



The Certification Mark for Onsite Sustainable Energy Technologies

Heat Loss Calculation



Creating a Sustainable Future

Customer Information

Project Reference:	11111	Date:	12/09/2013
Customer Name:	Mr E. Xample		
Site Address:	1 Made Rd	Contact Nos.	01230 222555
	Place		
	Town	Email Address:	example@email.co.uk
Post Code:	EX1 2PE		

Installer Information

Installers Name:	Reina Group	Email Address:	hp@reinagroup.co.uk
Address:	Pavilion House	Website:	www.reinagroup.co.uk
	70 Pavilion Road	Contact No:	01303 248648
	Folkestone	Real No:	40753
	Kent	MCS No:	NAP 19153
Post Code	CT19 5RL	Gas Safe	189267

Recommended Heat Pump

Manufacturer:	Vaillant	HP Type:	Air Source
Model:	aroTHERM	Collector type:	n/a
Size:	11kW	Buffer Size:	40litre
Electrical Supply:	Single Phase	Cylinder Size:	200litre

Design Data

DD Location:	South-eastern (Gatwick)	ODT Location:	London
Degree Days (DD):	2255		
Altitude (m):	110		
Outside Design Temp (°C):	-2.4		

Note: Designed to MCS Guidelines - MIS3005

Property

House Type:	Semi-Detached	Emitters:	Radiators/Underfloor
Built (circa year):	1996	Ground Floor:	Underfloor
Floor Area (m²):	110	1st Floor:	Radiators
Dwelling Volume (m³):	264	2nd Floor:	n/a



Room by Room Summary

Room / Location	Design Temp °C	Space Heat	Space Heat	Room Specific	Type of	Required Flow	Room
		Power Heat Losses W	Energy Heat Loss kWh	Heat Loss W/m ²	Heat Emitter	Temperature °C	Specific Star Rating
Lounge	21	992	2169	50	UFH	40	*****
Kitchen	18	1090	2715	54	UFH	40	*****
Dining	21	780	1708	49	UFH	40	*****
Hall	18	229	588	38	UFH	40	*****
Landing	18	211	487	35	Radiator	45	****
Bathroom	22	726	1401	61	Radiator	45	****
Bed 1	18	703	1621	44	Radiator	45	****
Bed 2	18	373	861	41	Radiator	45	****
Bed 3	18	199	459	40	Radiator	45	****
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
-	0	0	0	n/a			n/a
Design Room Temp	22.0						
Outside Design Temp	-2.4						
Design Temp Diff	24.4						
Total		5302	12008				

'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.'

Floor Area m²	Heat Loss	Wm²
110	5302	48.20
Star Rating of System		****
Required Flow Temp °C		45
Power Heat Loss kW		5.30
Total Heat Energy kWh/yr*		15065
*including hot water		



Emitter Schedule @ ΔT : 50°C

	Watts	Emitters
Lounge	n/a	n/a
Kitchen	n/a	n/a
Dining	n/a	n/a
Hall	n/a	n/a
Landing	654	Good
Bathroom	2252	Good
Bed 1	2178	Good
Bed 2	1157	Good
Bed 3	617	Good
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
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-	n/a	n/a
-	n/a	n/a
-	n/a	n/a
-	n/a	n/a

