Your bespoke heat pump proposal

Mark Laker
Allston, ,
Allington Lane,
Eastleigh
Southampton
SO50 7DE

Your quote reference:
2335 Revision C

Your proposal was completed by:
Uday Parekh
Sales Executive

This quotation is valid for 14 days from the date of issue.

Please be advised that the information we have supplied in your bespoke heating proposal is subject to change

Your bespoke heating proposal

Designed around your home

Our green heating experts have worked with you to design a bespoke system based on your home and your needs.

Reducing your environmental impact

Your air source heat pump will save you 11.68 **tonnes** of carbon emissions a year, making your home greener.

Giving you ultimate peace of mind

Our support won't finish when your install does. With unique remote monitoring and 10-year warranties, we'll be on hand to keep your heat pump in top condition.

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Contents

System design

Your system and summary quotation

Proposed system layout

Heat loss assessment

Your radiators

Sound test

Quote and contractual information

Quote and scope of works

Supplementary information

Manufacturer fact sheets

MCS system performance estimate

Click on an underlined section to skip straight to that page.

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

System design

good energy

Your recommended system at a glance

Heating: 2x12kw Midea

- Fully integrated and controlled using a single system.
- Renewable energy output: 30,508.25 kWhrs.

Flow temperature: 55°C

This is calculated based on heating the room with the most significant heat loss to a comfortable temperature.

Hot water

We will install a new cylinder that is compatible with your heat pump. Your heat pump is expected to provide 75% of your hot water. An immersion heater will heat the remainder of your hot water, this will be installed as part of your new system.

good energy

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Your summary quotation

Total cost of goods and installation:	£25,363.65 (VAT exempt)
Boiler Upgrade Scheme:	-£7,500.00
Design consultation – Onsite Survey	-£0.00
Amount payable under the Boiler Upgrade Scheme:	£17,863.65 (VAT exempt)

Estimated carbon saving of 11.68 tonnes of CO_2 per year with your air source heat pump

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Proposed system layout

Over the next few pages, you will find a proposed layout for where your heat pump, the renewables consumer unit, pipe runs and wiring runs (if necessary) will be located.

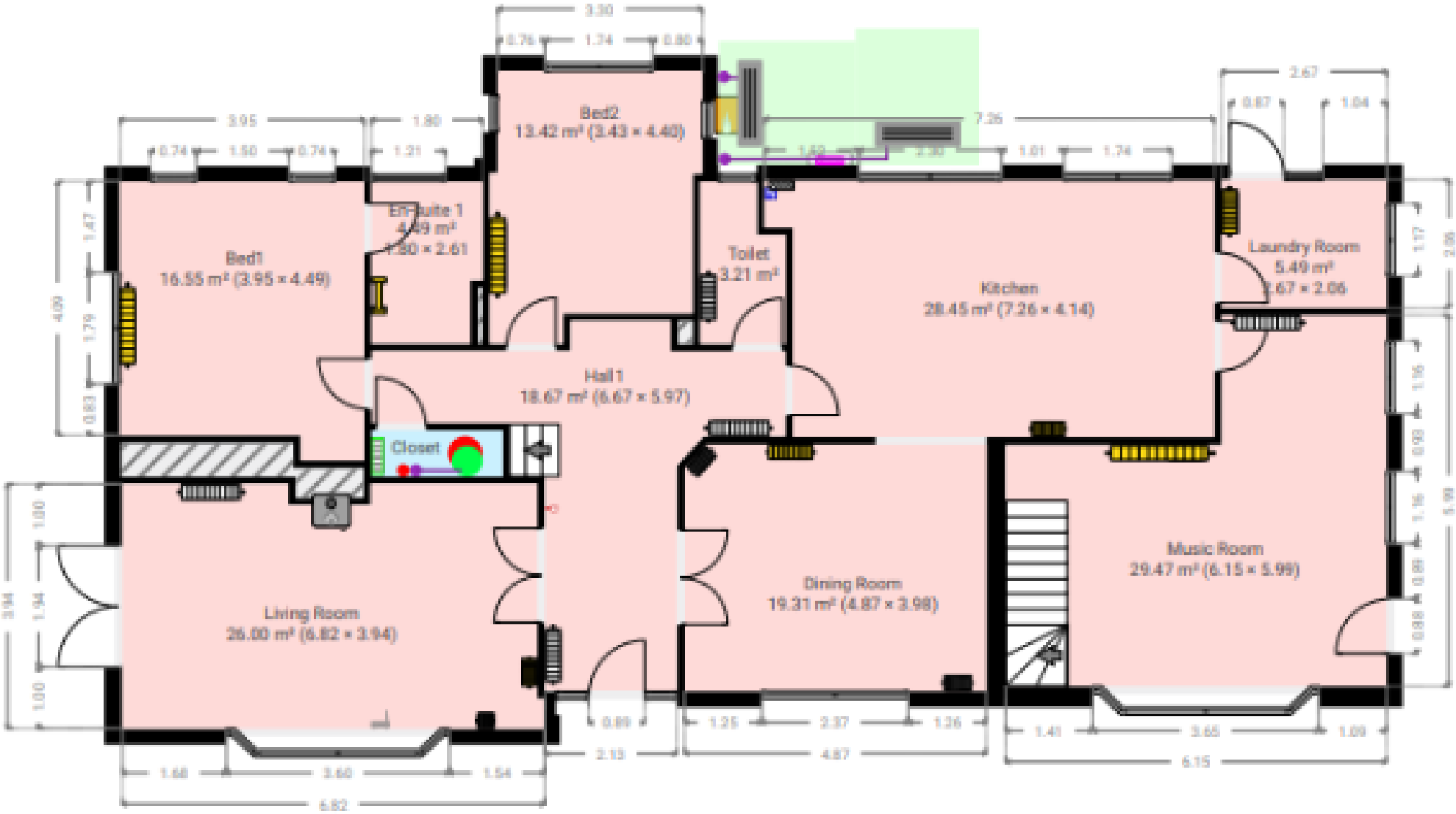
Key:

