

HEATING SYSTEM INSTALLATION SCOPE DOCUMENT

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| --- | --- |
| Client | Mr Ashley |
|  |  |

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| --- | --- |
| Heat Loss Survey Completed | 06.07.21 |
| Property Heat Power Loss | 8,639w |
| Recommended System | 12kw Media R32 unit required to meet MCS Design Guide @ -1.7c |
| Unit Location + Pipe & Cable run | ASHP to be installed on rubber feet on utility room wall next to door  Tank – Back to back with ASHP in place of boiler – heating circuit and DHW feed can picked up here to increase system efficiency.  Electrical run – Along wall into utility room – Spare way on board. |
| Tank Sizes/Type | 250l Hi Gain Heat Pump Tank + Buffer |
| Tank Location | Utility room |
| Radiators Required to meet MCS heat demand | None |
| Additional works / Comments | * Oil boiler removal including Flue, hole to be filled through wall –   Does not inc final finish (paint etc)   * Pipe rework required for tank relocation * Feed to UFH manifold * Extra waste collection from site * Check showers on walk through – need to be able to work on pressurised system (modern mixer) |
| Valid EPC (Last two years) | No – EPC Required |
| EPC measures Required for RHI | Unknown – MCS Estimate based on old EPC (2013) |
| Installation duration | 7 Days (Est) : Working Day 8-9am to 6-8pm (To be discussed each day onsite)\*PRE INSTALLATION TECH SURVEY REQUIRED \* |
| Installation Commencing | TBC |

Ordinance

As part of our service, Sustain Heating & Renewables has carried out the required due diligence to ensure the installation meets all network operator, regulatory and planning requirements. If you are aware of any planning and/or other issues which may prevent installation it is your responsibility as a homeowner to make us aware of this. As an installer, we cannot accept responsibility for any information beyond our scope of knowledge.

Installation

Our installation team will contact you to arrange your installation and confirm installation dates and delivery of equipment to site. We aim to get equipment to site one day before of on the planned installation date but can be on the day of installation. Any equipment delivered to site prior to the installation will need to be signed for and stored in a safe location. These are often heavy and sizable items which arrive on pallets so you will need an adequate area to store them

i.e. – garage location. If this is not possible, we will discuss alternative arrangements with you. (Please note, all efforts are made to ensure timely deliveries but due to traffic requirements this is cannot be guaranteed)

The Scope of Works Letter sets out the parameters of the installation to your property. We have taken all reasonable efforts to survey and assess your property to ensure the installation is carried out to specification. However, due to the nature of works being undertaken it is possible we may experience unforeseen issues with pre-existing faults or weaknesses within your current system - i.e. leaking pipes or faulty wiring. Should this happen, we will explain fully the problem and how the fault can be rectified.

Please note, we are unable to complete this additional work without your authorisation and change of works form signed (attached). All works carried out by us is subject to our standard terms and warranty. However, we cannot warrant any pre-existing pipework, wiring or equipment already in situ that we must connect to when installing your system.



Commissioning your new system

Once your installation is complete, we will conduct a handover with you which will include a site walk through and explanation of your new system controls. Once you are happy with all works completed and system controls the onsite team will complete a commissioning document with you. We will leave you a copy of this document along with a customer satisfaction sheet, all of which is attached to this document.

Payment

Final payment is due the day of commissioning.

Our preferred method of payment is Bank Transfer however we accept all major credit and debit cards via secured verified payment. Once payment has been received, we will generate a final paid invoice and forward to you with your handover pack. Please note until full payment is received, we cannot generate your MCS paperwork as you are not the legal owner of the system. Ofgem will not grant RHI payments until this criteria is satisfied.

Handover

We will issue you with a full handover pack which includes all required documentation for RHI application within seven days of commissioning and/or cleared funds. As we are an Eco focused company, we send this to you in an ‘EPACK’ to reduce our carbon footprint. However, you can request a paper copy if you wish.

Your handover pack will include:



* Final Invoice
* Company Workmanship Certificate
* MCS Certificate
* EPC Certificate
* HIES Insurance Backed Guarantee (This will be sent to you directly from HIES)
* Manufactures Warranty (This will be sent to you directly from manufacturer)
* Log in and details for RHI application
* Company out of hours contact details

Confirmation

Please note, this document specifies work to be carried out at your property and forms the basis for your contract.

Any additional works not specified on this document will be chargeable and will be agreed with you prior to commencement. Full terms and conditions will be supplied to you in a sperate document.

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| Print Name: | Sign | Date: |
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On behalf of Sustain Eco:

|  |  |  |
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| Print Name: | Sign | Date: |
|  |  |  |

You will be left with a copy of this document for your records, please keep in safe location.