Hot Water Calculation

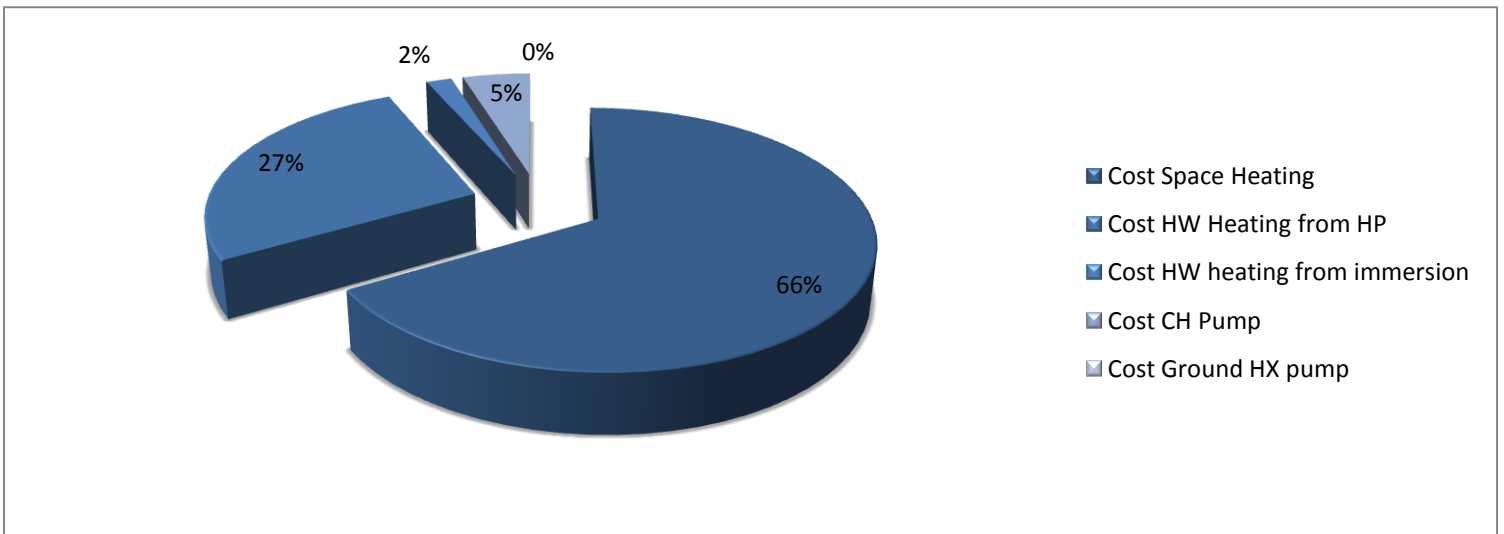
	kWh/yr
Energy consumed by Heat Pump	1617
Hot Water Energy from Immersion*	109
Total Hot Water Energy	3057
Hot Water Details	
Number of Bedrooms	3
Number of Occupants (per room)	1
Daily DHW usage per person (litres)	45
Final DHW temperature (°C)	50
HP SPF at DHW temperature	2.7
Pipework Heatloss from HP to cylinder	70
Electrical energy for HP (day)	4.43
Electrical energy for Immersion (week)	2.09
Total electrical energy per day (kWh)	8.37
Min Hot Water Cylinder Required (litres)	180

