

Performance and Consumption task

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Performance task (UK)

heatpunk.co.uk

The Performance task in Heatpunk was updated on 17 March 2025 to be compliant with the new version MCS calculation methods outlined in the updated **MCS 031: Heat Pump Pre-sale information and performance calculation** standards.

Full details of the MCS standard can be found here: mcs-certified.com/an-update-to-mcs-031-the-heat-pump-pre-sale-information-and-performance-calculation.

Compliance with this update is mandatory from 18 March 2025.

How this update affects existing projects

Any existing Heatpunk projects with completed MCS performance estimates prior to this date will remain unchanged within Heatpunk, with the option to switch to the new version:

Performance Estimate



IMPORTANT NOTE: Due to [an update to the heat pump performance estimate](#) by MCS, this performance task is deprecated and will be retired in several months time. New projects will automatically use the new performance task.

If you would like to switch to the new performance task, please [click here](#).

It's recommended that completed project reports are downloaded as PDFs and copies are kept for your records.

How it works

Enter the **performance task** in your project:

Step 1 - Proposed system

- Set the **purpose of the system:** Heatpunk will set the default based on your project settings. If you have added a DHW cylinder then it will assume "space heating and hot water" but this can be overridden if the estimate is being performed prior to the full design being completed.
- Set the **Emitter type(s):** Again, Heatpunk will set the default based on your design but if you are coming to the design

Proposed System

Purpose of proposed system

Space heating and hot water



Emitter type(s)

Approx. 50% radiators and 50%...



Based on your project we would recommend "Approx. 50% radiators and 50% underfloor".

you can adjust this as needed:

- If UFH is selected you will then need to select a type:

Type of underfloor heating

Flooring on screed



No underfloor heating

Flooring on screed

Flooring on chipboard on aluminium

Flooring on high conductivity panel on aluminium

Step 2 - Property Details

For MCS compliance this step needs to be completed using EPC data

Fill out the energy demand for space heating, hot water and total property floor-space from a valid EPC:

Property Details

☐ Use project data ⓘ

Energy demand for space heating

! kWh / year

Energy demand for hot water

! kWh / year

Total property floorspace (not footprint)

! m²

Step 2 / 2

Back

Confirm

You may choose to switch to project data, doing this will populate the fields from Heatpunk, with a degree day calculation used to give the kWh "energy demand for space heating" figure, and the "energy demand for hot water" coming from the DHW storage selection. To comply with MCS, users must use EPC data to complete the performance calculation. You may then provide a subsequent performance estimate using project data, but you must explain the difference between the two estimates to the customer.

Step 3 - MCS Performance Results

Heatpunk will do the rest!

Your Energy Requirements	
Energy required for space heating	21218 kWh
Demand to be supplied by the heat pump	21218 kWh
Energy required for hot water	2296 kWh
Demand to be supplied by the heat pump	2296 kWh

The MCS performance estimate uses '**Outdoor Low Temperature**' from the CIBSE guide A 99.6th percentile. This may vary from the project ODT if it has been left on the default 99th percentile temperature. The **average watts per square metre** is calculated based on the kWh data provided (as per MCS 031) and so when using EPC data this will likely vary from the "project data" values calculated by Heatpunk.

Your Property	
Your postcode prefix	CB
Degree days per year	2033
Outdoor low temperature	-3 °C
Total property floorspace (not property footprint)	170.00 m ²
Average watts per square metre	61 W / m ²

The calculated **watts per square metre** is then used to give an indicative heat pump capacity, which again may be different than the from your Heatpunk project when using EPC data. If the full heat loss calcs have been done with Heatpunk and the project data has been used to give the estimate, then this value should be closer to the output power of the heat pump being used.

"**System pasteurisation strategy**" is pulled directly from the DHW storage settings in the heat pump task, and so can be adjust there. This also applies to the **proposed flow temperature**, with it being pulled from the flow temp slider in the same task.