Alternatively relocated the HWC to current Boiler location

**Groundwork Required**

No

**Distance to nearest drain (Meters)** 6

**Ideal Flow Temperature for this** 45

**Building**

**New Pump Heat Dispersal Proposed Is Cavity Wall Required**

UFH and Radiators

No

No

**Pipes Running in Loft Required Is Loft Insulation Required Roads to Site**

No

Back Road

Private Road

**Parking at Site Delivery Access to Site General Access at Site**

Driveway

Poor

Good

**Site Report and Notes**

Property is a renovated barn conversion completed in 2007. Client has evidence pictures of the build in which the materials can be seen.

The walls are the original solid brick (stretcher and header bond) but has been insulated internally with 100mm batts and studs.

The loft has been completely lined with Triso quilt. And windows are all double glazed. Floor insulation is assumed to be 75mm as this was the build year regs with UFH.

So the building is very well insulated.

Parking is okay, but access to the property would be difficult for anything larger than a Luton.

**Surveyors Signature**

**Declaration**

I confirm all details are true to the best of Tecsurv’s knowledge.

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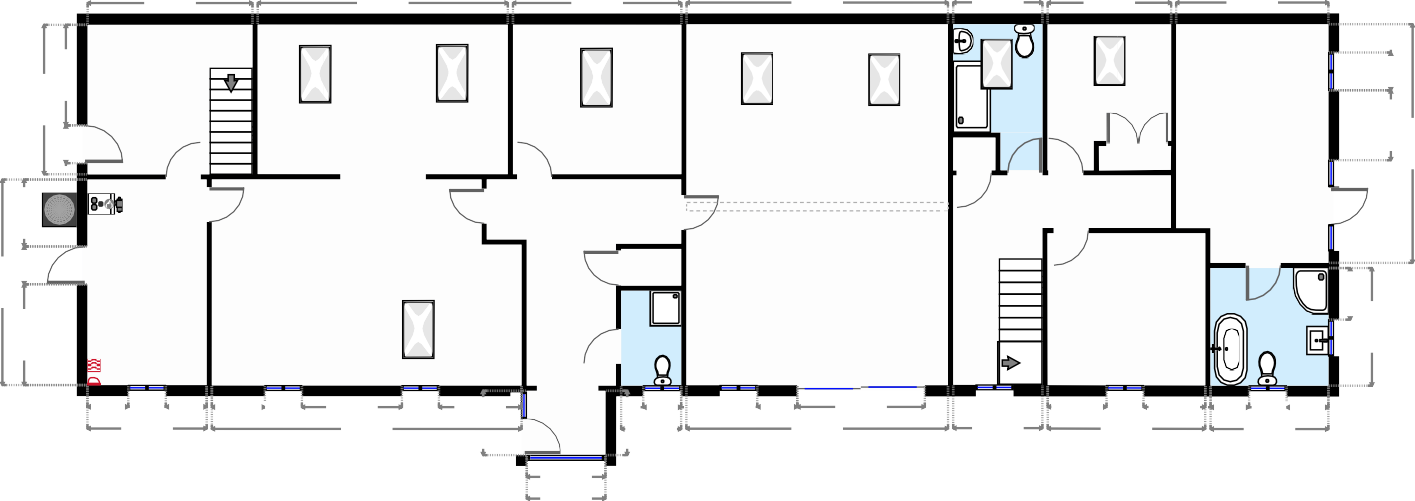


7

******Ashley SNHP-0750**

**TOTAL AREA:** 338.04 m² • **LIVING AREA:** 229.29 m² • **FLOORS:** 2 • **ROOMS:** 12

▼ **Ground Floor TOTAL AREA:** 229.29 m² • **LIVING AREA:** 229.29 m² • **ROOMS:** 8



3790

5750

3872

6010

2050

2840

3500

Rear Hall

13.04 m² (3790 × 3440)

Bathroom

5.94 m²

2050 × 3360

Dining Room

19.77 m² (5750 × 3439)

Study

13.31 m² (3872 × 3439)

Bedroom 3

8.33 m²

2841 × 3358

Closet

Closet

Bedroom 1

18.58 m²

3500 × 5490

Hall 1

13.22 m² (4470 × 4744)

Hall 2

13.44 m² (5006 × 4816)

Utility

12.96 m²

2741 × 4730

Kitchen

32.37 m² (7120 × 4741)

Closet

Living Room

49.92 m² (6015 × 8303)

