

Heat Pump System Performance Estimate



Optional Installer Logo

Installer Project Reference: 210818KIT
 Client: Mark Kitson
 Installation Address Line 1: Poplar House
 Installation Address Line 2: 9 Eastgate Lund
 Installation Address Line 3: Lund
 Installation Address Line 4: YO2

Energy Performance Certificate (EPC) Information

Is the building existing and not proposed to be extended or reduced in size? Yes

EPC No. 8880 7628 7160 1108 1296

Energy required to heat property 69,990 kWh

Energy required for hot water 3,177 kWh

Potential RHI energy 30,000 kWh

Energy potentially eligible for RHI 23,478 kWh
(Adjusted using SCoP where applicable)

Fuel Information

(where possible unit rate from customer bills inc. VAT)

Date on which prices found 19.08.21

Existing Fuel Oil (p/litre) Cost 44.39

Electricity (p/kWh) Cost 15.50

New Renewable System Information

Type of System Ground Source Heat Pump

**This calculator is not designed to be used for Solar Assisted Heat Pumps*

Manufacturer Name Stiebel Eltron

Manufacturer Model WPE-I 44 H

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 4.6

** SCoP - Seasonal Coefficient of Performance. This value is based on the MCS HP SCoP Table below*

MCS SCOP Hot Water 4.04

** If DHW only, this should be calculated in accordance with Clause 4.3.2 d) of MIS 3005. If providing space heating and DHW, default value from SAP2012*

Renewable System Provides Heating and Hot Water

Hot Water Immersion Use Once per week ** based on 50C up to 60C, 3kW*

Size of Hot Water Cylinder 400 ltr

Existing Heating System

Existing heating system fuel Oil

Hot Water heated by Oil *see note * below*

Age of existing system Pre-1994

Efficiency of existing system 82 %

**If a different source of fuel is chosen for heating & hot water system, it is always assumed the hot water system is generated via direct electricity despite there appearing to be a choice*

Renewable Heat Incentive (RHI)

[RHI Tariffs can be viewed here](#)

21.29 p/kWh

Metering and Monitoring Service Package (MMSP)

No **RHI Uplift*

Running Costs

Existing system annual running cost £4,042

Renewable System annual running cost £2,518 **Includes Immersion*

Fossil Fuel Cost in new system £0

Annual fuel saving £1,524

Fuel saving over 7 years £10,667

RHI per year £4,999 ** Note: RHI funding stops after 7 years*

Total RHI £37,272.79 ** Please note payments are based on deemed values*

Total fuel saving, RHI & MMSP over 7 years £47,940.05

*CPI linked @ 2.10% [Government CPI reference](#) * MMSP only applicable for Domestic RHI*

Capital Cost for Installation

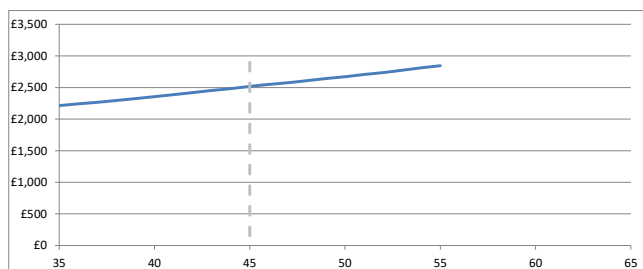
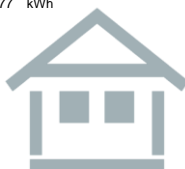
Cost for installation of new system £44,058 inc.VAT ** Breakdown of quote detail provided separately*

Energy Requirement for the building

Energy required to heat property 69,990 kWh
 Energy required for hot water 3,177 kWh

New System Running Info

Existing Annual Cost £4,042
 Proposed Annual Cost £2,518
 Electrical Energy consumed 16,002 kWh



Disclaimer

The performance of microgeneration heat pump systems is impossible to predict with certainty due to the variability of the climate and its subsequent effect on both heat supply and demand. This estimate is given as guidance only and should not be considered a guarantee.

Important Information: A 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. See CTSI approved Consumer Codes for more information: <http://www.microgenerationcertification.org/consumers/important-consumer-information>

MCS 031 - v2.0

[Link to MCS Website SCoP values](#)

Flow temperature	SCoP
35°C	5.28
36°C	5.21
37°C	5.15
38°C	5.08
39°C	5.01
40°C	4.94
41°C	4.87
42°C	4.80
43°C	4.73
44°C	4.67
45°C	4.60
46°C	4.54
47°C	4.49
48°C	4.43
49°C	4.37
50°C	4.32
51°C	4.26
52°C	4.21
53°C	4.15
54°C	4.09
55°C	4.04
56°C	0
57°C	0
58°C	0
59°C	0
60°C	0
61°C	0
62°C	0
63°C	0
64°C	0
65°C	0

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.

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