

ASSESSMENT NOTES

Calculation Type: New Build (As Designed)

| | | | |
|----------------------|--------------------------------------|----------------|------------|
| Property Reference | S9079 | Issued on Date | 12/11/2023 |
| Assessment Reference | Planning | Prop Type Ref | New Build |
| Property | 8, Lewis Close, Risinghurst, OX3 8JD | | |

| | | | | | |
|------------------------------------|------|-------------|-------|------|-------|
| SAP Rating | 88 B | DER | 9.15 | TER | 18.93 |
| Environmental | 90 B | % DER<TER | 51.67 | | |
| CO ₂ Emissions (t/year) | 1.98 | DFEE | 44.30 | TFEE | 52.18 |
| General Requirements Compliance | Pass | % DFEE<TFEE | 15.09 | | |

| | | | |
|------------------|---|-------------|-----------|
| Assessor Details | Mr. Mark Hunt, MH Energy Consultants Limited, Tel: 01869 349261, mhenergy@hotmail.com | Assessor ID | 3594-0001 |
|------------------|---|-------------|-----------|

| | |
|--------|--|
| Client | |
|--------|--|

ASSESSMENT NOTES - Last time updated on: 12.11.2023

PLANNING DESIGN ENERGY CALCULATION- SAP 2012

CLIENT – Mr and Mrs Gibbon

Property to comply with Part L1A 2012

THERMAL MASS Medium Cavity
EXTERNAL WALLS Stonework 0.18 Timber Clad 0.18 Dormer 0.18 (Assumed)
ROOF Slope 0.13 Flat 0.13 (Assumed)
FLOOR Slab 0.11 (Assumed)
WINDOWS 1.30 ROOFLIGHTS 1.50 Doors 1.20 (Assumed)
THERMAL BRIDGING Accredited Thermal Details
PRESSURE TEST 5.00
VENTILATION - (Trickle vents and 7 No extract fans)
LIGHTING - 100% low energy lighting
HEATING - ASHP to underfloor and radiators (Assumed)
SECONDARY HEATING Wood Burning Stove
HOT WATER via primary source via 500 litre cylinder (Assumed)
RENEWABLES 3.5 KWP facing South (Assumed)

BASIC COMPLIANCE REPORT

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SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

| | | | |
|---|--------------------|-----------------------------------|------|
| Fuel for main heating | Electricity | | |
| Fuel factor | 1.55 (electricity) | | |
| Target Carbon Dioxide Emission Rate (TER) | 18.93 | kgCO ₂ /m ² | |
| Dwelling Carbon Dioxide Emission Rate (DER) | 9.15 | kgCO ₂ /m ² | Pass |
| | -9.78 (-51.7%) | kgCO ₂ /m ² | |

1b TFEE and DFEE

| | | | |
|--|---------------|------------------------|------|
| Target Fabric Energy Efficiency (TFEE) | 52.18 | kWh/m ² /yr | |
| Dwelling Fabric Energy Efficiency (DFEE) | 44.30 | kWh/m ² /yr | |
| | -7.9 (-15.1%) | kWh/m ² /yr | Pass |

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

| Element | Average | Highest | |
|---------------|------------------|------------------|------|
| External wall | 0.18 (max. 0.30) | 0.18 (max. 0.70) | Pass |
| Party wall | 0.00 (max. 0.20) | - | Pass |
| Floor | 0.11 (max. 0.25) | 0.11 (max. 0.70) | Pass |
| Roof | 0.15 (max. 0.20) | 0.15 (max. 0.35) | Pass |
| Openings | 1.30 (max. 2.00) | 1.50 (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 | 5.00 (design value) | |
| Maximum | 10.0 | Pass |

Limiting System Efficiencies

4 Heating efficiency

| | | |
|---------------------|---|--|
| Main heating system | Heat pump with radiators or underfloor - Electric Air-to-water heat pump | |
|---------------------|---|--|

BASIC COMPLIANCE REPORT

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Secondary heating system

Room heaters - Wood Logs
Closed room heater
Efficiency: 65%
Minimum: 65%

Pass

5 Cylinder insulation

Hot water storage

Nominal cylinder loss: 3.59 kWh/day
Permitted by DBSCG 3.92

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

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 (Midlands)

Slight

Pass

Based on:

