Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Wed 03 Jul 2024 15:05:24

Project Information			
Assessed By	Daniel Hilsdon	Building Type	House, Detached
OCDEA Registration	EES/019793	Assessment Date	2024-07-03

Dwelling Details			
Assessment Type	As designed	Total Floor Area	106 m^2
Site Reference	Bexhill Plot 066	Plot Reference	pea SAGE
Address	2 Plot 066 Swallowtail Drive, Bexhill, TN40 2QX		

Client Details	
Name	Countryside
Company	Countryside Partnerships (South)
Address	154 High Street, Kent, Sevenoaks, TN13 1XE

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Heat network	
Target carbon dioxide emission rate	*10.3 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	4.4 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*53.76 kWh_{PE}/m^2*	
Dwelling primary energy	46.09 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*37.6 kWh/m^2*	
Dwelling fabric energy efficiency	32.4 kWh/m^2	OK

2a Fabric U-values				
Element	***Maximum permitted average U-Value [W/m^2K]***	**Dwelling average U-Value [W/m^2K]**	**Element with highest individual U-Value**	
External walls	*0.26*	0.18	Walls (1) (0.18)	OK
Party walls	*0.2*	N/A	N/A	**N/A**
Curtain walls	*1.6*	N/A	N/A	**N/A**
Floors	*0.18*	0.11	Ground Floor (0.11)	OK
Roofs	*0.16*	0.09	Roof (1) (0.09)	OK
Windows, doors, and roof windows	*1.6*	1.3	Glazing - Rear (1.4)	OK
Rooflights	*2.2*	N/A	N/A	**N/A**

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	**Net area [m^2]**	**U-Value [W/m^2K]**
Exposed wall: Walls (1)	134.0864	0.18
Ground floor: Ground Floor, Ground Floor	53.2	0.11
Exposed roof: Roof (1)	53.2	0.09 **(!)**

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	**Area [m^2]**	**Orientation**	**Frame factor**	**U-Value [W/m^2K]**
Door - Front, Front Door	2.121	North	N/A	1 **(!)**
Glazing - Front, Windows / Glazed Doors	2.2656	North	1.0	1.3
Glazing - Front, Windows / Glazed Doors	1.536	North	1.0	1.3
Glazing - Front, Windows / Glazed Doors	1.536	North	1.0	1.3
Glazing - Rear, Patio Door	6.153	South	1.0	1.4
Glazing - Rear, Windows / Glazed Doors	1.536	South	1.0	1.3
Glazing - Rear, Windows / Glazed Doors	1.536	South	1.0	1.3

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part **1 - Main Dwelling**: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	**Junction detail**	**Source**	**Psi value [W/mK]**	**Drawing / reference**
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.051	AES custom psi values
External wall	E3: Sill	Calculated by person with suitable expertise	0.025 **(!)**	AES custom psi values
External wall	E4: Jamb	Calculated by person with suitable expertise	0.019 **(!)**	AES custom psi values
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.06	AES custom psi values
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.002 **(!)**	AES custom psi values
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.065	AES custom psi values
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.04	AES custom psi values
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.036 **(!)**	AES custom psi values

3 Air permeability (better than typically expected values are flagged with a subsequent (!))		
Maximum permitted air permeability at 50Pa	*8 m^3/hm^2*	
Dwelling air permeability at 50Pa	5.01 m^3/hm^2, Design value	**OK**
Air permeability test certificate reference		

4 Space heating	
Main heating system 1: Heat network - Heat network	
Efficiency	
Emitter type	
Flow temperature	
System type	
Manufacturer	
Model	
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Flat rate charging, programmer, and TRVs	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: Cylinder thermostat and HW separately timed	
Manufacturer	
Model	HIU

7 Lighting		
Minimum permitted light source efficacy	*75 lm/W*	
Lowest light source efficacy	81 lm/W	**OK**
External lights control	N/A	

8 Mechanical ventilation		
System type: Decentralised mechanical extract		
Maximum permitted specific fan power	*0.7 W/(l/s)*	
Specific fan power	0.16 W/(l/s)	**OK**
Minimum permitted heat recovery efficiency	*N/A*	
Heat recovery efficiency	N/A	**N/A**
Manufacturer/Model	Lo-Carbon NBR dMEV C 100, 498095	
Commissioning		