Proposed System	
Indicative heat pump capacity	10.44 kW
Heat pump type	Air source heat pump
System is proposed to provide	Space heat and hot water
System pasteurisation strategy will be	Provided weekly by immersion
Proposed heating system will be	Approx. 50% radiators and 50% underfloor
The proposed flow temperature will be	45 °C

Rather than using SCOPs as per the previous MCS performance calculation, the new version uses SPF (seasonal performance factor) which is pulled from *Table 2: Heat emitter guide* of MCS 031 depending on the **property specific heat loss** (W/m2) and the **flow temperature**.

This SPF will then be used give an estimate of **electricity consumption for space heating**. A set performance factor of 1.7 is used for water heating, and the method for system pasteurisation is detailed in MCS 031. The combined estimate of electricity consumption is then converted into a **high** and **low** estimate of **+/- 10%**.

Performance		
The seasonal performance factor is calculated to be:	3.4	
Estimate of electricity consumption for space heating	6241 kWh / year	
Estimate of electricity consumption for water heating	1351 kWh / year	
Estimate of electricity consumption for system pasteurisation	182 kWh / year	
Estimate of the annual energy consumption of the proposed heat pump	High estimate	Low estimate
	8550 kWh	6996 kWh

The results of this calculation will be given in the "**MCS 031 Performance Calculation**" report when using EPC data, as well as the technical report and customer proposal. If the

task has been completed using project data, it will not generate the separate MCS 031 report but it will give a performance estimate in the technical report and customer proposal.

Notes

The full table (*Table 2: heat emitter guide*) is given on page 16 of MCS 031 standard (<https://mcscertified.com/wp-content/uploads/2025/01/MCS-031-Heat-Pump-Pre-Sale-Information-and-Calculations-Issue-4.0.pdf>).

On the right hand side of the performance task we will display any relevant notes about the system.

Notes:

Warning

The system can operate as designed for tiles. For wood and carpet floor coverings, additional measures to improve property energy efficiency are likely to be needed (such as improved insulation or draught proofing).

Note

Screed on floors with UFH complies with BS1264 Type A construction laid on floor insulation - default pipe spacing 200mm cc.

Info

Specialist UFH designers can provide more accurate information for heating performance with different systems.

Financial Task

You may need to adjust the proposed flow temp, adjust the heat emitters used, or lower the watts per square metre heat loss (improve building fabric) in order to generate a viable proposal.

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Consumption task

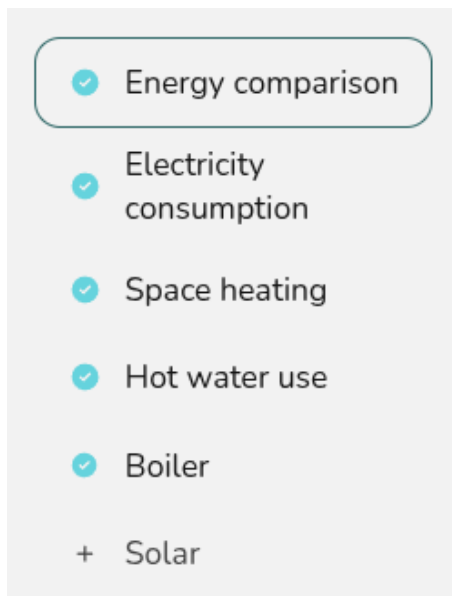
The Consumption task gives you a complete picture of how a customer's energy use and running costs will change when switching to a heat pump – including optional modelling for solar PV and batteries. This will help you build trust, handle cost-related questions with confidence, and present proposals that feel complete, transparent and genuinely helpful.

- Benchmark heat pump costs and savings against other energy sources
 - Model how different tariffs affect costs and savings
 - Include benefits when paired with solar PV and battery storage
 - Forecast the long-term costs and benefits
 - Present clear, data-driven projections that build confidence in your proposals.
-

Getting started with the Consumption task

You can access the Consumption task via the **'Tasks' drop-down menu** or from the **task list** to the left on the project overview page.