Overshading

Average

Windows facing North

13.11 m², No overhang

Windows facing East

15.64 m², No overhang

Windows facing South

87.50 m², No overhang

Windows facing West

5.52 m², No overhang

Air change rate

5.00 ach

Blinds/curtains

None

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

5.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Floor U-value

0.11

W/m²K

Secondary heating (wood logs)

N/A

Secondary heating fuel:

wood logs

Photovoltaic array

3.50

kW

BASIC COMPLIANCE REPORT
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SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

| | |
|-----------------------|--------------------|
| Orientation | North |
| Property Tenure | Owner-occupied |
| Transaction Type | None of the above |
| Terrain Type | Suburban |
| 1.0 Property Type | House, Detached |
| 2.0 Number of Storeys | 2 |
| 3.0 Date Built | 2023 |
| 4.0 Sheltered Sides | 0 |
| 5.0 Sunlight/Shade | Average or unknown |

6.0 Measurements

| | Heat Loss Perimeter | Internal Floor Area | Average Storey Height |
|---------------|---------------------|-----------------------|-----------------------|
| Ground Floor: | 69.72 m | 171.56 m ² | 2.30 m |
| 1st Storey: | 56.18 m | 142.59 m ² | 2.60 m |

7.0 Living Area m²

8.0 Thermal Mass Parameter

Thermal Mass kJ/m²K

9.0 External Walls

| Description | Type | U-Value (W/m ² K) | Gross Area (m ²) | Nett Area (m ²) |
|-------------|--------------|------------------------------|------------------------------|-----------------------------|
| Stone | Cavity Wall | 0.18 | 177.38 | 106.05 |
| Timber Clad | Cavity Wall | 0.18 | 189.30 | 135.61 |
| Dormer | Timber Frame | 0.18 | 9.00 | 9.00 |

9.1 Party Walls

| Description | Type | Construction | U-Value (W/m ² K) | Area (m ²) |
|-------------|------|--------------|------------------------------|------------------------|
|-------------|------|--------------|------------------------------|------------------------|

10.0 External Roofs

| Description | Type | U-Value (W/m ² K) | Gross Area (m ²) | Nett Area (m ²) |
|-------------|---------------------|------------------------------|------------------------------|-----------------------------|
| Slope Roof | External Slope Roof | 0.15 | 145.00 | 142.66 |
| Flat Roof | External Flat Roof | 0.15 | 28.57 | 28.57 |

10.2 Internal Ceilings

| Description | Construction | Area (m ²) |
|-------------|--------------|------------------------|
|-------------|--------------|------------------------|

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11.0 Heat Loss Floors

| Description | Type | Construction | U-Value (W/m ² K) | Area (m ²) |
|-------------|------|----------------------|------------------------------|------------------------|
| Slab | | Ground Floor - Solid | 0.11 | 171.56 |

11.1 Party Floors

| Description | Construction | Area (m ²) |
|-------------|--------------|------------------------|
|-------------|--------------|------------------------|

12.0 Opening Types

| Description | Data Source | Type | Glazing | Glazing Gap | Argon Filled | G-value | Frame Type | Frame Factor | U Value (W/m ² K) |
|-------------|--------------|-------------|-------------------|-------------|--------------|---------|------------|--------------|------------------------------|
| Window | Manufacturer | Window | Double Low-E Hard | 0.2 | | 0.72 | | 0.70 | 1.30 |
| Rooflight | Manufacturer | Roof Window | Double Low-E Hard | 0.2 | | 0.72 | | 0.70 | 1.50 |
| Front Door | Manufacturer | Solid Door | | | | | | | 1.20 |

