

PREDICTED ENERGY ASSESSMENT

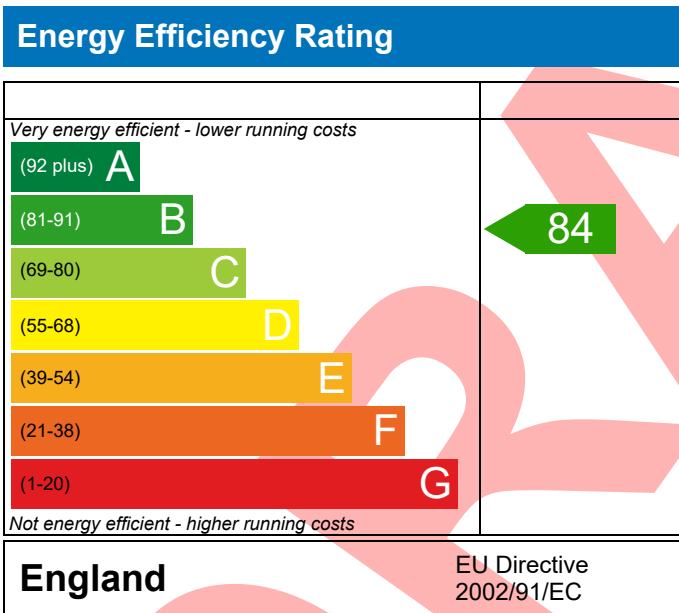


Plot 4, Land off Hawks Road,
Welton,
Lincoln,
LN2 3BS

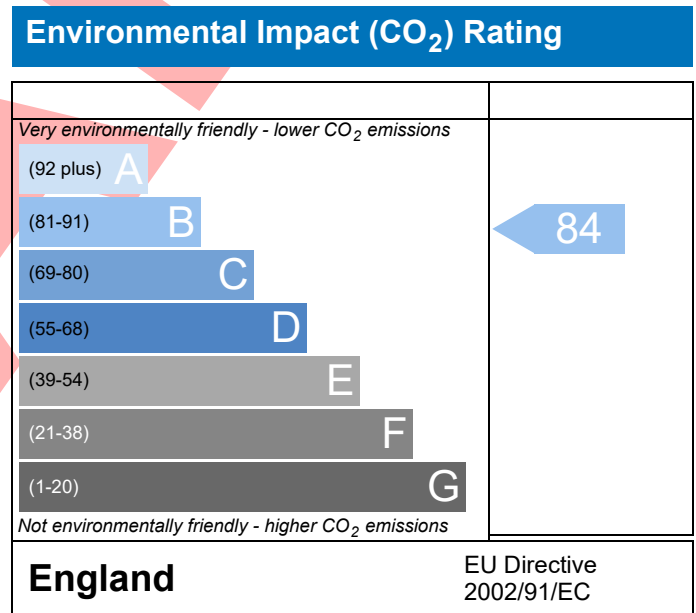
Dwelling type: House, Detached
Date of assessment: 19/07/2022
Produced by: Jake Eaton
Total floor area: 123.98 m²

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.



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.



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 4 | Issued on Date | 19/07/2022 |
| Assessment Reference | 001 | Prop Type Ref | Highgrove/Gloucest (Type N) |
| Property | Plot 4, Land off Hawks Road, Welton, Lincoln, LN2 3BS | | |
| SAP Rating | 84 B | DER | 17.36 |
| Environmental | 84 B | TER | 17.69 |
| CO ₂ Emissions (t/year) | 1.95 | % DER<TER | 1.87 |
| General Requirements Compliance | Pass | DFEE | 53.55 |
| | | TREE | 62.22 |
| | | % DFEE<TFEE | 13.93 |
| 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) | 17.69 | kgCO ₂ /m ² | |
| Dwelling Carbon Dioxide Emission Rate (DER) | 17.36 | kgCO ₂ /m ² | Pass |
| | -0.33 (-1.9%) | kgCO ₂ /m ² | |

1b TFE and DFEE

| | | | |
|--|---------------|------------------------|------|
| Target Fabric Energy Efficiency (TFEE) | 62.22 | kWh/m ² /yr | |
| Dwelling Fabric Energy Efficiency (DFEE) | 53.55 | kWh/m ² /yr | |
| | -8.7 (-14.0%) | kWh/m ² /yr | Pass |

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

| Element | Average | Highest | |
|---------------|------------------|------------------|------|
| External wall | 0.20 (max. 0.30) | 0.28 (max. 0.70) | Pass |
| Party wall | 0.00 (max. 0.20) | - | Pass |
| Floor | 0.16 (max. 0.25) | 0.18 (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 615 VU 156/6-3 (H-GB)

Efficiency: 89.8% SEDBUK2009
Minimum: 88.0%

Pass

Secondary heating system

None

5 Cylinder insulation

Hot water storage

Measured cylinder loss: 1.31 kWh/day
Permitted by DBSCG 2.10

Pass

Primary pipework insulated

Yes

Pass

6 Controls

Space heating controls

Time and temperature zone control

Pass

Hot water controls

Cylinderstat

Pass

Independent timer for DHW

Pass

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

9.80 m², No overhang

Windows facing East

0.97 m², No overhang

Windows facing South

5.36 m², No overhang

Windows facing West

8.54 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

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10 Key features

Party wall U-value
Roof U-value

0.00

W/m²K

0.11

W/m²K

DRAFT

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