- Heat Pump
- Boiler
- Existing Cylinder
- New Cylinder
- Renewables Consumer Unit
- Fuse (internal/external)
- Stop-tap
- Underfloor Heating Manifold
- Thermostat
- Pipework - heat pump
- Pipework - cylinder
- Pipework - DHW cylinder
- Pipework - D2 discharge
- Replacement/ Additional – Towel
- Replacement/ Additional –Radiator
- Router
- EV charger point

good energy

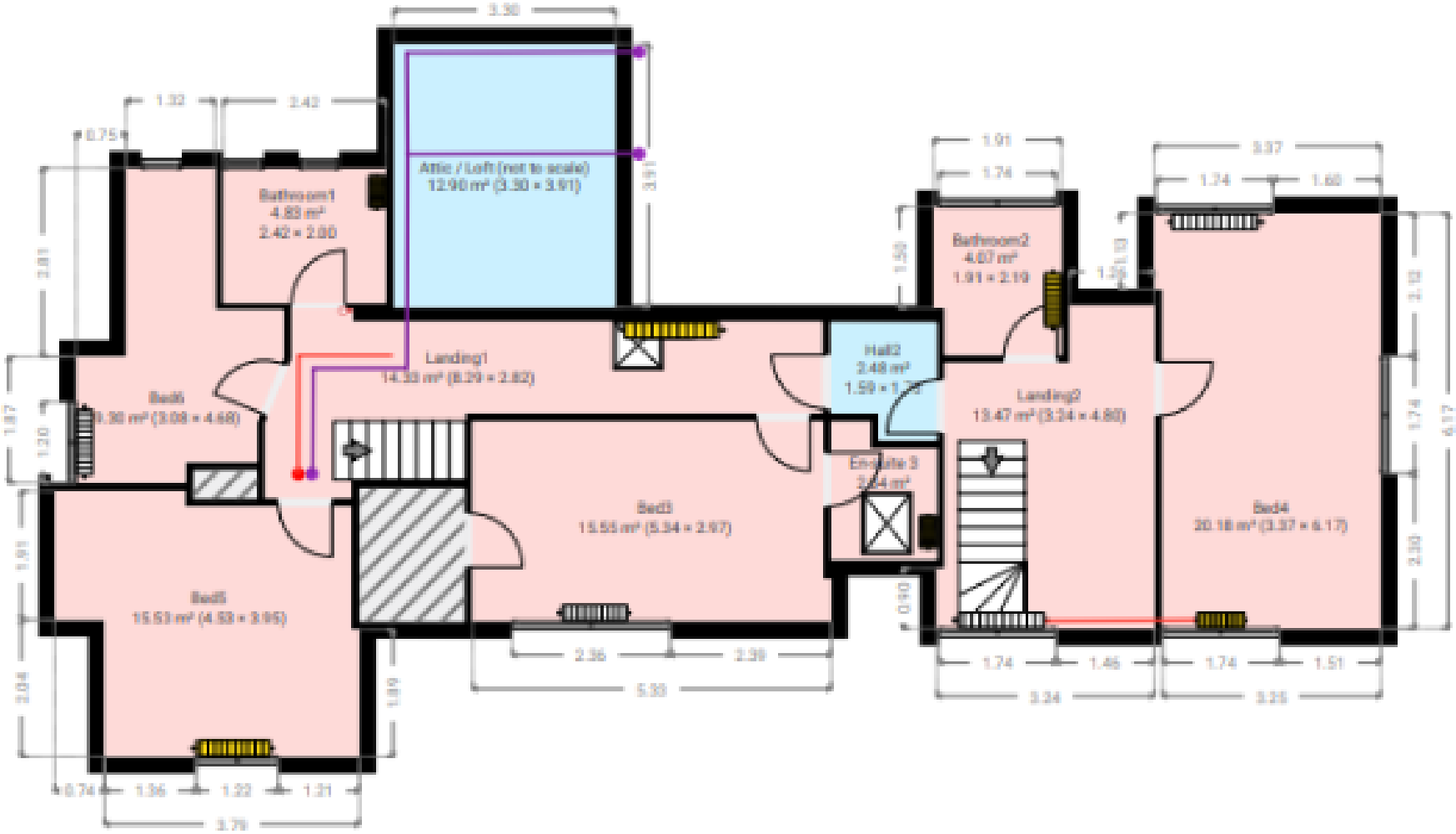
Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Proposed system layout



Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Proposed system layout



Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Heat loss assessment

As part of your survey, we analysed how much heat each of your rooms loses, to work out the heat pump size and flow temperature required to comfortably heat your home.

Rooms	Total Heat Loss (W)	Heat Loss per metre (W/m^2)	Emitter Type
Hall1	1081.25	57.91	Radiators
Dining Room	1301.84	67.42	Radiators
Living Room	2084.16	80.16	Radiators
Bed1	1054.03	63.69	Radiators
En-suite 1	470.27	104.74	Radiators
Bed2	954.51	71.13	Radiators
Toilet	285.41	88.91	Radiators
Kitchen	2019.84	71	Radiators
Laundry Room	706	128.6	Radiators
Music Room	2935.47	99.61	Radiators
Bed5	847.62	54.58	Radiators
Landing1	1403.8	97.96	Radiators
Bed6	456.2	49.06	Radiators
Bathroom1	556.2	115.16	Radiators
Bed3	663.7	42.68	Radiators
En-suite 3	363.1	127.85	Radiators
Hall2	233.4	94.12	0
Landing2	721.9	53.59	Radiators
Bathroom2	578.3	142.09	Radiators
Bed4	1521	75.37	Radiators

good energy

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Heat pump Seasonal Coefficient of Performance (SCOP)

SCOP is a measure of how much useful energy the heat pump produces compared to the electricity the system uses to run.
At a flow temperature of 55°C, the SCOP is 3.34.
For every 1kWh of electricity used to power your heat pump, 3.34kWh of heat will be transferred into your home .
This is an annual average – at some times of the year the SCOP will be higher, and at other times it will be lower.

Will you need supplementary heating?

Your system is designed to provide **99-100%** of your heating over the year. You may need to use an additional heating source e.g. an electric heater at limited times, if the external temperature drops below the MCS external design temperature for you area which is -1.9°C or when heating the building from a cold state, if your heat pump has been off for days or weeks at a time.