Shower Room

3.01 m²

1380 × 2180

Bedroom 2

12.68 m²

3628 × 3501

En-suite

7.33 m²

940

940 1220

2300

7120

1900

920

2930

1352

1421

2740

Porch

2.68 m²

870

1380

6015

2050

3623

887 962

2709

1810

1810

3440

2314

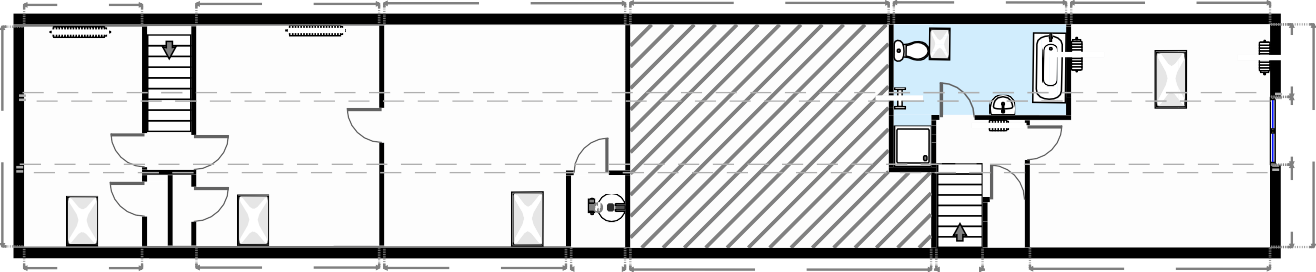
870

▼ **1st Floor TOTAL AREA:** 108.75 m² • **LIVING AREA:** 0.00 m² • **ROOMS:** 4

1481

1480

THIS FLOORPLAN IS PROVIDED WITHOUT WARRANTY OF ANY KIND. SENSOPIA DISCLAIMS ANY WARRANTY INCLUDING, WITHOUT LIMITATION, SATISFACTORY QUALITY OR ACCURACY OF DIMENSIONS.



2710

4200

5535

5935

3960

4570

Water Radiator T22 600x1400

Water Radiator T22 600x1400

Bedroom 5

13.71 m²

2710 × 5057

Bedroom 6

21.28 m² (4200 × 5066)

Bathroom

9.30 m²

3962 × 3298

Water Radiator T21 600x800

Water Radiator T21 600x800

Landing 2

Gym

25.79 m² (5536 × 5091)

Towel Radiator Duel Fuel

Landing

4.84 m²

Water Radiator T11 600x500

Bedroom 4

26.17 m² (5520 × 5122)

ClosCeltoset

A/C

Closet

2710

4200

4175

1240

6913

1061

5520

4729

870

2319

1540

5057

870

1894

1560

5122

1668

1186

2706

1609

5490

0 2 4 6 8m

 1:174

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
|  | | | | |
| Room Name | Design Temp (°C) | Power (W/m2) | Area (m2) | Power (W) |
| Living Room | 21 | 40 | 49.88 | 1982 |
| En-Suite | 22 | 60 | 7.32 | 441 |
| Bedroom 2 | 18 | 15 | 12.67 | 191 |
| Hall 2 | 18 | 14 | 13.44 | 187 |
| Bedroom 1 | 18 | 22 | 18.58 | 403 |
| Bedroom 3 | 18 | 13 | 9.51 | 124 |
| Hall 2 Cupboard | 16 | 8 | 0.73 | 6 |
| Bathroom (Ground Floor) | 22 | 56 | 5.94 | 330 |
| Utility Room | 18 | 22 | 12.93 | 282 |
| Hallway Cupboard | 16 | 9 | 1.16 | 11 |
| Shower Room/WC | 22 | 72 | 3.01 | 217 |
| Study | 21 | 23 | 13.27 | 300 |
| Porch | 18 | 102 | 2.68 | 273 |
| Hall 1 | 18 | 11 | 13.22 | 139 |

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| Room Name | Design Temp (°C) | Power (W/m2) | Area (m2) | Power (W) |
| Dining Room | 21 | 26 | 19.72 | 505 |
| Rear Hall/Stairwell | 18 | 18 | 13.04 | 237 |
| Kitchen | 18 | 31 | 32.37 | 1012 |
| Bedroom 5 | 18 | 18 | 13.71 | 240 |
| Landing 2/Stairwell | 18 | 15 | 3.33 | 51 |
| Bedroom 6 | 18 | 15 | 21.28 | 313 |
| Bedroom 5/6 Cupboards | 16 | 13 | 1.65 | 22 |
| Gym/Spare Room | 18 | 14 | 28.09 | 406 |
| Landing 1 | 18 | 12 | 4.84 | 59 |
| Bathroom (1st Floor) | 22 | 50 | 9.3 | 462 |
| Bedroom 4 | 18 | 17 | 26.17 | 446 |
| Totals | | | 337.84 | 8639 |



