



# Heat Loss Report

**For the property at :**

ABBAY GARDENS - PLOT 3  
LADY LANE  
BLUNDSDON  
SWINDON  
WILTSHIRE  
SN25 2DW

Dated  
17 July 2023

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## **1. Introduction**

This report details the heat loss for a proposed dwelling in SN25 2DW; Better Planet recommends that the client confirms all the assumptions listed below as Better Planet accepts no liability for the accuracy of this information.

## **2. Basic Principles**

Location:            ABBEY GARDENS - PLOT 3  
                          LADY LANE  
                          BLUNDSDON  
                          SWINDON  
                          WILTSHIRE  
                          SN25 2DW

Design Temperatures:        -2.8 °C    External temperature

Internal Temperature:        Variable (see table)

Exposed Location:            NO

Intermittently Heated:        NO

Thermal Bridges:            Insulated

Ground Floor:                Suspended Ground Floor NOT in contact with the soil.

### **Comments / Assumptions**

- New Build Detached House
- Building Regulations 2021 Edition dated 15 June 2022 Notional Values for New Build Used throughout
- All Rooms Heated to 21°C. All Bathrooms/En-Suites heated to 22°C
- No central MVHR system
- 4 Bathrooms/En-Suites and 1 W/C
- Assume all 1st floor ceilings are sloping/flat. Assume Suspended Block & Beam Floor
- Fireplace in Large Living Room does not add to Heat Loss

### 3. Construction Specification

U-Value Wm <sup>2</sup> K	Area Details / Notes
<b>EXTERNAL WALL</b>	
0.18	EXTERNAL WALLS (100MM CELOTEX OR EQUIVALENT) AS PER CURRENT BUILDING REGULATIONS 2021 EDITION NEW BUILD
<b>INTERNAL WALL</b>	
0.35	ASSUME INSULATED
<b>FLOOR</b>	
0.13	GROUND FLOOR SOLID OR SUSPENDED BLOCK & BEAM (120MM CELOTEX OR EQUIVALENT) AS PER CURRENT BUILDING REGULATIONS 2021 EDITION NEW BUILD
0.33	INTERNAL FLOORS EXPOSED UNDERSIDE - - ASSUME INSULATED
<b>ROOF</b>	
0.11	ROOF INSULATION FLAT/LOFT OR SLOPING (200MM CELOTEX OR EQUIVALENT) AS PER CURRENT BUILDING REGULATIONS 2021 EDITION NEW BUILD
0.32	INTERMEDIATE CEILING - - ASSUME INSULATED
<b>WINDOWS &amp; DOORS</b>	
1.20	DOUBLE GLAZED WINDOWS AS PER BUILDING REGULATIONS 2021 EDITION NEW BUILD
1.00	EXTERNAL DOORS (SEMI GLAZED OR UNGLAZED) AS PER BUILDING REGULATIONS 2021 EDITION NEW BUILD

## 4. Heat Losses

Room By Room Analysis					Outside Design Temperature	-2.8 °C
Room name	Room Ref	Room Temp [°C]	Peak heat load [W]	Energy Heat Losses [kWh]	Room area [m <sup>2</sup> ]	Spec. peak heat load [W/m <sup>2</sup> ]
KITCHEN / BREAKFAST	G01	21	1115	2723	31	36
UTILITY	G02	21	64	157	4	16
FAMILY ROOM	G03	21	447	1099	14	32
STUDY	G04	21	196	477	10	20
HALL & STAIRS	G05	21	285	697	16	18
W/C	G06	21	99	239	2	40
DINING ROOM	G07	21	331	813	16	21
LOUNGE	G08	21	694	1702	29	24
BEDROOM 05	F01	21	231	574	12	19
BEDROOM 04	F02	21	180	446	14	13
EN-SUITE TO BEDROOM 03	F03	22	184	425	6	31
BEDROOM 03	F04	21	280	692	17	17
BEDROOM 02	F05	21	354	870	19	19
EN-SUITE TO BEDROOM 02	F06	22	250	584	8	31
FIRST FLOOR LANDING & STAIRS	F07	21	206	512	18	11
BATHROOM	F08	22	164	384	5	34
BEDROOM 01	F09	21	338	835	19	18
EN-SUITE TO BEDROOM 01	F10	22	245	570	8	31

	<b>247 m<sup>2</sup></b>
	<b>13,799 kWh</b>
<b>Total Heat Load</b>	<b>5,663 W</b>
	<b>23 W/m<sup>2</sup></b>

### Total power heat losses 5.66 kW

- Design room temperatures comply with BS EN12831-1:2017
- For calculations of ventilation and fabric heat losses the internal volume of the room is calculated
- Dimensions of the building based on drawings provided by client
- Does not allow for intermittent heating
- Area of rooms includes unheated rooms
- W/m<sup>2</sup> only uses heated rooms for its calculation

## 5. Heat Emitter Analysis

Room name	Existing Emitters			Emitter Outputs*			
	Type Of Emitter	Design Flow Temp [°C]	Star rating	60°C Flow	55°C Flow	50°C Flow	45°C Flow
				★ [W]	★★ [W]	★★★ [W]	★★★★ [W]
*Outputs show Additional Outputs Required if Existing Radiators are Recorded OR Total Outputs Required if no existing Radiators are Recorded or Modern Underfloor Heating is being installed							
KITCHEN / BREAKFAST	-	-	-	1775	2128	2624	3379
UTILITY	-	-	-	102	122	151	194
FAMILY ROOM	-	-	-	712	853	1052	1355
STUDY	-	-	-	312	374	461	594
HALL & STAIRS	-	-	-	454	544	671	864
W/C	-	-	-	158	189	233	300
DINING ROOM	-	-	-	527	632	779	1003
LOUNGE	-	-	-	1105	1324	1633	2103
BEDROOM 05	-	-	-	368	441	544	700
BEDROOM 04	-	-	-	287	344	424	545
EN-SUITE TO BEDROOM 03	-	-	-	293	351	433	558
BEDROOM 03	-	-	-	446	534	659	848
BEDROOM 02	-	-	-	564	676	833	1073
EN-SUITE TO BEDROOM 02	-	-	-	398	477	588	758
FIRST FLOOR LANDING & STAIRS	-	-	-	328	393	485	624
BATHROOM	-	-	-	261	313	386	497
BEDROOM 01	-	-	-	538	645	795	1024
EN-SUITE TO BEDROOM 01	-	-	-	390	468	576	742