*based on the immersion heating h/w from 50°C to 60°C once a week

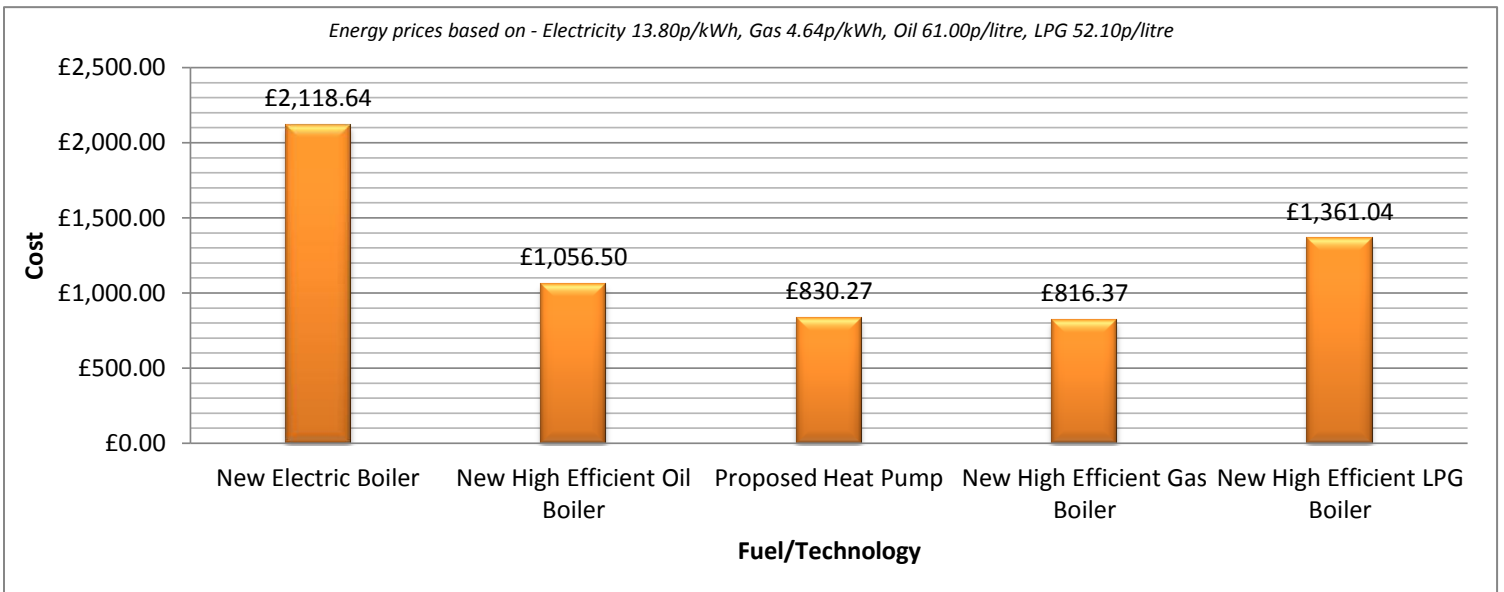
Estimated Running Costs

Information for Householder		
Cost Space Heating	£552.38	Energy prices based on; Electricity 13.80p/kWh Gas 4.64p/kWh Oil 61.00p/litre LPG 52.10p/litre
Cost HW Heating from HP	£223.17	
Cost HW heating from immersion	£15.02	
Cost CH Pump	£39.69	
Cost Ground HX pump	£0.00	
Total estimated CH running cost	£830.27	