When the Consumption task opens, a popup will appear. Here, you can configure the settings for calculating the new and old system's consumption. You also have the option to factor in any benefits from solar and a battery.



Navigating the Consumption task

Once you have completed the Consumption task inputs, you can then view the insights on the left. In the top right you will also have the following options:

 ground or type unknown	Edit inputs Update the electricity, hot water and space heating consumption, energy comparison and solar information
	Help Access this help page directly.

The right-hand sidebar includes options to help you navigate through the different sections of insights.

Generation

Consumption by Supply

Consumption by Demand

Import and Export

Battery Utilisation

Where solar has not been included **Consumption by Supply** and **Import and Export** tabs will not display. Where a battery has not been included, **Battery Utilisation** will not display.

Consumption task inputs

Energy comparison

Select what you would like to compare the cost and energy usage of the heat pump against for space heating and hot water. You can also select whether you'd like to factor in a solar PV array and a battery.

What would you like to compare the cost and energy use of the heat pump against?

☒ Gas boiler
Combi or standard gas boiler

☐ Oil boiler
Combi or standard oil boiler or Aga

Would you like to show additional savings when you have:

A solar PV array☒

A solar PV array with a battery☐

Details for the existing gas boiler and solar system are input in later sections.

heatpunk.co.ukUK users can select here whether you'd like to use the SCoP (based on the heat pump and flow temperature selected in the Heat Pump task) or the SPF (based on MCS 031 and calculated in the the Performance task).

heatpunk.ieFor IE users, Heatpunk will use the SCoP.

Which heat pump performance factor would you like to use?

☒ SCoP

☐ SPF

In this section you can also edit your design option:

Design option in report

Option 2 ^

Option 1

Option 2

Electricity consumption

Annual electricity consumption

You can select from the following options to set the annual consumption:



Annual usage ⓘ

Enter the property's annual electricity usage



Meter Data ⓘ

Upload a .csv of the half-hourly data



Not sure ⓘ

Select the house size and we'll estimate usage

Expand the sections below for more details on these options.

Annual usage

If you know the annual consumption in kWh (for example from an electricity bill) you can enter it here in the annual usage field.

 or type unknown

When you use this option you can choose from a variety of domestic and commercial consumption profiles, the consumption profile determines how the energy is used within a week and throughout the year.

 or type unknown

The following commercial profiles are available

 or type unknown

Meter data

If the property has a smart meter you can upload **half-hourly** data to get a more accurate projections. The data should ideally span at least a year (but if it contains a **minimum of 6 months** our algorithm will automatically attempt to fill in gaps where they are detected).

The file must have a **.csv file extension**. If your data is in another format you can export it as csv from Excel, Google Sheets, Libreoffice or any other spreadsheet editor.

Note that there are many different CSV formats for smart meter data, and we don't support all of them yet. If your upload doesn't work, please send us the spreadsheet at help@easy-pv.co.uk or help@easy-pv.ie and we will see if we can add the format. You can also download our sample spreadsheet [here](#) and change your data into this format.

Not sure

If you don't know the electricity consumption in the property and it's domestic, you can use a typical values for the size of property provided here.

image.png or type unknown

These options will assume a domestic consumption profile.

Tariffs

Here you should select the tariffs used. You can select from the drop down or you can create and select a new tariff by selecting **+ New import/export tariff**. Read more about creating tariffs [here](#).

Space heating

Choose the annual space heating demand using Heatpunk's heat loss model or by entering a custom value.

☒ **Heat loss model**
Based on Heatpunk's heat loss estimate
(28218 kWh/year)

☐ **Custom**
Enter a value manually

This, along with the relative efficiencies of the systems, will be used to estimate the annual electricity or gas consumption required for this level of heating.

Hot water use

Choose between the **Heatpunk model**, inputting a **custom value** or selecting from **typical values** based on house size.

☐ **Heatpunk model**
Based on Heatpunk's estimate (1703 kWh/year)

☒ **Annual usage**
Enter the property's annual hot water consumption

☐ **Not sure**
Use typical values for a house

Domestic hot water use

1703

kWh / year

Boiler

In this section you are specifying important details about the existing system to help estimate the current running costs and potential savings. What displays here depends on what option you are comparing with.