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| Room Name | Power Loss (W) | Emitter Description | Oversize Factor | Output at Flow (W) | Total Output (W) | % Demand Met |
| Living Room | 1982 | UFH (Screed with Wood) | - | - | - | - |
| En-Suite | 441 | UFH (Screed with Tile) | - | - | - | - |
| Bedroom 2 | 191 | UFH (Screed with Wood) | - | - | - | - |
| Hall 2 | 187 | UFH (Screed with Wood) | - | - | - | - |
| Bedroom 1 | 403 | UFH (Screed & Carpet) | - | - | - | - |
| Bedroom 3 | 124 | UFH (Screed & Carpet) | - | - | - | - |
| Hall 2 Cupboard | 6 | UFH (Screed & Carpet) | - | - | - | - |
| Bathroom (Ground Floor) | 330 | UFH (Screed with Tile) | - | - | - | - |
| Utility Room | 282 | UFH (Screed with Wood) | - | - | - | - |
| Hallway Cupboard | 11 | UFH (Screed with Wood) | - | - | - | - |
| Shower Room/WC | 217 | UFH (Screed with Wood) | - | - | - | - |
| Study | 300 | UFH (Screed & Carpet) | - | - | - | - |
| Porch | 273 | UFH (Screed with Wood) | - | - | - | - |
| Hall 1 | 139 | UFH (Screed with Tile) | - | - | - | - |
| Dining Room | 505 | UFH (Screed with Tile) | - | - | - | - |
| Rear Hall/Stairwell | 237 | UFH (Screed with Tile) | - | - | - | - |
| Kitchen | 1012 | UFH (Screed with Tile) | - | - | - | - |
| Bedroom 5 | 240 | Type 22 600x1400 | 3.1 (HEG) | 720 | 720 | 100% |
| Landing 2/Stairwell | 51 | No Emitter Required | 3.1 (HEG) | - | - | - |
| Bedroom 6 | 313 | Type 22 600x1400 | 3.1 (HEG) | 720 | 720 | 100% |
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| Bedroom 5/6 Cupboards | 22 | No Emitter Required | 3.1 (HEG) | - | - | - |

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| Room Name | Power Loss (W) | Emitter Description | Oversize Factor | Output at Flow (W) | Total Output (W) | % Demand Met |
| Gym/Spare Room | 406 | No Current Emitter | 3.1 (HEG) | - | - | - |
| Landing 1 | 59 | Type 11 600x500 | 3.1 (HEG) | 100 | 100 | 100% |
| Bathroom (1st Floor) | 462 | Towel Rail 500x1200 Duel Fuel | 3.1 (HEG) | 595 | 595 | 100% |
| Bedroom 4 | 446 | Type 21 600x800 | 3.1 (HEG) | 258 | 516 | 100% |
| Type 21 600x800 | 3.1 (HEG) | 258 |

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| Room Name | Power Loss (W) | Emitter Description | Oversize Factor | Output at Flow (W) | Total Output (W) | Status |
| Living Room | 1982 | UFH (Screed with Wood) | - | - | - | Existing |
| En-Suite | 441 | UFH (Screed with Tile) | - | - | - | Existing |
| Bedroom 2 | 191 | UFH (Screed with Wood) | - | - | - | Existing |
| Hall 2 | 187 | UFH (Screed with Wood) | - | - | - | Existing |
| Bedroom 1 | 403 | UFH (Screed & Carpet) | - | - | - | Existing |
| Bedroom 3 | 124 | UFH (Screed & Carpet) | - | - | - | Existing |
| Hall 2 Cupboard | 6 | UFH (Screed & Carpet) | - | - | - | Existing |
| Bathroom (Ground Floor) | 330 | UFH (Screed with Tile) | - | - | - | Existing |
| Utility Room | 282 | UFH (Screed with Wood) | - | - | - | Existing |
| Hallway Cupboard | 11 | UFH (Screed with Wood) | - | - | - | Existing |
| Shower Room/WC | 217 | UFH (Screed with Wood) | - | - | - | Existing |
| Study | 300 | UFH (Screed & Carpet) | - | - | - | Existing |
| Porch | 273 | UFH (Screed with Wood) | - | - | - | Existing |
| Hall 1 | 139 | UFH (Screed with Tile) | - | - | - | Existing |
| Dining Room | 505 | UFH (Screed with Tile) | - | - | - | Existing |
| Rear Hall/Stairwell | 237 | UFH (Screed with Tile) | - | - | - | Existing |
| Kitchen | 1012 | UFH (Screed with Tile) | - | - | - | Existing |
| Bedroom 5 | 240 | Type 22 600x1400 | 3.1 (HEG) | 720 | 720 | Existing |
| Landing 2/Stairwell | 51 | No Emitter Required | 3.1 (HEG) | - | - | - |
| Bedroom 6 | 313 | Type 22 600x1400 | 3.1 (HEG) | 720 | 720 | Existing |
| Bedroom 5/6 Cupboards | 22 | No Emitter Required | 3.1 (HEG) | - | - | Existing |

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| Room Name | Power Loss (W) | Emitter Description | Oversize Factor | Output at Flow (W) | Total Output (W) | Status |
| Gym/Spare Room | 406 | Type 22 600x800 | 3.1 (HEG) | 447 | 447 | New |
| Landing 1 | 59 | Type 11 600x500 | 3.1 (HEG) | 100 | 100 | Existing |
| Bathroom (1st Floor) | 462 | Towel Rail 500x1200 Duel Fuel | 3.1 (HEG) | 595 | 595 | Existing |
| Bedroom 4 | 446 | Type 21 600x800 | 3.1 (HEG) | 258 | 516 | Existing |
| Type 21 600x800 | 3.1 (HEG) | 258 | Existing |

Installer Project Reference Ashley SN10

Client Paul Ashley

Installation Address Line 1

Installation Address Line 2

Installation Address Line 3

Installation Address Line 4



*Is the building existing and not proposed to be extended or reduced in size?* Yes EPC No. 2388-0067-6207-5137-5950