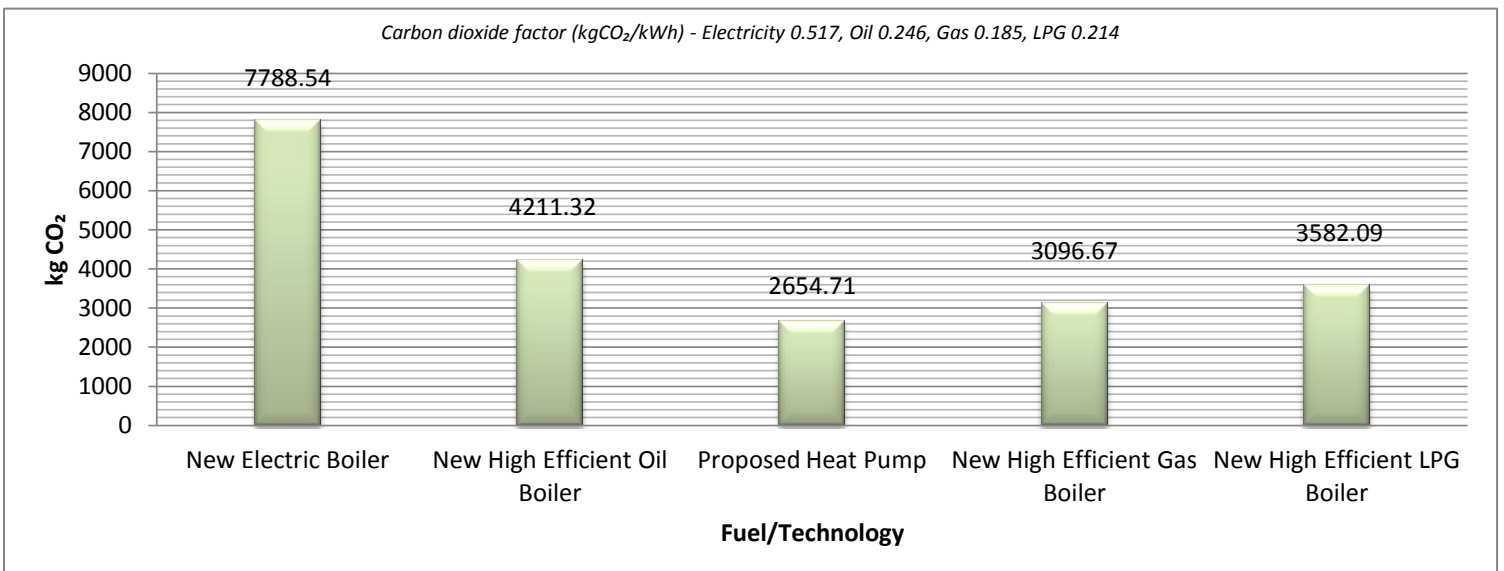
Breakdown of Running Costs



Running costs/year



CO₂ Emissions





Room Name: Lounge

Room Information

Design Room Temperature (°C):	21	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	23.4
Room Area (m ²):	20.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	48.0
Room Volume (m ³):	48.00	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	48.00	Power Heat Loss (W):	371
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	857
Design Temp Difference (°C):	23.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	20.0	0.3	10.8	65	325
FLOOR	0.0	0.3	23.4	0	0
EXT WALL (gross area)	21.6				
WINDOW GLAZING	2.0	2.0	23.4	94	216
WINDOW GLAZING	2.0	2.0	23.4	94	216
WINDOW GLAZING	2.0	2.0	23.4	94	216
DOOR	0.0	2.0	23.4	0	0
EXT WALL (net area)	15.6	0.4	23.4	146	338
CEILING or ROOF (gross area)	20.0	0.0	0	0	0
CEILING or ROOF (gross area)	0.0	0.0	0	0	0
ROOF GLAZING	0.0	0.0	23.4	0	0
ROOF GLAZING	0.0	0.0	23.4	0	0
CEILING or ROOF (net area)	20.0	1.7	0	0	0
INTERNAL WALL 1	0.0	1.7	0	0	0
INTERNAL WALL 2	0.0	1.7	0	0	0
PARTY WALL	0.0	0.0	11	0	0
OTHER	0.0	0.0	0	0	0
Design Heat Loss For Room				862	2169

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	129

Total Power Heat Loss (W): 992
Total Energy Heat Loss (kWh/yr): 2169

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Kitchen

Room Information

Design Room Temperature (°C):	18	Number of Air Changes:	2
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	20.4
Room Area (m ²):	20.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	96.0
Room Volume (m ³):	48.00	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	96.00	Power Heat Loss (W):	646
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	1715
Design Temp Difference (°C):	20.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	20.0	0.3	7.8	47	325
FLOOR	0.0	0.3	20.4	0	0
EXT WALL (gross area)	12.0				
WINDOW GLAZING	3.0	2.0	20.4	122	325
WINDOW GLAZING	0.0	2.0	20.4	0	0
DOOR	1.8	2.0	20.4	73	195
DOOR	0.0	2.0	20.4	0	0
EXT WALL (net area)	7.2	0.4	20.4	59	156
CEILING or ROOF (gross area)	20.0	0.0	0.0	0	0
CEILING or ROOF (gross area)	0.0	0.0	0.0	0	0
ROOF GLAZING	0.0	0.0	20.4	0	0
ROOF GLAZING	0.0	0.0	20.4	0	0
CEILING or ROOF (net area)	20.0	1.7	0.0	0	0
INTERNAL WALL 1	0.0	1.7	0.0	0	0
INTERNAL WALL 2	0.0	1.7	0.0	0	0
PARTY WALL	0.0	0.0	8.0	0	0
OTHER	0.0	0.0	0.0	0	0
Design Heat Loss For Room				948	2715

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	142

Total Power Heat Loss (W): 1090
Total Energy Heat Loss (kWh/yr): 2715

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Dining

Room Information

Design Room Temperature (°C):	21	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	23.4
Room Area (m ²):	16.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	38.4
Room Volume (m ³):	38.40	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	38.40	Power Heat Loss (W):	297
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	686
Design Temp Difference (°C):	23.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	16.0	0.3	10.8	52	260
FLOOR	0.0	0.3	23.4	0	0
EXT WALL (gross area)	19.2			0	0
WINDOW GLAZING	2.0	2.0	23.4	94	216
WINDOW GLAZING	2.0	2.0	23.4	94	216
DOOR	0.0	2.0	23.4	0	0
DOOR	0.0	2.0	23.4	0	0
EXT WALL (net area)	15.2	0.4	23.4	142	329
CEILING or ROOF (gross area)	16.0	0.0	0.0	0	0
CEILING or ROOF (gross area)	0.0	0.0	0.0	0	0
ROOF GLAZING	0.0	0.0	23.4	0	0
ROOF GLAZING	0.0	0.0	23.4	0	0
CEILING or ROOF (net area)	16.0	1.7	0.0	0	0
INTERNAL WALL 1	0.0	1.7	0.0	0	0
INTERNAL WALL 2	0.0	1.7	0.0	0	0
PARTY WALL	0.0	0.0	11.0	0	0
OTHER	0.0	0.0	0.0	0	0
Design Heat Loss For Room				678	1708