1. **Gas tariff / Oil price:** this will be used to estimate the customers current boiler running costs to be compared with the heat pump running costs.
2. **Boiler efficiency:** this will be used to estimate how much gas/oil is needed to meet the space heating and hot water demand.
3. **Standing charge (optional, if comparing with gas boiler):** this will be added as an additional saving if the customer will be able to disconnect from gas.

Solar

Here you can model a solar array and battery. Select these options under the **Energy Comparisons** tab if you would like to include them in the model.

For each roof, input the **pitch, orientation, array size** and **level of shading**. Add new solar arrays as necessary.

Roof 1

Pitch

22°

Degrees from horizontal

Orientation

22°

Degrees from south

Array size

4000 Wp

In Watts

Shading

No shading

+ Add solar array

If a battery is being included, add the **capacity** and **charge rate**.

Battery 1

Capacity

23 kWh

Max charge/discharge rate

5000 W

Usually the battery inverter power

This will then be used to estimate the performance using the method stipulated in MCS 032.
If you're using Easy PV - see where you can find these values [here](#).

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Editing and creating tariffs

Creating a new tariff

1. Set the name of tariff

This name will appear in the quote wording.

2. Set the scope of tariff

Set when you want to be able to use this tariff - just this project, in all projects or accessible to all team members if you're in a pro team.

Once the scope of the tariff has been set, this cannot be edited.

What is the scope of tariff for?	
	Project level • These will only be viewable on the specific projects it's created for. • A good option if you frequently change the tariffs on each project.
	User level • These can be used for any projects and set as a default in your financial settings. • A good option if you aren't sure what tariffs your customer is on so want to use standard values.
	Team level • If you are a member of a Pro Team, you will be able to create Team level tariffs. • These will work much like the User level tariffs but will show for all members of your team.

3. Input the price bands

Flat tariff: Input a value for the base rate and select save.

Variable tariff: Input each different tariff rate. The first band you enter will be used as the base rate - any time period that doesn't have a price band applied will be priced at this rate.

If you're using £, ensure you're putting this in in p. This value should be greater than 1 (so 15, not 0.15).

4. Set tariff periods (if using variable tariff)

In the **tariffs period** section you will be able to select the different price bands and indicate when they apply. For some tariffs different rates might apply at the weekend, you can select the days for which the tariff period applies.

Editing existing tariffs

You can view and edit your tariffs from within the consumption task in your projects. Click **Edit tariffs** on the right side-bar and then **Manage tariffs**. Then you will see the following options:

Electricity tariffs

Import tariffs

The screenshot shows the 'Import tariffs' section. At the top right is a button '+ Add import tariff'. Below it is a table of tariffs. The first tariff is 'Variable example' with a scope of 'Project'. It has two rows: 'Base' at 23.5 p/kWh and 'Night' at 15.5 p/kWh. The 'Night' row has a time period of '02:00 to 05:00 All week'. Annotations with red arrows point to: 'Tariff name' (pointing to 'Variable example'), 'Tariff period' (pointing to '02:00 to 05:00 All week'), and 'Tariff scope' (pointing to 'User' in the second tariff row). A red circle highlights a menu with 'Edit' and 'Delete' options, with an arrow pointing to a three-dot menu icon on the right of the first tariff row.

Variable example		Project	
Base	23.5 p/kWh		
Night	15.5 p/kWh		02:00 to 05:00 All week

The screenshot shows the 'Default flat tariff' section. It has a single row 'Base' at 20 p/kWh. The scope is 'User'. An annotation with a red arrow points to 'Tariff scope' (pointing to 'User'). A three-dot menu icon is visible on the right.

Default flat tariff		User	
Base	20 p/kWh		

When editing tariffs you can change any of the details, except the tariff scope, but note that any changes you make will affect previous projects that use these tariffs.

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