

Heat Pump System Performance Estimate

Installer Project Reference 49886157
Client Name Nilab Baraky
Installation Address Line 1 8 Norford Way
Installation Address Line 2
Installation Address Line 3 Lancashire
Installation Postcode OL11 5QS



Energy Performance Certificate (EPC) Information

Does this estimate relate to a new build or proposal for extension or reduction in size of an existing building? No

EPC No. for building 6902-8325-3320-0819-0292

Energy required to heat property 19,561 kWh

Energy required for hot water 4,554 kWh

New Renewable System Information

Type of System	Air Source Heat Pump	* This calculator is not designed to be used for Solar Assisted Heat Pumps
Manufacturer Name	Samsung	
Manufacturer Model	AE120CXYBEK/EU	
MCS Certification Number	011-1W0685_6	* Available from the MCS Product Directory
Flow Temperature	45 °C	* Determined by the temp. of the water leaving the HP when supplying space heating at the external design temp.
MCS SCOP Heating	04	* SCOP - Seasonal Coefficient of Performance. This value is based on the MCS HP SCOP Table below
MCS SCOP Hot Water	1.75	* If providing space heating and DHW, default value from SAP2012. IF DHW only see methodology in MIS3005
Renewable System Provides	Heating and Hot Water	
Hot Water Immersion Use	Once per week	* based on 50°C up to 60°C, 3kW
Size of Hot Water Cylinder	0300 ltr	

Existing Heating System

Existing heating system fuel	Gas	* If new build model the most likely alternative fuel.
Hot Water heated by	Gas	* If new build model the most likely alternative fuel.
Age of existing system	1994-2007	
Efficiency of existing system	87 %	

Estimated System Performance / Comparison

Energy Requirement for the building

	Heating	Hot water	Total	
Net Energy required to heat property	19,561	4,554	24,115	kWh
Existing System Consumption	22,484	5,816	28,300	kWh

New HP System Estimated Consumption

Full Heat Pump System (if selected above)

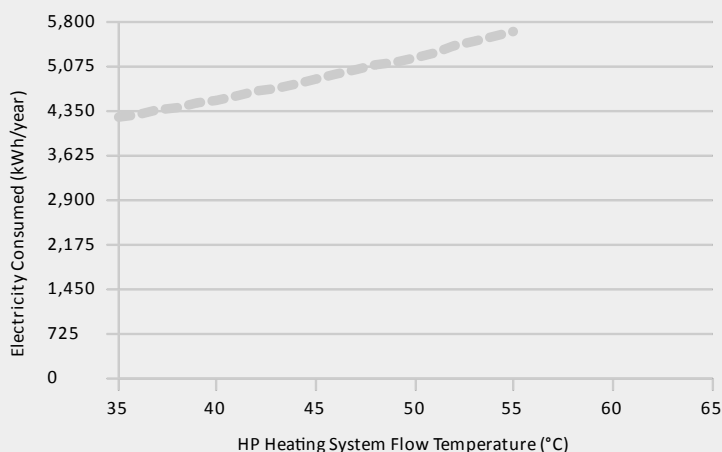
HP System Electricity Consumption	4,890	2,784	7,674	kWh
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Hybrid System (if selected above)

HP System Electricity Consumption	0	0	0	kWh
Hybrid system other Consumption	0	0	0	kWh
Hybrid Total Consumption			0	kWh

Note: There are different types of hybrid system. This calculation presumes a hybrid where both sources of heat supply the same hydraulic circuits (heating and hot water) according to the proportion selected above.

Electricity Consumption of Proposed Heat Pump for Space Heating versus Flow Temperature



Flow temperature	SCoP
35°C	4.58
36°C	4.52
37°C	4.46
38°C	4.41
39°C	4.35
40°C	4.29
41°C	4.23
42°C	4.17
43°C	4.12
44°C	4.06
45°C	04
46°C	3.95
47°C	3.89
48°C	3.83
49°C	3.78
50°C	3.72
51°C	3.67
52°C	3.61
53°C	3.56
54°C	3.5
55°C	3.45
56°C	3.38
57°C	3.32
58°C	3.26
59°C	3.19
60°C	3.13
61°C	3.07
62°C	3.01
63°C	2.94
64°C	2.88
65°C	2.82

SCoP Definition

SCoP = Seasonal Coefficient of Performance:

MCS SCoP is a theoretical indication of the anticipated efficiency of a heat pump aggregated over a year using standard climate data across Europe. It indicates the units of total heat energy generated (output) for each unit of energy (electricity) consumed (input). It is slightly different to ErP SCoP as it contains efficiency losses due to controls and brine pumps (for a GSHP). As a guide a heat pump with a MCS SCoP of 3 generates 3 kWh of heat energy for every 1 kWh of electrical energy it consumes.

This also means that 2/3rds of the heat output could be eligible for RHI payments. MCS SCoP is based on stringent factory based tests for equipment but does not specifically include the energy consumption of heating circulating pump(s) nor does it model the transient conditions typically experienced in practice in the consumers home and hence the overall final system efficiency is likely to be different from the MCS SCoP.

Important Information

This performance estimate should be accompanied by the Key Facts which explain the factors that can affect the performance of a heat pump.

Any technical variation to the specification could affect the performance of the Heat Pump System in which case the MCS Contractor MUST update and re-issue this document and advise the customer of their Consumer Rights.