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

Date on which prices found 5 Jul 2021

Energy required to heat property 24,704 kWh Energy required for hot water 2,967 kWh Potential RHI energy 20,000 kWh Energy potentially eligible for RHI 15,012 kWh

(Adjusted using SCoP where applicable)





Existing heating system fuel Oil

Hot Water heated by Oil see note \* below Age of existing system Post-2007

Efficiency of existing system 92 %

\* 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) info required Yes

RHI Funding Stream Domestic

|  |  |  |
| --- | --- | --- |
| Type of System  Manufacturer Name | Air Source Heat Pump  Midea M Thermal | \* This calculator is not designed to be used for Solar Assisted Heat Pumps |
| Manufacturer Model | MHC-V12W/D2N8-B |  |
| 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 | 4.01 | \* SCoP - Seasonal Coefficient of Performance. This value is based on the MCS HP SCoP Table below |



10.92 (p/kWh)

|  |  |  |
| --- | --- | --- |
| MCS SCOP Hot Water | 1.75 | \* 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 50°C up to 60°C, 3kW |
| Size of Hot Water Cylinder | 250 ltr |  |

*Existing Fuel Cost*

Oil (p/litre) 50.00

*Cost*

Electricity (p/kWh) 11.22

[*RHI tariffs can be viewed here*](https://www.ofgem.gov.uk/environmental-programmes/domestic-rhi/contacts-guidance-and-resources/tariffs-and-payments-domestic-rhi/current-future-tariffs)

Existing system annual running cost £1,535

Renewable System annual running cost £898 \* Includes Immersion

No \* RHI Uplift

RHI per year £1,639 \* Note: RHI funding stops after 7 years

Fossil Fuel Cost in new system £0

Annual fuel saving £637

Fuel saving over 7 years £4,459



Cost for installation of new system £16,495 inc.VAT \* Breakdown of quote detail provided seperately

Total RHI £12,260

Total fuel saving, RHI & MMSP over 7 £16,719 years

CPI linkd@ 2.2% \* MMSP only applicable for Domestic RHI

[*Government CPI reference*](https://www.ons.gov.uk/economy/inflationandpriceindices)



Energy required to heat property 24,704 kWh Energy required for hot water 2,967 kWh



Existing Annual Cost £1,535 Proposed Annual Cost £898 Electrical Energy consumed 7,856 kWh

£1,000

£900

£800

£700

£600

£500

£400

£300

£200

£100

£0

35 40 45 50 55 60 65

Flow Temperature (°C)





|  |  |
| --- | --- |
|  | |
| Hot Water Temperature Required (°C) | 45 |
| Heat losses associated with hot water storage (°C) | 5 |
| Incoming water temperature (°C) | 10 |
| Pipework Efficiency from HP to Cylinder (%) | 85 |
| Legionella purge | Yes |
| Legionella purge frequency | Weekly |
| Legionella purge hours (per day or per week) | 2 |
| Legionella total purge hours | 104 |
| Legionella purge demand (Annual) (kWh/yr) | 312 |
| Legionella purge demand (Daily) (kWh/yr) | 0.85 |
| Total annual demand (kWh/yr) | 4195 |
| Heat supplied by primary heat source (kWh/yr) | 4195 |
| Heat supplied by auxiliary heat source (kWh/yr) | 0 |
| Heat supplied by immersion heater (kWh/yr) | 312 |

|  |  |
| --- | --- |
|  | |
| Output Capacity of Primary Heat Source (kW) | 11 |
| Flow temp while providing hot water heating (°C) | 50 |
| Efficiency of Auxiliary Heat Sources (%) | 0 |
| kW Capacity (kW) | 0 |

|  |  |
| --- | --- |
|  | |
| Make | Heat Pump Cylinder |
| Model |  |
| EN8558 DHW capacity calculation (ltr) | 240 |
| DHW chosen cylinder capacity (ltr) | 240 |
| Electric immersion heater size (If required) | 3 |
| DHW Cylinder Recovery Rate (mins) | 61 |





|  |  |  |
| --- | --- | --- |
|  | | |
| Demand | kWh/yr | 17752 |
| Heat supplied by HP, excluding auxiliary heaters | kWh/yr | 17752 |
| Seasonal Coefficient of performance SCOP | SCOP | 4.01 |
| Electricity consumed by HP, excluding auxiliary heaters | kWh/yr | 4427 |
| Renewable heat supplied by HP | kWh/yr | 13325 |
| Remaining heat to be supplied by auxiliary heaters and other heat source | kWh/yr | 0 |
| Remaining heat, supplied by other heat sources | kWh/yr | 0 |
| Remaining heat, supplied by auxiliary heaters | kWh/yr | 0 |
| Electricity consumed by HP, including auxiliary heaters | kWh/yr | 4427 |
|  | | |
| Fuel used | N/A | |
| Efficiency of other heat sources | % | 0 |
| Consumed by other heat sources | kWh/yr | 0 |