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Your radiators

The table below lists the combined heat output of the radiators in each room, based on their type, width and height. Red indicates radiators that are too small for the design temperature.
We recommend replacing or installing additional radiators in these rooms to increase the heat output.

Room Name	Room Design Temperature (°C)	Total Room Heat Loss	Total Output at Flow °C		% Oversize	Height	Width	Type	Replacement/Additional	Qty
Hall1	18	1081.25	1209.32	W	12%	☐				
Dining Room	21	1301.84	1790.13	W	38%	☑	Bed2 radiator to be used as an additional (700 X 1250 K1)			
Living Room	21	2084.16	1800.20	W	-14%	☑ 600	500	K1	Additional	1
Bed1	21	1054.03	907.82	W	-14%	☑ 450	1400	K2	Replacement plus pipework	1
En-suite 1	22	470.27	352.24	W	-25%	☑ 1744	500	Towel Rail	Replacement	1
Bed2	21	954.51	759.25	W	-20%	☑ 700	1400	K1	Replacement plus pipework	1
Toilet	18	285.41	430.92	W	51%	☐				
Kitchen	21	2019.84	671.14	W	-67%	☑ 700	600	K3	Replacement plus pipework	1
Laundry Room	18	706.00	442.53	W	-37%	☑	Old Music Room radiator to be used (600 X 700 K2)			
Music Room	25	2935.47	1706.04	W	-42%	☑ 600	1800	K2	Replacement plus pipework	1
Bed5	21	847.62	668.14	W	-21%	☑	Bed1 radiator to be used (450 X 1250 K2)			
Landing1	18	1403.83	536.57	W	-62%	☑ 600	1600	K2	Replacement plus pipework	1
Bed6	18	456.23	608.48	W	33%	☐				
Bathroom1	22	556.21	138.38	W	-75%	☑ 700	500	K2	Replacement	1
Bed3	18	663.70	709.90	W	7%	☐				
En-suite 3	22	363.09	154.11	W	-58%	☑ 600	500	P+	Replacement	1
Hall2	18	233.43	0.00	W	Unheated/UFH	☐	Accounted for by oversized Landing1 radiator replacement			
Landing2	18	721.88	802.09	W	11%	☐				
Bathroom2	22	578.31	474.53	W	-18%	☑ 700	900	K1	Replacement plus pipework	1
Bed4	25	1520.99	700.01	W	-54%	☑ 600	1000	P+	Additional	1

good energy

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Your property's energy performance

In line with the Microgeneration Certification Scheme (MCS) and Boiler Upgrade Scheme, you must have a valid Energy Performance Certificate (EPC). To be deemed as valid, your EPC must have been issued in the last 10 years

Your EPC has been produced within the last 10 years and shows you have the appropriate amount of insulation required to be eligible for the Boiler Upgrade Scheme.

Sound test

As part of your survey, we discussed the best location for your air source heat pump in relation to other properties. For an air source heat pump to be allowed under permitted development, the unit cannot exceed a sound pressure of 42dBa.

From the information provided, we estimate your unit would reach a sound pressure of 40.4dBa. This means the sound test will sit within the permitted development.

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Construction phase plan

Back to contents page

The list below details the steps involved in your installation:

- Installation of 2x Midea 12kW Heat Pump
- To be floor mounted
- To drain to nearby down pipe
- Removal of existing cylinder and Installation of Heat Pump cylinder in cupboard
- Installation of Earth Bonding on Copper Pipework
- Installation of Tado smart thermostat in Dining Room
- TRV head to be removed from closest radiator
- Reconfigure Central Heating to single zone if CH is on multiple zones
- Heat pump pipework: HP1: Rise into loft space above Bed2 via soffit. HP2: Along external wall to corner, then rise into Bed2 loft space via soffit. HP1 & HP2: Across loft space and into Landing floor, drop into cylinder cupboard, and to cylinder.

Please confirm that you are happy with the advisory design notes shown on the covering email.

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Working in your home

Labour time

Based on the above listed works, we estimate that the installation will take place over 11 days.

Your warranty

We offer the following hardware and workmanship warranties on our goods and installation:

Read the Workmanship warranty

Your heat pump:	Your installation
10-year Midea product warranty	2-year heat pump workmanship warranty

If you move home
The workmanship warranty will be transferable to the new legal owner of the property if it is sold during the warranty period.