13.0 Openings

| Name | Opening Type | Location | Orientation | Curtain Type | Overhang Ratio | Wide Overhang | Width (m) | Height (m) | Count | Area (m ²) | Curtain Closed |
|-------|--------------|-----------------|-------------|--------------|----------------|---------------|-----------|------------|-------|------------------------|----------------|
| Front | Window | [1] Stone | North | None | 0.00 | | | | | 5.64 | |
| Front | Window | [2] Timber Clad | North | None | 0.00 | | | | | 7.47 | |
| Front | Roof Window | [1] Slope Roof | North | None | | | | | | 1.40 | |
| Front | Solid Door | [1] Stone | North | | | | | | | 3.25 | |
| Rear | Window | [1] Stone | South | None | 0.00 | | | | | 45.50 | |
| Rear | Window | [2] Timber Clad | South | None | 0.00 | | | | | 42.00 | |
| Side | Window | [1] Stone | East | None | 0.00 | | | | | 13.34 | |
| Side | Window | [2] Timber Clad | East | None | 0.00 | | | | | 2.30 | |
| Side | Roof Window | [1] Slope Roof | East | None | | | | | | 0.94 | |
| Side | Window | [1] Stone | West | None | 0.00 | | | | | 3.60 | |
| Side | Window | [2] Timber Clad | West | None | 0.00 | | | | | 1.92 | |

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

| Source Type | Bridge Type | Length | Psi | Imported |
|---------------------|--|--------|-------|----------|
| Table K1 - Approved | E2 Other lintels (including other steel lintels) | 57.86 | 0.300 | Yes |
| Table K1 - Approved | E3 Sill | 56.56 | 0.040 | Yes |
| Table K1 - Approved | E4 Jamb | 88.66 | 0.050 | Yes |
| Table K1 - Approved | E5 Ground floor (normal) | 69.72 | 0.160 | Yes |
| Table K1 - Approved | E6 Intermediate floor within a dwelling | 56.18 | 0.070 | Yes |
| Table K1 - Approved | E16 Corner (normal) | 19.60 | 0.090 | Yes |
| Table K1 - Default | R1 Head of roof window | 3.00 | 0.080 | Yes |
| Table K1 - Default | R2 Sill of roof window | 3.00 | 0.060 | Yes |
| Table K1 - Default | R3 Jamb of roof window | 7.80 | 0.080 | Yes |

| | | |
|---------|------------------------------------|--------------------|
| Y-value | <input type="text" value="0.059"/> | W/m ² K |
|---------|------------------------------------|--------------------|

18.0 Pressure Testing

| | | |
|---------------------------|-----------------------------------|---|
| Designed AP ₅₀ | <input type="text" value="5.00"/> | m ³ /(h.m ²) @ 50 Pa |
| Property Tested ? | <input type="text"/> | |
| As Built AP ₅₀ | <input type="text"/> | m ³ /(h.m ²) @ 50 Pa |

19.0 Mechanical Ventilation

SUMMARY FOR INPUT DATA

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Summer Overheating

| | |
|-----------------------------|--------------------|
| Windows open in hot weather | Windows fully open |
| Cross ventilation possible | No |
| Night Ventilation | No |
| Air change rate | 5.00 |

Mechanical Ventilation

| | |
|---------------------------------------|----|
| Mechanical Ventilation System Present | No |
|---------------------------------------|----|

20.0 Fans, Open Fireplaces, Flues

| | MHS | SHS | Other | Total |
|------------------------------|-----|-----|-------|-------|
| Number of Chimneys | 0 | 0 | 0 | 0 |
| Number of open flues | 0 | 0 | 0 | 0 |
| Number of intermittent fans | | | | 7 |
| Number of passive vents | | | | 0 |
| Number of flueless gas fires | | | | 0 |

21.0 Fixed Cooling System

No

22.0 Lighting

Internal

| | | |
|---------------------------------|--------|---|
| Total number of light fittings | 50 | |
| Total number of L.E.L. fittings | 50 | |
| Percentage of L.E.L. fittings | 100.00 | % |

External

| | |
|------------------------|----|
| External lights fitted | No |
|------------------------|----|

23.0 Electricity Tariff

Standard

24.0 Main Heating 1

| | | |
|------------------------|---------------------------------------|---|
| | SAP table | |
| Percentage of Heat | 100 | % |
| Main Heating | PET | |
| SAP Code | 224 | |
| Efficiency (SAP Table) | 175.1 | % |
| Controls | CHD Time and temperature zone control | |
| PCDF Controls | 0 | |
| Sap Code | 2207 | |
| Is MHS Pumped | Pump in heated space | |
| Heat Emitter | Radiators and Underfloor | |
| Underfloor Heating | Yes - Pipes in thin screed | |
| Flow Temperature | 36° - 45°C | |