|  |  |  |
| --- | --- | --- |
|  | | |
| Demand | kWh/yr | 4195 |
| Heat Supplied by HP, excluding immersion heater | kWh/yr | 4195 |
| SCOP of HP in Hot water mode | SPF/SCOP | 1.75 |
| Electricity consumed by HP, excluding immersion heater | kWh/yr | 2397 |
| Renewable heat supplied by HP | kWh/yr | 1798 |
| Remaining heat to be supplied by immersion heater and other heat sources | kWh/yr | 312 |
| Remaining heat, supplied by other heat sources | kWh/yr | 0 |
| Remaining heat, supplied by immersion heater | kWh/yr | 312 |
| Electricity consumed by HP, including immersion heater | kWh/yr | 2709 |
|  | | |
| Fuel used | N/A | |
| Efficiency of other heat sources | % | 0 |
| Consumed by other heat sources | kWh/yr | 0 |





|  |  |  |
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|  | | |
| Proportion of space heating and water heating demand provided by heat pump (excluding auxiliary/immersion heaters) | % | 100 |
| Renewable heat | kWh/yr | 15122 |
| Electricity consumed by HP (excluding auxiliary/immersion heaters) | kWh/yr | 6824 |
| Electricity consumed by immersion (supplied as part of HP) | kWh/yr | 312 |
| Fuel consumed by auxiliary/other heat sources | kWh/yr | 0 |
| HP combined performance SCOP | SCOP | 3.12 |
| Star Rating / Flow Temperature | 4 / 45°C | |
| Outside Air Temperature | -1.76°C | |

|  |  |  |
| --- | --- | --- |
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| Cost per unit of electricity for HP | p/kWh | 11.22 |
| Cost per unit of fuel for other heat sources | p/kWh | 0 |
| Cost of electricity for HP (including auxiliary/immersion heaters) | £/yr | 801 |
| Cost of fuel for other heat sources | £/yr | 0 |

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|  | | |
| Annual space heating demand | kWh/yr | 24704 |
| Annual water heating demand | kWh/yr | 2967 |
| Is space heating supplied by the HP? | Yes | |
| Is water heating supplied by the HP? | Yes | |
| Maximum qualifying heat supplied by the HP | kWh/yr | 20000 |
| Seasonal Coefficient of Performance for RHI purposes | SCOP | 4.01 |
| Maximum qualifying renewable heat | kWh/yr | 15012 |
| Estimated annual income from Renewable Heat Incentive | £/yr | 1639 |
| Estimated total income from Renewable Heat Incentive | £ | 11473 |
|  | | |
| 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 based upon the best available information but is given as guidance only and should not be considered as a guarantee. | | |



Tuesday, July 6, 2021

**Tecsurv Property Survey Form**

**Client Name** Paul Ashley

**Property Address**

**Date of Assessment** Monday, July 5, 2021

**Surveyor Name Reason/s for Visit On Behalf of**

Ryan Sellick

Air Source Heat Pump

Sustain Eco

**Job Reference** SNHP-0750

**Tenure Type Disclosure Terrain Type**

Owner

No Related Party

Rural

No

**Is the Building due to be Extended in the Future**

**How long has Client been at the property**

1-10 years

# Building Details

**Date of Construction** Full Renovation 2007

**Build Type Type of Survey**

Semi-Detached House

Retro-Fit

**Number of Bedrooms** 6

**Number of Occupants** 2

**Number of Habitable Rooms** 11

**Number of Heated Habitable Rooms** 11

**Is the Property Listed**

No

**Is the Property Located in a Conservation Area**

No

**Measurement Type**

Internal

**Total Property Size** 338.04

# Materials

**Main Wall Construction**

Solid with Internal/External Insulation

**Main Wall Thickness** 360

**Main External Finish**

Brick

**M2 Input Data**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Area** | **HLP** | **Ceiling Height** |
| **Ground Floor** | 229.29 | 76.92 | 2.44 |
| **First Floor** | 108.75 | 67.59 | 2.04 |
| **Second Floor** |  |  |  |

**Number of Accessible Lofts** 0

**Loft Insulation Level Loft Insulation Area**

No Insulation

N/A

Quilt Lined

**Loft Insulation Materials Loft Access Details Room in Roof**

N/A

Yes with Vaulted

**RIR Ceiling Height (average)** 1.67

**Room in Roof Insulation level Sky Lights/Velux Windows**

As Built

Yes

**Number of Skylight/Velux** 13

**Roof Covering**

Concrete

**So t/Fascia Details Conservatory Type**

Timber Barge Board

No Conservatory

**Number of Windows (Inc Doors more** 15

**than 50% glazed)**

**% of Multi Glazed** 100

**Window Material Glass Type**

Wood

Double Glazed (Post-2002)