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Your quotation

good energy

Your quote

Your details

Name:
Mark Laker

Project reference:
2335 Revision C

Quote issued by:
Uday Parekh

Date issued:
09/12/2024

Installation address:
Allston, ,
Allington Lane,
Eastleigh
Southampton
SO50 7DE

Cost totals

Description	Total Price
Total cost of goods & services	£25,363.65
VAT	£0.00
Total price of the system	£25,363.65
Boiler Upgrade Scheme grant	-£7,500.00
Design consultation payment	-£0.00

Total to pay £17,863.65

***Please note the quote is valid for 14 days from date of issue.**

The Discount is applicable to the current system design and is subject to change with any adjustment in requirements.

good energy

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Your quote

Cost breakdown

Description	Quantity	Unit Price	Total Price
Supply and installation of 2x12kw Midea R32 Air Source Heat Pump	1	£20,146.25	£20,146.25
Supply and installation of 400L UK Cylinder - Standard	1	£1,757.37	£1,757.37
Supply and install of Monitoring	1	£0.00	£0.00
Tado heating & hot water 1 zone	1	£259.72	£259.72
Additional / Replacement Radiators	11		£2,962.09
Installation of Earth Bonding on Copper Pipework	1		£42.14
Relocating Existing Radiators	1		£196.08

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Quotation - your payment terms

Your payment terms

Description	Total Price
Total amount	£17,863.65
Design consultation payment (paid at point of Design Consultation booking)	£0.00
Deposit stage payment (payable on confirmation of your order)	£5,000.00
Booking stage payment (payable to book installation date)	£10,218.19
Commissioning stage payment (payable on install completion)	£2,645.46

Deposit

A deposit of £5,000 or 25% of the total price of the System as set out in the quotation, whichever is lesser, (including VAT), is due on signing of the contract. A booking stage payment will be required to book your installation date.

In accordance with MCS guidelines, these two payments will not exceed 60% of the total installation price. Where the total amount payable is more than the 60% after the government grant there will be a final balance to pay, this is due upon final commissioning of the system.

Your deposit will be insured with HIES under their Deposit Protection Scheme so that you can get the work completed or your money back if we cannot deliver your equipment because we have gone out of business.

Anything unclear? Get in touch before proceeding to sign the contract:

0333 016 4500

Heatpumps@goodenergy.co.uk

good energy

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

Supplementary information

good energy

Manufacturer factsheets and important information

Back to contents page

This page has links to all the website that may be of use whilst going through this proposal

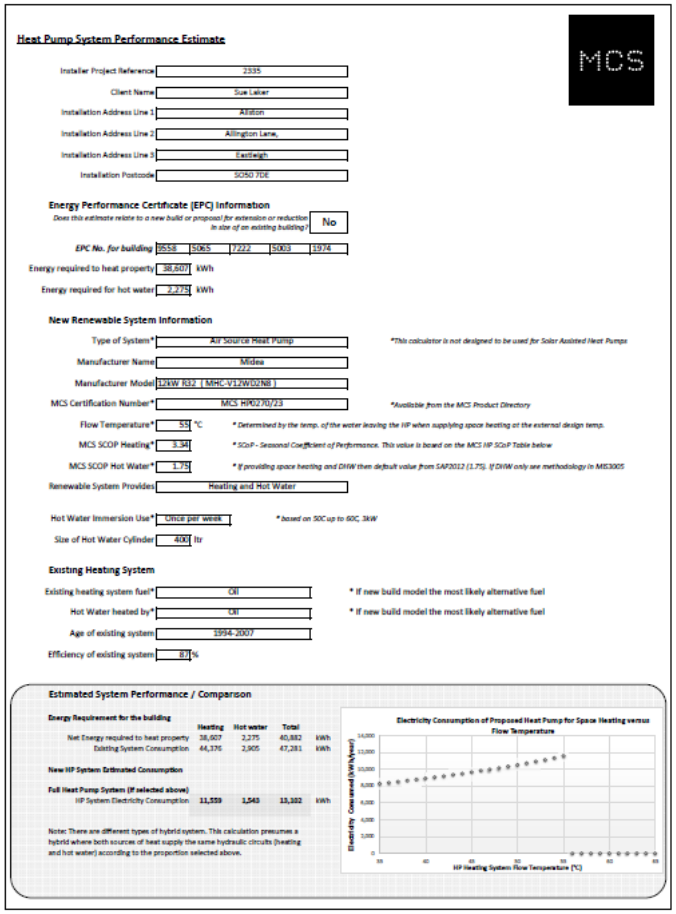
- View the Midea heat pump factsheet
- Planning permission
- Boiler Upgrade Scheme
- Read more about the HIES consumer code
- Data protection
- View the UK Cylinder factsheet

