

PREDICTED ENERGY ASSESSMENT



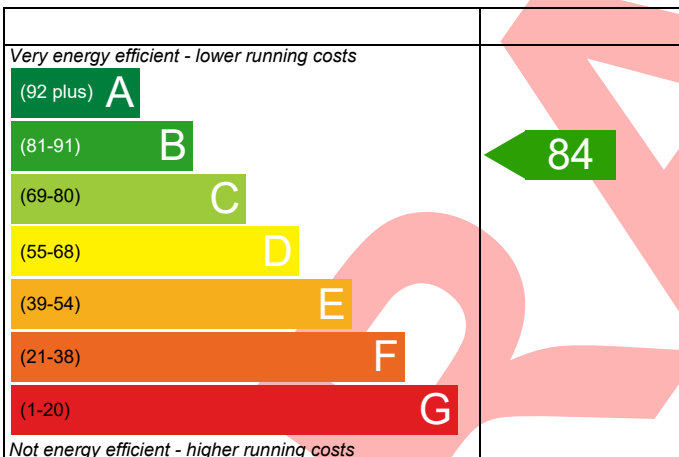
Plot 19, Land off Hawks Road,
Welton,
Lincoln,
LN2 3BS

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.

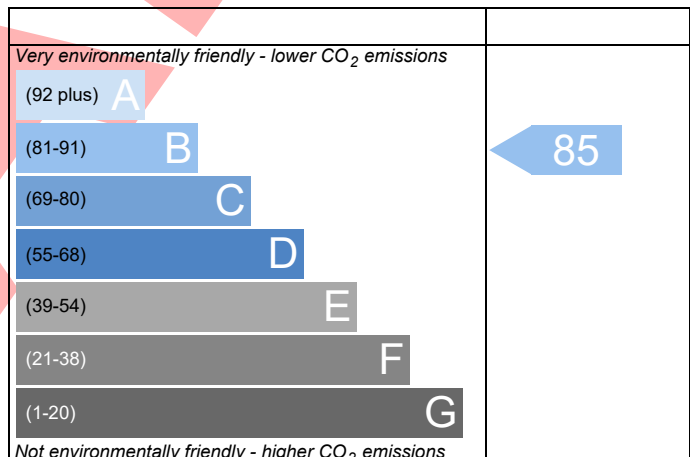
Energy Efficiency Rating



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 19 | Issued on Date | 19/07/2022 |
| Assessment Reference | 001 | Prop Type Ref | Highgrove/Gloucesterc (Type N) |
| Property | Plot 19, Land off Hawks Road, Welton, Lincoln, LN2 3BS | | |
| SAP Rating | 84 B | DER | 16.66 |
| Environmental | 85 B | TER | 17.08 |
| CO ₂ Emissions (t/year) | 1.88 | % DER<TER | 2.46 |
| General Requirements Compliance | Pass | DFEE | 50.69 |
| | | TREE | 59.22 |
| | | % DFEE<TFEE | 14.40 |
| 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 TEE rate

1a TER and DER

| | | | |
|---|------------------|-----------------------------------|------|
| Fuel for main heating | Mains gas | | |
| Fuel factor | 1.00 (mains gas) | | |
| Target Carbon Dioxide Emission Rate (TER) | 17.08 | kgCO ₂ /m ² | |
| Dwelling Carbon Dioxide Emission Rate (DER) | 16.66 | kgCO ₂ /m ² | Pass |
| | -0.42 (-2.5%) | kgCO ₂ /m ² | |

1b TEE and DFEE

| | | | |
|--|---------------|------------------------|------|
| Target Fabric Energy Efficiency (TFEE) | 59.22 | kWh/m ² /yr | |
| Dwelling Fabric Energy Efficiency (DFEE) | 50.69 | kWh/m ² /yr | |
| | -8.5 (-14.4%) | 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 | 0.97 m ² , No overhang | |
| Windows facing East | 5.36 m ² , No overhang | |
| Windows facing South | 8.54 m ² , No overhang | |
| Windows facing West | 9.80 m ² , 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/m ² K | |
|------|---------|--------------------|------|
| | | | Pass |

Air permeability and pressure testing

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 |

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10 Key features

Party wall U-value

0.00

W/m²K

Roof U-value

0.11

W/m²K

DRAFT

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