**Glass Thickness** 16

**% of Draught-Proofing** 100

**Internal Wall Construction Partition Wall Construction Ground Floor Construction**

Aerated Concrete Block

Brick

Solid Concrete

**Ground Floor Insulation Level** 75

**Dividing Floor Construction External Door Type/s**

Insulated Timber Joist

Wood Solid

Wood 50% Glass

**Is MVHR (Mechanical Ventilation Heat Recovery) Present**

No

**Additional Renewables Present**

No Renewables

**Does the Property have a Valid EPC** No

**EPC Date** Thursday, March 28, 2013

**Height above Sea Level (m)** 93

**Distance to the Sea (km)** 49.9

# Current Heating & Hot Water

**How is the Property Heated**

Oil

**Number of Heating Circuits** 1

**How is the Heat Dispersed**

Standard Radiators (Wet)

Under Floor Heating (Wet)

**Radiator Flow/Return Type**

Standard

|  |  |
| --- | --- |
| **Number of Radiators** | 6 |
| **Number of Radiators with TRV’s** | 6 |
| **Percentage of TRV’s** | 100 |
| **Radiator Flow/Return Thickness** | 15 |

**Is the client satisfied with the current heating output and performance?**

Yes

**Are all rooms currently getting to desired temperature?**

Yes

**Notes of Client Concerns of current Heating**

None

**Notes of any Damaged or Problematic Radiators**

None

**Boiler Location** Utility Room

**Boiler Make/Model** Grant Vortex 26/36

**Type of Boiler**

Gravity Fed

**Flow/Return Pipe Thickness** 22

**Flue Exit Design**

Back to Back External

**HW Cylinder Location** First Floor

**Existing HW Cylinder Placement**

External Wall

**HW Cylinder Make/Model** Oso

**How is the HW heated**

Boiler

Immersion

**Cylinder Insulation**

Fabricated

**HWC Insulation Thickness** 49

**Cylinder Feed**

Indirect

|  |  |
| --- | --- |
| **Current HW Cylinder Capacity** | 250 |
| **Number of Zone Valves** | 3 |
| **Cylinder Dimensions** | 450x1600 |
| **Rooms with a bath and/or shower** | 4 |
| **Rooms with a mixer and no bath** | 2 |
| **Rooms with a mixer and bath** | 2 |

**Is there a Filter Protection in Place**

No

**Will Oil Tank need removing? (If applicable)**

No

# Electrical & Supply Details

**Mains Location** Utility Room

**Mains Make/Model** Landis & Gyr

**Incoming Fuse Size (Cut-Out) Supply Phase**

100amp

Single

TNC-S

**Earthing Arrangement**

**Distribution Board Loaction** Utility

**Distribution Board Make** Legrand

**Number of Spare Ways on Board** 2

**RCD Breaker Size (amp)** 100

**Distance between Mains and DB** 1

**(Meters)**

**Electricity Supplier** People’s Enegy

**Network Operator** WPD

**Electricity Unit Rate Payed (p/kWh)** 11.22

**MPAN/Supply Number** 2000052851923

# Install Access and Details

**Installation Set Up Heat Pump Type**

Space Heating and Hot Water

Air Source

**Proposed Heat Pump/Condenser Location**

**Mount Type**

**Current Ground Conditions Ground Source Type**

**Is location near a Walkway/Path**

Side of Property

Ground

Concrete/Solid Base-Flat

N/A

**Distance to Cylinder from Location** 18

**(Meters)**

Yes

**Distance to Mains and DB from** 5

**Location (Meters) Noise Level Q Score**

Q4 (2 surfaces within a meter)

**Distance to nearest Neighbouring** 4

**window (M)**

**Barriers from Assessment Position Primary Pipe Route**

Barrier (No View)

External

**Brief description of Pipe Route**

Around front of property and up to eaves area and in.



Air Source Heat Pump Noise Level Calculation Form

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 1. | From manufacturers data, obtain the A-weighted sound power level of the heat pump. See “Note 1: Sound Power Level” below. The highest sound power level specified should be used (the power in “low noise mode” should not be used). | 53 |
| 2. | Use “Note 2: Sound Pressure level” and “Note 3: Determination of directivity” below to establish the directivity “Q” of the heat pump noise. | Q4 - "Two Reflective Surfaces" |
| 3. | Measure the distance from the heat pump to the assessment position in metres. | 4 |
| 4. | Use table in “Note 4: dB distance reduction” below to obtain a dB reduction. | -17 |
| 5. | Establish whether there is a solid barrier between the heat pump and the assessment position using “Note 5: Barriers between the heat pump and the assessment position” and note any dB reduction. | Barrier (no view) |
| 6. | Calculate the sound pressure level (see Note 2: Sound pressure level”) from the heat pump at the assessment position using the following calculation:  (STEP 1) + (STEP 4) + (STEP 5) | 26 |
| 7. | Background noise level. For the purposes of the MCS Planning Standard for air source heat pumps the background noise level is assumed to be 40 dB (A)Lp. For information see “Note 6: MCS Planning Standard for air source heat pumps background noise level” | 40 |



