

PREDICTED ENERGY ASSESSMENT



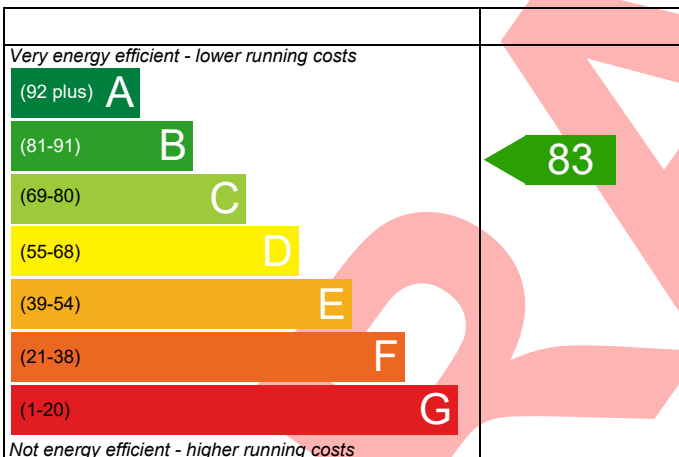
Plot 23, Land off Hawks Road,
Welton,
Lincoln,
LN2 3BS

Dwelling type: House, Detached
Date of assessment: 19/07/2022
Produced by: Jake Eaton
Total floor area: 92.54 m²

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 (CO₂) emissions.

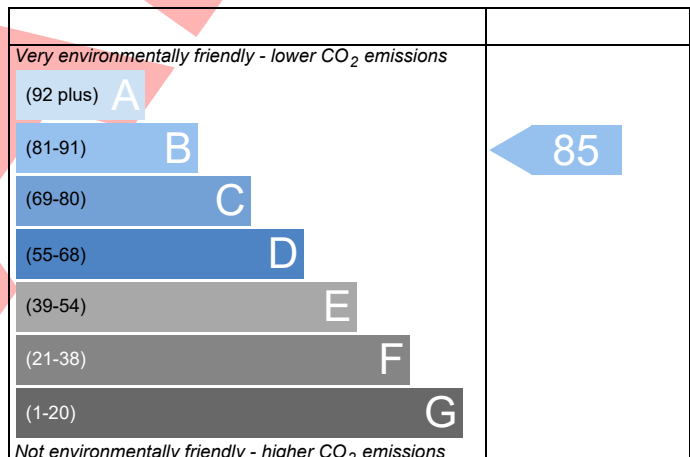
Energy Efficiency Rating



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 (CO₂) 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 (CO₂) emissions. The higher the rating the less impact it has on the environment.

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BUILDING REGULATION COMPLIANCE

Calculation Type: New Build (As Designed)



Property Reference	LN2 3BS Plot 23	Issued on Date	19/07/2022
Assessment Reference	001	Prop Type Ref	Kingsbourne (Type D1)
Property	Plot 23, Land off Hawks Road, Welton, Lincoln, LN2 3BS		
SAP Rating	83 B	DER	19.04
Environmental	85 B	TER	19.45
CO ₂ Emissions (t/year)	1.57	% DER<TER	2.11
General Requirements Compliance	Pass	DFEE	52.92
		TREE	61.75
		% DFEE<TFEE	14.30
Assessor Details	Mr. Jake Eaton, Jake Eaton, Tel: 01400283471, jake@aeratech.co.uk	Assessor ID	P711-0001
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)	19.45	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	19.04	kgCO ₂ /m ²	Pass
	-0.41 (-2.1%)	kgCO ₂ /m ²	

1b TFE and DFEE

Target Fabric Energy Efficiency (TFEE)	61.75	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	52.92	kWh/m ² /yr	
	-8.8 (-14.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.19 (max. 0.30)	0.19 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.15 (max. 0.25)	0.15 (max. 0.70)	Pass
Roof	0.11 (max. 0.20)	0.11 (max. 0.35)	Pass
Openings	1.40 (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	7.00 (design value)	m ³ /(h.m ²) @ 50 Pa	
Maximum	10.0	m ³ /(h.m ²) @ 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
Vaillant ecoFIT sustain 835 VUW 356/6-3 (H-GB)
Combi boiler
Efficiency: 89.3% SEDBUK2009
Minimum: 88.0%

Pass

Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls

Programmer, room thermostat and TRVs

Pass

Hot water controls

No cylinder

Boiler interlock

Yes

Pass

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100 %

Minimum

75 %

Pass

8 Mechanical ventilation

Not applicable

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (East Pennines)

Slight

Pass

Based on:

Overshading

Average

Windows facing North

7.70 m², No overhang

Windows facing East

5.25 m², No overhang

Windows facing South

2.06 m², No overhang

Windows facing West

2.58 m², No overhang

Air change rate

2.50 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 50% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

7.00 (design value) m³/(h.m²) @ 50 Pa

Maximum

10.0 m³/(h.m²) @ 50 Pa

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Roof U-value

0.11

W/m²K

Thermal bridging y-value

0.037

W/m²K

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