](#) of the system.

Navigating the performance task

The right hand sidebar contains options to switch between the **sunpaths** and the **performance results**:

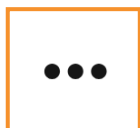


As well as the following options:



Edit inputs

Update the location, pitch and orientation of the roofs and panel allocation



View all options

Including editing performance preferences and opening the help page

Editing inputs

Certain inputs are required for the performance estimate to be calculated. Designing in 3D and [configuring your settings](#) to automate panel allocation and sunpath diagram calculations will streamline much of this task.

Location and roofs

First, if not already input when creating the project, you will need to set the location. If you are creating a flat roof system or using quick roof mode, you will also need to input pitch and orientation. Both this and the location data are used to determine the output per kWp of the system.

Both the location and roofs section may show as ticked and completed already if this information can be pulled from earlier tasks in the project.

Panel allocation

This section will depend on how you have configured your settings.

- If you have selected for your panels to be **automatically allocated**, then panel allocation will show as completed
- If you have selected **suggest allocation** then here you can choose to edit the allocation or select **Done** to accept the allocation and close the window.
- If you have **manual allocation** selected then you will need to allocate the panels here. There are some cases where auto-stringing will not work and manual allocation will be required. Further information about manual panel allocation can be found [here](#).

If automatic allocation is selected and the location and roofs tabs are auto-completed, then the input window will not open. Click the pen icon to open the window and edit the inputs.

Sunpaths

The sunpath diagrams maps the path of the sun across the sky at different hours in the day for different months of the year. For each point on the sunpath diagram, Easy PV calculates the amount of solar radiation reaching the panels from direct and diffuse radiation. For shaded regions, where direct radiation is radiation is fully blocked, the system calculates how much diffuse radiation still reaches the panels. The shading factor is the proportion of solar radiation that reaches the panels after accounting for these shading losses.

Automating with 3D

If designing in 3D or magic design mode, the shading can be calculated automatically, provided any trees or obstructions have been modeled. Otherwise, you will need to manually draw on the sunpath diagram what shade is on the panels at different points in the year.

Navigating between inverters and inputs

On the top left you will see each of your inverters, below this for each inverter you will see each input on the inverter. There is a sunpath diagram and shading factor calculated for each input.

Performance results

- Section **A** details the installed capacity, orientation of the system, inclination of the system and the location. These inputs can be adjusted by clicking the pen icon in the top right.
- In section **B**, the data in section **A** is used to estimate the output per kWp for the unshaded array using the NREL's PVWatts calculator. The percentage of output lost from shade is then subtracted from this value before it's then multiplied by the kWp of the input, to calculate the estimated generation per input. To adjust the percentage lost, navigate to the sunpaths tab.

Revision #31

Created 17 December 2024 11:28:58 by Daisy Kernick

Updated 24 February 2025 11:36:22 by Daisy Kernick