Air Source Heat Pump Noise Level Calculation Form

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 8. | Determine the difference between STEP 7 background noise level and the heat pump noise level using the following calculation:  (STEP 7) – (STEP 6) | 14 |
| 9. | Using the table in “Note 7: Decibel correction” obtain an adjustment figure and then add this to whichever is higher dB figure from STEP 6 and STEP 7. Round this number up to the nearest whole number. | 41 |
| 10. | Is the FINAL RESULT in STEP 9 lower than the permitted development noise limit of 42 dB (A)?  If YES – the air source heat pump will comply with the permitted development noise limit for this assessment position and may be permitted development (subject to compliance with other permitted development limitations/conditions and parts of the MCS 020 standard.)  NOTE – other assessment positions may also need to be tested.  If NO – the air source heat pump will not be permitted development. This installation may still go ahead if planning permission is granted by the local planning authority. | YES |



APPENDIX - CHANGES TO PROPOSED SCOPE OF WORKS FORM

|  |  |
| --- | --- |
| Client |  |
| Site Address |  |

|  |  |
| --- | --- |
| Heat Pump Location |  |
| Tank Location |  |
| Pipework |  |
| Radiators |  |
| Other |  |

Alternatively, there maybe work quoted for which you do not wish to have done. An example of this may be a radiator replacement(s) advised under the MCS assessment, (Heat loss). Again, your written consent will be required, and a deduction may be made from your quotation.



Sustain Heating and Renewables support a Fixed Pricing Policy and carry out Surveys and Engineer Inspections prior to the start of your installation. However, despite our best efforts there may be instances where additional is required which were not visible and/or apparent at point of survey/inspection. Wherever possible, we will absorb small remedial works but should we encounter, at our discretion, more severe problems which may include … corroded pipework in inaccessible areas, damaged water main risers, corroded steel pipework and dangerous electricals.

In these circumstances we will explain the severity of the issue and the intended repair work and discuss what additional costs will be required carry out the work. Any work required in addition to our agreed Scope of Works as we will require your written consent and you will be invoiced for this work separately.

*\*Please note:- Sustain Heating cannot be held accountable for any works carried out or omitted which deviates from the MCS specification.*

Amendment Confirmation

If you are happy with the above and attached, please sign and date below:

|  |  |  |
| --- | --- | --- |
| Print Name: | Sign | Date: |
|  |  |  |

On behalf of Sustain Eco:

|  |  |  |
| --- | --- | --- |
| Print Name: | Sign | Date: |
|  |  |  |





I confirm that the installation of Air Source Heat Pump System at property has been installed to Industry standard and a site walk through with client has been conducted.

ADDRESS:-

COMMISSIONING DOCUMENT

Commissioning is required to be carried out in accordance with both the manufacturer's instructions and industry standard. Please review each section of this checklist and confirm the actions carried out by initialling or by marking as Yes / No or “not applicable”.

|  |  |
| --- | --- |
| Prior to starting up, checks should include those from the following list appropriate to the system installed. | |
| All hydraulic connections checked |  |
| Inspection of all electrical connections carried out |  |
| Photos taken before and after installation |  |
| Site walkthrough of installed equipment carried out with client |  |
| System controls and operation explained to client |  |
| Any instructions manuals available been given to client (office may do this) |  |
| Relevant equipment serial numbers recorded for warranty purposes |  |
| Site left in clean and tidy manner |  |
| Client happy with installation |  |

|  |  |
| --- | --- |
| Name of Installation Technician: |  |
| Signature: |  |
| Date: |  |

|  |  |
| --- | --- |
| Client Name: |  |
| Signature: |  |
| Date: |  |



CUSTOMER SATISFACTION DOCUMENT

As part of our ongoing commitment to our clients we carry out a post installation questionnaire and checklist to ensure all aspects of your installation have been carried out and that you are happy with the service you have received. Any feedback is always welcomed as it allows us to constantly improve.

|  |  |
| --- | --- |
| Customer Name |  |
| Address |  |

|  |  |
| --- | --- |
| Check list Star Rating 1- 5 | |
| How happy are you with how your initial enquiry was dealt with? |  |
| How did your first meeting with your consultant go? |  |
| Rate the quality of information given to you throughout the process? |  |
| Did you feel there was enough communication from office staff? |  |
| Were your requests listened to during the Installation? |  |
| Was your home respected during the installation process? |  |
| How efficient do you feel the fitting team were? |  |
| Please rate the quality of your installation? |  |
| How was your communication With Sustain Eco after your installation? |  |
| Overall how would you rate the service you received from Sustain Eco? |  |

Please add any further comments below:

Thank you for your feedback. As you know, we aim to deliver a Five Star service to you and all our customers.

We ask if you would kindly submit a review(s) online to share your experience with other potential customers. You will shortly be receiving an email from us that will detail how to submit your review.

We also ask you if you would be happy for us to refer to your installation in future marketing campaigns including using some of the photographs taken. Yes / No.

Sustain Heating & Renewables would also like to stay in touch with you and from time to time will have various offers and promotions if please confirm if you would like to be included in any future promotion. Yes / No.