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	102

Total Power Heat Loss (W): 780
Total Energy Heat Loss (kWh/yr): 1708

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Hall

Room Information

Design Room Temperature (°C):	18	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	20.4
Room Area (m ²):	6.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	14.4
Room Volume (m ³):	14.40	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	14.40	Power Heat Loss (W):	97
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	257
Design Temp Difference (°C):	20.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	6.0	0.3	7.8	14	97
FLOOR	0.0	0.3	20.4	0	0
EXT WALL (gross area)	3.6				
WINDOW GLAZING	0.0	2.0	20.4	0	0
WINDOW GLAZING	0.0	2.0	20.4	0	0
DOOR	1.8	2.0	20.4	73	195
DOOR	0.0	2.0	20.4	0	0
EXT WALL (net area)	1.8	0.4	20.4	15	39
CEILING or ROOF (gross area)	6.0	0.0	0.0	0	0
CEILING or ROOF (gross area)	0.0	0.0	0.0	0	0
ROOF GLAZING	0.0	0.0	20.4	0	0
ROOF GLAZING	0.0	0.0	20.4	0	0
CEILING or ROOF (net area)	6.0	1.7	0.0	0	0
INTERNAL WALL 1	0.0	1.7	0.0	0	0
INTERNAL WALL 2	0.0	1.7	0.0	0	0
PARTY WALL	0.0	0.0	8.0	0	0
OTHER	0.0	0.0	0.0	0	0
Design Heat Loss For Room				199	588

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	30

Total Power Heat Loss (W): 229
Total Energy Heat Loss (kWh/yr): 588

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Landing

Room Information

Design Room Temperature (°C):	18	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	20.4
Room Area (m ²):	6.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	14.4
Room Volume (m ³):	14.40	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	14.40	Power Heat Loss (W):	97
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	257
Design Temp Difference (°C):	20.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	6.00	1.42	0	0	0
FLOOR	0.00	1.42	0	0	0
EXT WALL (gross area)	3.60				
WINDOW GLAZING	1.00	2.00	20.4	41	108
WINDOW GLAZING	0.00	2.00	20.4	0	0
DOOR	0.00	2.00	20.4	0	0
DOOR	0.00	2.00	20.4	0	0
EXT WALL (net area)	2.60	0.40	20.4	21	56
CEILING or ROOF (gross area)	6.00	0.00	0	0	0
CEILING or ROOF (gross area)	0.00	0.00	0	0	0
ROOF GLAZING	0.00	0.00	20.4	0	0
ROOF GLAZING	0.00	0.00	20.4	0	0
CEILING or ROOF (net area)	6.00	0.20	20.4	24	65
INTERNAL WALL 1	0.00	1.72	0	0	0
INTERNAL WALL 2	0.00	1.72	0	0	0
PARTY WALL	0.00	0.00	8	0	0
OTHER	0.00	0.00	0	0	0
Design Heat Loss For Room				183	487

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	28

Total Power Heat Loss (W): 211
Total Energy Heat Loss (kWh/yr): 487

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Bathroom

Room Information

Design Room Temperature (°C):	22	Number of Air Changes:	2
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	24.4
Room Area (m ²):	12.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	57.6
Room Volume (m ³):	28.80	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	57.60	Power Heat Loss (W):	464
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	1029
Design Temp Difference (°C):	24.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	12.00	1.42	0	0	0
FLOOR	0.00	1.42	0	0	0
EXT WALL (gross area)	7.20				0
WINDOW GLAZING	1.00	2	24.4	49	108
WINDOW GLAZING	0.00	2	24.4	0	0
DOOR	0.00	2	24.4	0	0
DOOR	0.00	2	24.4	0	0
EXT WALL (net area)	6.20	0.4	24.4	61	134
CEILING or ROOF (gross area)	12.00	0	0	0	0
CEILING or ROOF (gross area)	0.00	0	0	0	0
ROOF GLAZING	0.00	0	24.4	0	0
ROOF GLAZING	0.00	0	24.4	0	0
CEILING or ROOF (net area)	12.00	0.2	24.4	59	130
INTERNAL WALL 1	0.00	1.72	0	0	0
INTERNAL WALL 2	0.00	1.72	0	0	0
PARTY WALL	0.00	0	12	0	0
OTHER	0.00	0	0	0	0
Design Heat Loss For Room				632	1401

