

Understanding the Consumption task

How does the Consumption task estimate self-consumption?

Easy PV simulates generation, consumption and battery usage across a full year to estimate how much solar energy is used on site. The [self-consumption](#) is the proportion of electricity generated that is consumed on the property (directly or via a battery).

To determine how much is used in the property, we use the total generation figure from the [Performance task](#) and model this across the year using a PVGIS **generation profile**. This is then compared against the chosen **consumption profile**. Easy PV looks **minute-by-minute over the course of the year** at how much energy is generated and consumed and, if present, how charged the battery is. It then models how the energy would be diverted accordingly. For example, if solar power is being generated and the profile shows they are consuming energy at that time, then this energy will be diverted to consumption. If they are not consuming at that time then it will be used to charge a battery (where present) or discharged to the grid. This factors in forced charge and discharge times, battery specs and export limits. We can then determine how much is used directly, used to charge the battery or sent to the grid.

What is the difference between the MCS and Easy PV self-consumption calculations?

	MCS (UK only)	Easy PV
Easy PV task	Completed at the end of Performance task , select <i>MCS</i> in Financial task to use	Completed in Consumption task , select <i>Easy PV</i> in Financial task to use
System size and consumption	Consumption: 1500-6000kWh Generation: <6000kWh Usable battery capacity: <15.1kWh	Any consumption, generation or battery capacity
Consumption profile	Domestic profiles: home all day, home half the day and out all day	Domestic, commercial consumption profiles or half-hourly data from customer

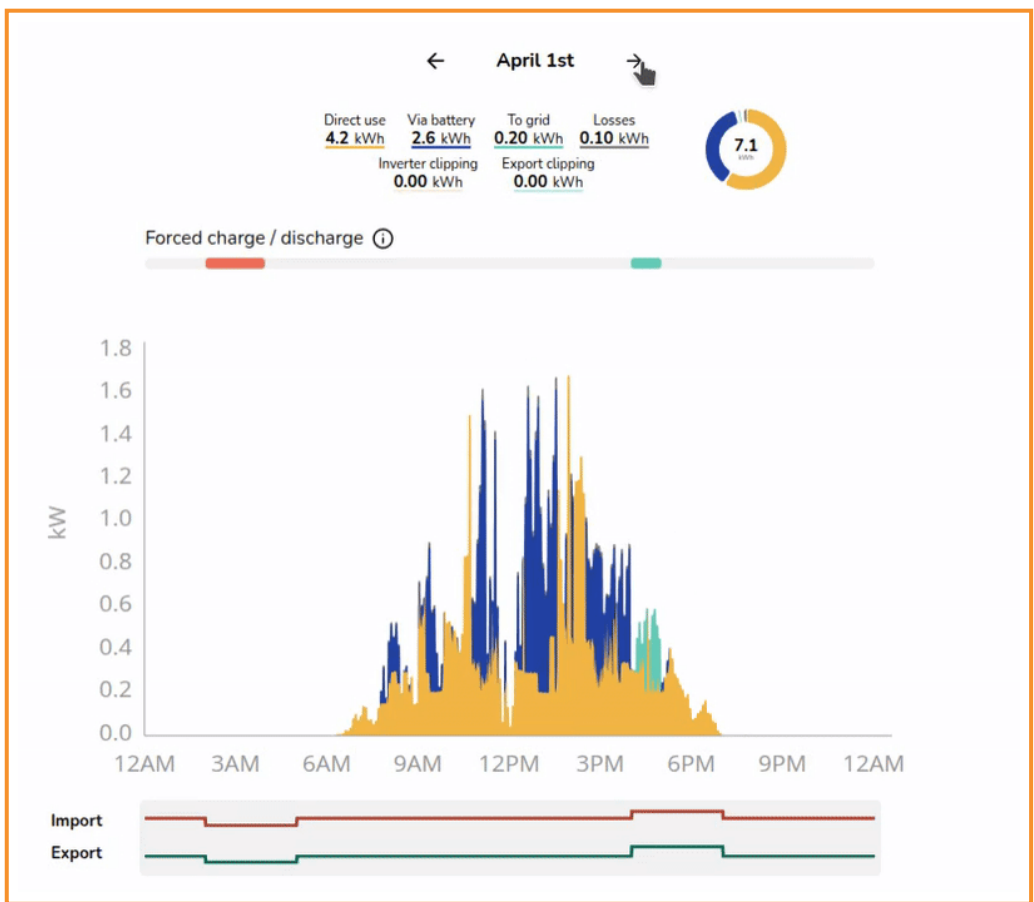
Method	Compares annual generation and determines self-consumption based on look-up tables.	Compares generation and consumption profiles minute-by-minute across the year to determine self-consumption
Additional options	Limited since it only compares annual figures.	Minute-by-minute calculation means export limits, inverter clipping, variable tariffs and forced charging/discharging of batteries are factored into calculations

For IE users, only Easy PV method is available.