25.0 Main Heating 2

None

Community Heating None

27.0 Secondary Heating

| | | |
|-----------------------|----------------------------------|---|
| | RWM | |
| Secondary Heating | SAP table | |
| Description | Wood Logs RWM Closed room heater | |
| SHS efficiency | 65.00 | % |
| SAP Code | 633 | |
| HETAS Approved System | Yes | |
| Smoke Control Area | Unknown | |

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28.0 Water Heating

| | |
|--|-------------------------|
| | HWP From main heating 1 |
| Water Heating | Main Heating 1 |
| Flue Gas Heat Recovery System | No |
| Waste Water Heat Recovery Instantaneous System 1 | No |
| Waste Water Heat Recovery Instantaneous System 2 | No |
| Waste Water Heat Recovery Storage System | No |
| Solar Panel | No |
| Water use <= 125 litres/person/day | Yes |
| SAP Code | 901 |
| Supplementary Immersion | No |
| Immersion Only Heating Hot Water | No |

29.0 Hot Water Cylinder

| | |
|--------------------------|----------------------------------|
| | Hot Water Cylinder |
| Cylinder Stat | Yes |
| Cylinder In Heated Space | Yes |
| Independent Time Control | Yes |
| Insulation Type | Foam |
| Insulation Thickness | 80 mm |
| Cylinder Volume | 500.00 L |
| Pipes insulation | Fully insulated primary pipework |

31.0 Thermal Store

None

32.0 Photovoltaic Unit

One Dwelling

| PV Cells kWp | Orientation | Elevation | Overshading | Connected to Dwelling |
|--------------|-------------|-----------|----------------|-----------------------|
| 3.50 | South | 45° | None Or Little | Yes |

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

| | Typical Cost | Typical savings per year | Ratings after improvement | |
|---------------------|-----------------|--------------------------|---------------------------|----------------------|
| | | | SAP rating | Environmental Impact |
| Solar water heating | £4,000 - £6,000 | £189 | B 89 | |

PREDICTED ENERGY ASSESSMENT

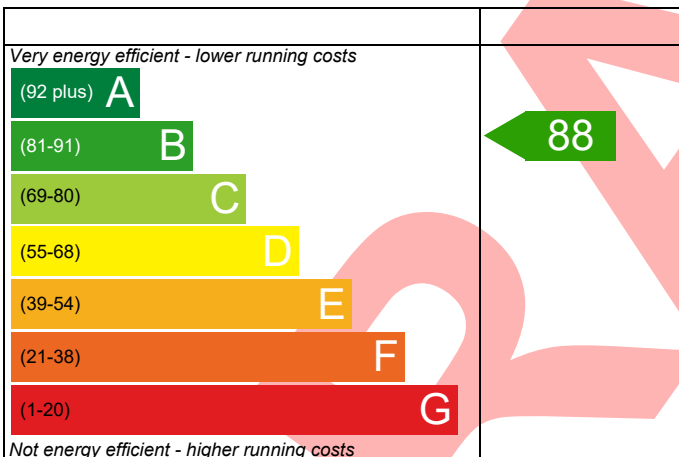
8, Lewis Close,
Risinghurst,
OX3 8JD

Dwelling type: House, Detached
Date of assessment: 12/11/2023
Produced by: MH Energy Consultants Limited
Total floor area: 314.15 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.

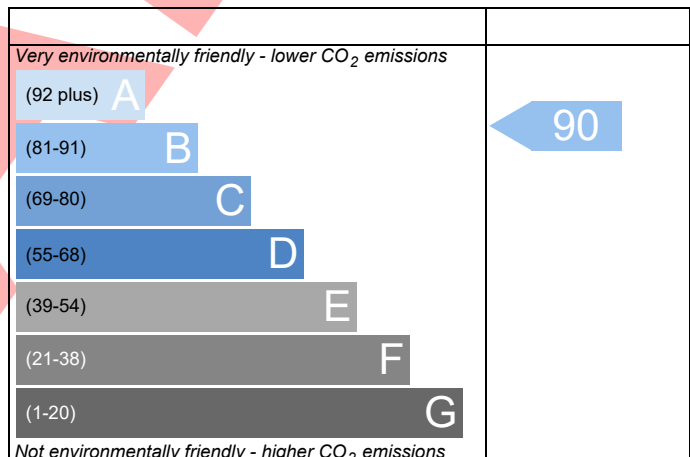
Energy Efficiency Rating



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.

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