

# PREDICTED ENERGY ASSESSMENT



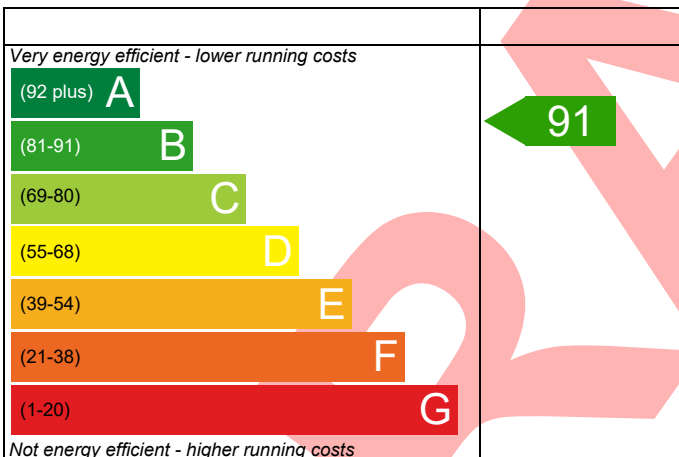
Plot 5, Marroway Lane,  
Witchford,  
Cambridgeshire,  
CB6 2HU

Dwelling type: House, Semi-Detached  
Date of assessment: 11/01/2023  
Produced by: Jacob Marchant  
Total floor area: 106 m<sup>2</sup>

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 SAP2012 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 (CO<sub>2</sub>) emissions.

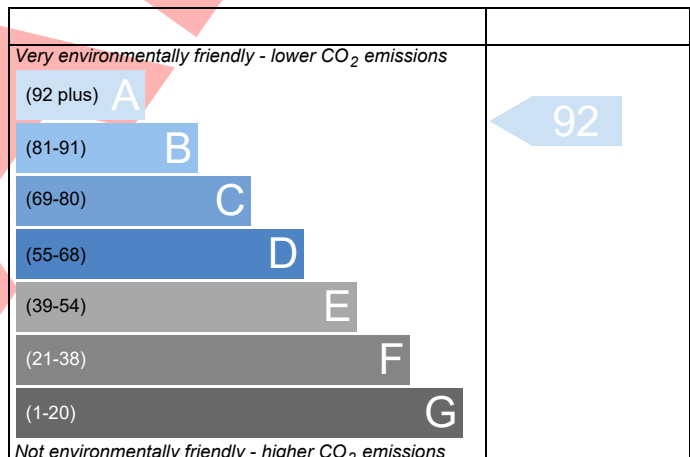
## Energy Efficiency Rating



**England** EU Directive 2002/91/EC

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<sub>2</sub>) Rating



**England** EU Directive 2002/91/EC

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO<sub>2</sub>) emissions. The higher the rating the less impact it has on the environment.

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# BUILDING REGULATION COMPLIANCE

## Calculation Type: New Build (As Designed)



Property Reference	CB6 2HU Plot 5	Issued on Date	11/01/2023
Assessment Reference	001	Prop Type Ref	Type D
Property	Plot 5, Marroway Lane, Witchford, Cambridgeshire, CB6 2HU		
SAP Rating	91 B	DER	10.18
Environmental	92 A	TER	16.77
CO <sub>2</sub> Emissions (t/year)	0.80	% DER<TER	39.28
General Requirements Compliance	Pass	DFEE	45.46
		TREE	51.32
		% DFEE<TFEE	11.43
Assessor Details	Mr. Jake Eaton, Jake Eaton, Tel: 01400283471, jake@aeratech.co.uk	Assessor ID	T253-0001
Client			

### SUMMARY FOR INPUT DATA FOR New Build (As Designed)

#### Criterion 1 – Achieving the TER and TFE rate

##### 1a TER and DER

Fuel for main heating	Mains gas		
Fuel factor	1.00 (mains gas)		
Target Carbon Dioxide Emission Rate (TER)	16.77	kgCO <sub>2</sub> /m <sup>2</sup>	
Dwelling Carbon Dioxide Emission Rate (DER)	10.18	kgCO <sub>2</sub> /m <sup>2</sup>	Pass
	-6.59 (-39.3%)	kgCO <sub>2</sub> /m <sup>2</sup>	

##### 1b TFE and DFEE

Target Fabric Energy Efficiency (TFEE)	51.32	kWh/m <sup>2</sup> /yr	
Dwelling Fabric Energy Efficiency (DFEE)	45.46	kWh/m <sup>2</sup> /yr	
	-5.8 (-11.3%)	kWh/m <sup>2</sup> /yr	Pass

#### Criterion 2 – Limits on design flexibility

##### Limiting Fabric Standards

##### 2 Fabric U-values

Element	Average	Highest	
External wall	0.23 (max. 0.30)	0.23 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Roof	0.13 (max. 0.20)	0.13 (max. 0.35)	Pass
Openings	1.37 (max. 2.00)	1.40 (max. 3.30)	Pass

##### 2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

##### 3 Air permeability

Air permeability at 50 pascals	5.01 (design value)	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	
Maximum	10.0	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	Pass

##### Limiting System Efficiencies

##### 4 Heating efficiency

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Main heating system	Boiler system with radiators or underfloor - Mains gas Data from database Ideal Heating LOGIC MAX SYSTEM2 S24  Efficiency: 89.7% SEDBUK2009 Minimum: 88.0%	Pass
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Secondary heating system	None	
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### 5 Cylinder insulation

Hot water storage	Nominal cylinder loss: 2.01 kWh/day Permitted by DBSCG 2.56	Pass
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Primary pipework insulated	Yes	Pass
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### 6 Controls

Space heating controls	Programmer, room thermostat and TRVs	Pass
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Hot water controls	Cylinderstat	Pass
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	Independent timer for DHW	Pass
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Boiler interlock	Yes	Pass
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### 7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
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Minimum	75	%	Pass
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### 8 Mechanical ventilation

Continuous extract system (decentralised)			
Specific fan power	0.1100 0.1400		
Maximum	0.7		Pass

## Criterion 3 – Limiting the effects of heat gains in summer

### 9 Summertime temperature

Overheating risk (East Anglia)	Not significant	Pass
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Based on:

Overshading	Average
Windows facing North	3.35 m <sup>2</sup> , No overhang
Windows facing East	8.01 m <sup>2</sup> , No overhang
Windows facing West	2.86 m <sup>2</sup> , No overhang
Air change rate	8.00 ach
Blinds/curtains	Light-coloured curtain or roller blind, closed 0% of daylight hours

## Criterion 4 – Building performance consistent with DER and DFEE rate

### Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m <sup>2</sup> K	Pass

### Air permeability and pressure testing

#### 3 Air permeability

Air permeability at 50 pascals	5.01 (design value)	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	
Maximum	10.0	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	Pass

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### 10 Key features

Party wall U-value	0.00	W/m <sup>2</sup> K
Floor U-value	0.12	W/m <sup>2</sup> K
Photovoltaic array	2.05	kW

**DRAFT**

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