9 Local generation
N/A

10 Heat networks	
Network name: Bexhill District Heat Network (GTC)	
Service provision	Space and water heating
Status	New heat network
Carbon dioxide emission factor for delivered heat	0.058 $kgCO_2/kWh$
Primary energy factor for delivered heat	0.608 kWh_{PE}/kWh

11 Supporting documentary evidence
N/A

12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design information submitted for this dwelling for the purpose of carrying out the "As designed" assessment, and that the supporting documentary evidence (SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required) has been reviewed in the course of preparing this BREL Compliance Report.		
Signed: D.Hilsdon	Assessor ID: L030-0001	
Name: D.Hilsdon	Date: 03/07/2024	
b. Client Declaration		
N/A		

Predicted Energy Assessment

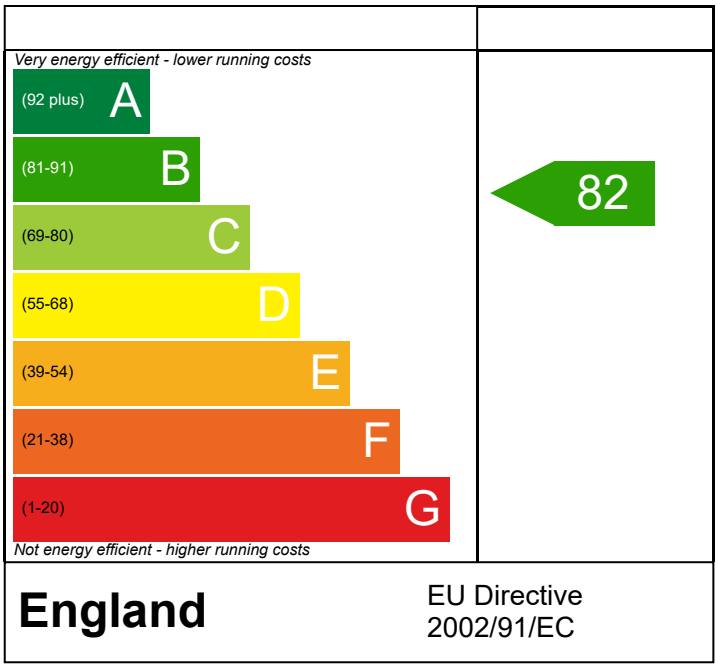
Plot 066, 2, Swallowtail Drive, Bexhill, TN40 2QX

Dwelling type:	House, Detached
Date of assessment:	03/07/2024
Produced by:	Daniel Hilsdon
Total floor area:	106.4 m²
DRRN:	4204-3438-7055

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

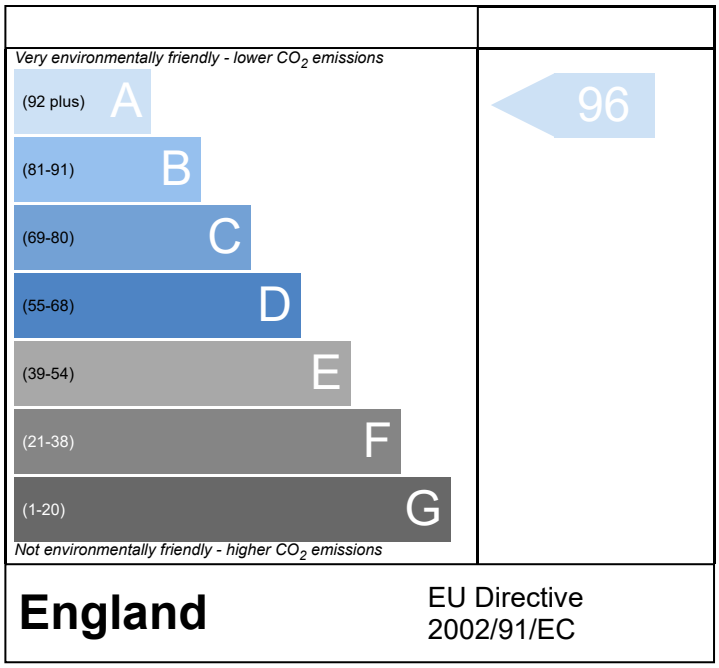
The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO_2) Rating



The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO_2) emissions. The higher the rating the less impact it has on the environment.