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	129

Total Power Heat Loss (W): 726
Total Energy Heat Loss (kWh/yr): 1401

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Bed 1

Room Information

Design Room Temperature (°C):	18	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	20.4
Room Area (m ²):	16.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	38.4
Room Volume (m ³):	38.40	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	38.40	Power Heat Loss (W):	259
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	686
Design Temp Difference (°C):	20.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	16.00	1.42	0	0	0
FLOOR	0.00	1.42	0	0	0
EXT WALL (gross area)	19.20				
WINDOW GLAZING	2.00	2	20.4	82	216
WINDOW GLAZING	2.00	2	20.4	82	216
DOOR	0.00	2	20.4	0	0
DOOR	0.00	2	20.4	0	0
EXT WALL (net area)	15.20	0.4	20.4	124	329
CEILING or ROOF (gross area)	16.00	0	0	0	0
CEILING or ROOF (gross area)	0.00	0	0	0	0
ROOF GLAZING	0.00	0	20.4	0	0
ROOF GLAZING	0.00	0	20.4	0	0
CEILING or ROOF (net area)	16.00	0.2	20.4	65	173
INTERNAL WALL 1	0.00	1.72	0	0	0
INTERNAL WALL 2	0.00	1.72	0	0	0
PARTY WALL	0.00	0	8	0	0
OTHER	0.00	0	0	0	0
Design Heat Loss For Room				611	1621

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	92

Total Power Heat Loss (W): 703
Total Energy Heat Loss (kWh/yr): 1621

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Bed 2

Room Information

Design Room Temperature (°C):	18	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	20.4
Room Area (m ²):	9.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	21.6
Room Volume (m ³):	21.60	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	21.60	Power Heat Loss (W):	145
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	386
Design Temp Difference (°C):	20.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	9.00	0.3	20.4	55	146
FLOOR	0.00	0.3	20.4	0	0
EXT WALL (gross area)	7.20				
WINDOW GLAZING	2.00	2	20.4	82	216
WINDOW GLAZING	0.00	2	20.4	0	0
DOOR	0.00	2	20.4	0	0
DOOR	0.00	2	20.4	0	0
EXT WALL (net area)	5.20	0.4	20.4	42	113
CEILING or ROOF (gross area)	9.00	0	0	0	0
CEILING or ROOF (gross area)	0.00	0	0	0	0
ROOF GLAZING	0.00	0	20.4	0	0
ROOF GLAZING	0.00	0	20.4	0	0
CEILING or ROOF (net area)	9.00	1.73	0	0	0
INTERNAL WALL 1	0.00	1.72	0	0	0
INTERNAL WALL 2	0.00	1.72	0	0	0
PARTY WALL	0.00	0	8	0	0
OTHER	0.00	0	0	0	0
Design Heat Loss For Room				325	861

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	49

Total Power Heat Loss (W): 373
Total Energy Heat Loss (kWh/yr): 861

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance



Room Name: Bed 3

Room Information

Design Room Temperature (°C):	18	Number of Air Changes:	1
Outside Design Temp (°C):	-2.4	Design Temp Diff (°C):	20.4
Room Area (m ²):	5.00	Degree Days:	2255
Room Height (m):	2.40	Amount of Air Heated (hr):	12.0
Room Volume (m ³):	12.00	Air Change Factor :	0.33

Ventilation Heat Loss

Air to be heated per hour m ³ /hour:	12.00	Power Heat Loss (W):	81
Air Change Factor W/m ³ K:	0.33	Energy Heat Loss (kWh/yr):	214
Design Temp Difference (°C):	20.4		

Fabric Heat Loss

	Area (m ²)	U Value W/m ² K	Design Temp Diff (°C)	Power Ht Loss (W)	Energy Heat Loss (kWh/yr)
FLOOR	5.00	1.42	0	0	0
FLOOR	0.00	1.42	0	0	0
EXT WALL (gross area)	4.80				
WINDOW GLAZING	1.00	2	20.4	41	108
WINDOW GLAZING	0.00	2	20.4	0	0
DOOR	0.00	2	20.4	0	0
DOOR	0.00	2	20.4	0	0
EXT WALL (net area)	3.80	0.4	20.4	31	82
CEILING or ROOF (gross area)	5.00	0	0	0	0
CEILING or ROOF (gross area)	0.00	0	0	0	0
ROOF GLAZING	0.00	0	20.4	0	0
ROOF GLAZING	0.00	0	20.4	0	0
CEILING or ROOF (net area)	5.00	0.2	20.4	20	54
INTERNAL WALL 1	0.00	1.72	0	0	0
INTERNAL WALL 2	0.00	1.72	0	0	0
PARTY WALL	0.00	0	8	0	0
OTHER	0.00	0	0	0	0
Design Heat Loss For Room				173	459

Design Heat Loss For Room

Exposed Location	No	If yes additional allowance of 10%:	0
Intermittent Heating	Yes	If yes additional allowance of 15%:	26

Total Power Heat Loss (W): 199
Total Energy Heat Loss (kWh/yr): 459

N.B. Assumed 'U' values taken from technical guidance manual "Domestic Heating Design Guide 2010" following on site survey and client guidance