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)

MCS system performance estimate

MCS defines, maintains and improves quality by certifying low-carbon technologies. The performance estimate below indicates that your heat pump installation meets MCS standards.

Read the MCS key facts for full information about your estimate.



Heat Pump System Performance Estimate

Installer Project Reference	2335
Client Name	Sue Laker
Installation Address Line 1	Allston
Installation Address Line 2	Allington Lane,
Installation Address Line 3	Eastleigh
Installation Postcode	SO50 7DE

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	9558	5065	7222	5003	1974
Energy required to heat property	38,607 kWh				
Energy required for hot water	2,275 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	Midea	
Manufacturer Model	12kW R32 (MHC-V12W02N8)	
MCS Certification Number*	MCS HP0270/23	*Available from the MCS Product Directory
Flow Temperature*	55 °C	* Determined by the temp. of the water leaving the HP when supplying space heating at the external design temp.
MCS SCOP Heating*	3.34	* 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 then default value from SAP2012 (1.75). If DHW only see methodology in MIS3005
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	* If new build model the most likely alternative fuel
Hot Water heated by*	Oil	* 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	38,607	2,275	40,882	kWh
Existing System Consumption	44,376	2,905	47,281	kWh

New HP System Estimated Consumption

Full Heat Pump System (if selected above)

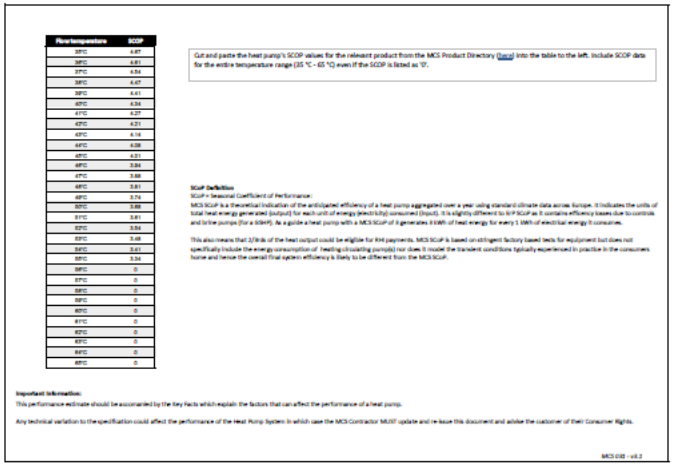
HP System Electricity Consumption	11,559	1,543	13,102	kWh

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

Electricity Consumed (kWh/year): 14,000, 12,000, 10,000, 8,000, 6,000, 4,000, 2,000, 0

HP Heating System Flow Temperature (°C): 35, 40, 45, 50, 55, 60, 65



Flow temperature	SCOP
35°C	4.87
36°C	4.81
37°C	4.54
38°C	4.47
39°C	4.41
40°C	4.34
41°C	4.27
42°C	4.21
43°C	4.14
44°C	4.08
45°C	4.01
46°C	3.94
47°C	3.88
48°C	3.81
49°C	3.74
50°C	3.68
51°C	3.61
52°C	3.54
53°C	3.48
54°C	3.41
55°C	3.34
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

Cut and paste the heat pump's SCOP values for the relevant product from the MCS Product Directory (here) into the table to the left. Include SCOP data for the entire temperature range (35 °C - 65 °C) even if the SCOP is listed as '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 H P 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.

MCS 018 - v1.2

Good Energy Works Limited Monkton Park Offices, Monkton Park, Chippenham, SN15 1GH Registered in England & Wales' company number 12100615)