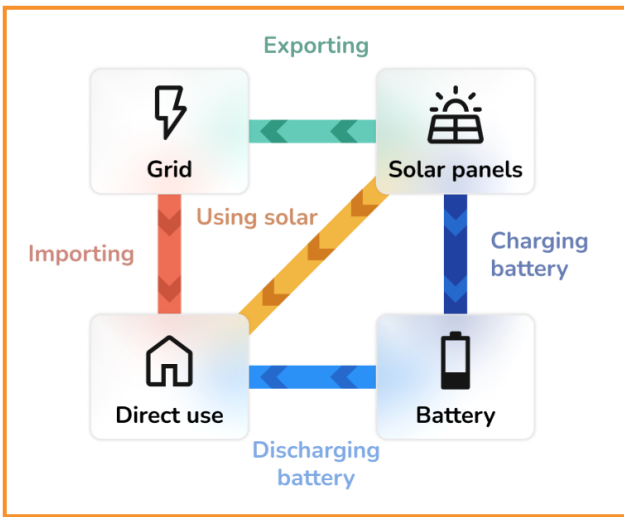
Understanding consumption data

Once you have configured the Consumption task inputs and submitted them, you can explore the calculated information.

The left-hand side shows the full results of the Consumption task calculations with **interactive graphs** and **detailed insights**. For each section, the top graph gives you the annual figures in kWh and the bottom graph gives daily figures in kW.

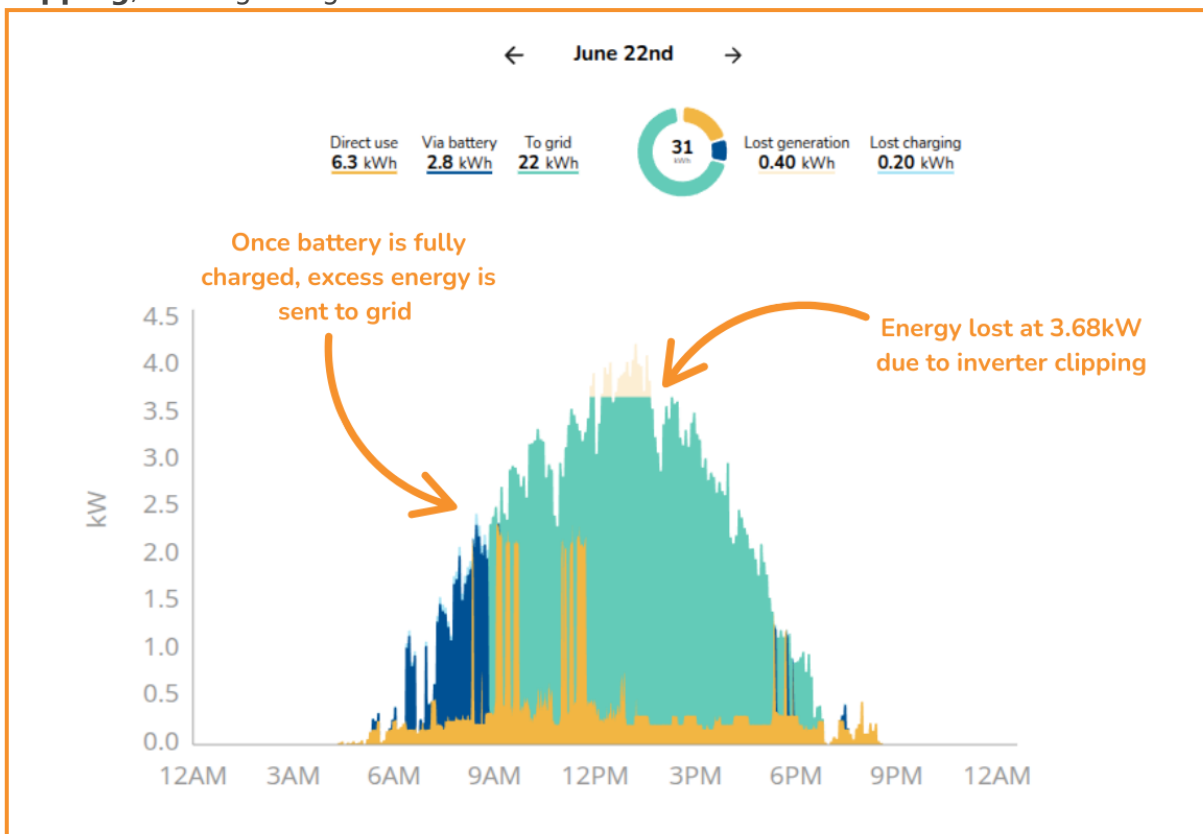


All graphs use the following key to help you understand the generated data:



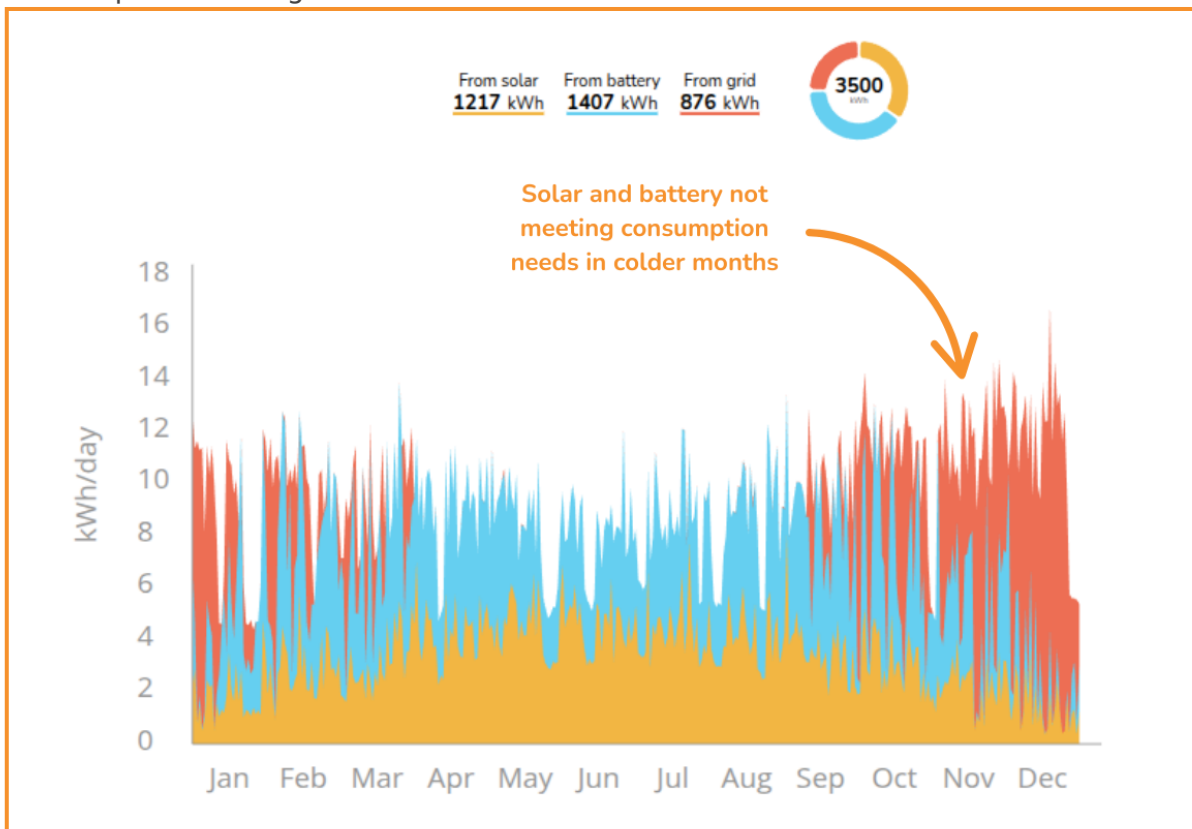
Generation

- This shows the estimated annual generation of the system and whether the generated energy is used directly in the house, used to charge the battery or exported to the grid.
- It will also display the amount of energy lost through inverter clipping, export clipping and charging if applicable.
- Bottom graph can help understand **export rates** and the impact of **export or inverter clipping**, with figures given in kW.



Consumption

- This shows the total annual energy consumption of the property across the year based on the selected consumption profile.
- It shows how much energy is expected to be supplied directly from the solar array, via the battery or imported from the grid.
- Top graph useful to see how consumption is distributed across the year and how this consumption is being met.



Import and export

- This shows the likely flow of energy to and from the grid over the course of a year.
- It's likely that there will be more energy exported during summer when the solar array is generating more energy, and more energy will be imported from the grid during winter months.

Financial benefits

- This shows the money spent and earned on electricity flowing to and from the grid over the course of a year based on selected tariffs.
- It allows you to see the total money earned from export payments versus the money spent on imports, and how it would compare to having no solar installed.

If you would like to use the Easy PV self-consumption calculations as the basis for your financial projections in the customer proposal, make sure it is selected in the [Financial task](#).

Battery utilisation

- This helps you understand the modelled utilisation of the battery over the course of the year based on the amount of the the available battery capacity that is actually charged and discharged each day.
- Utilisation of over 100% is possible at times where a battery is charged and discharged more than once during a day.

If you have low battery utilisation you may want to reduce the size of the batteries or model forced charging of the batteries on an overnight tariff.

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