

PREDICTED ENERGY ASSESSMENT

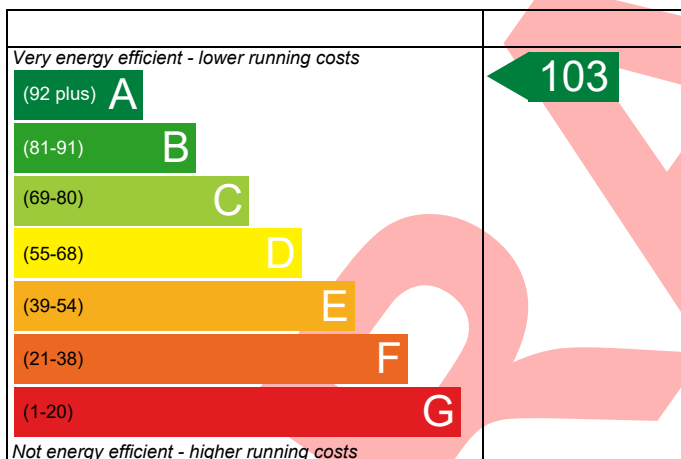
139, Chapel Hill,
Tilehurst,
RG31 5DD

Dwelling type: Bungalow, Detached
Date of assessment: 06/03/2023
Produced by: Elmhurst Training Account
Total floor area: 96.15 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

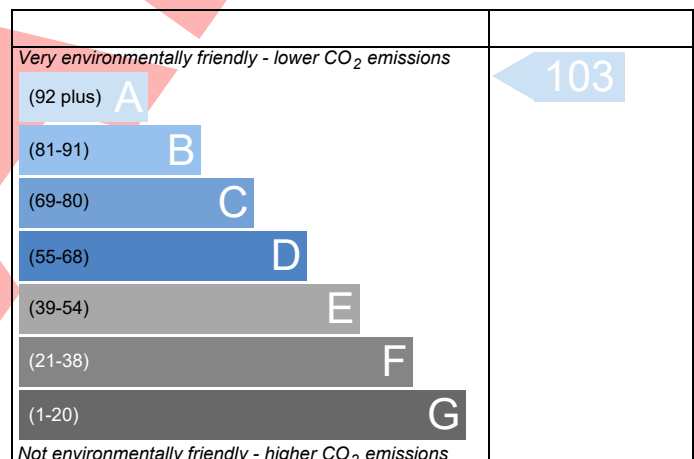


England

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.

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	139	Issued on Date	06/03/2023
Assessment Reference	001	Prop Type Ref	Bungalow
Property	139, Chapel Hill, Tilehurst, RG31 5DD		
SAP Rating	103 A	DER	-1.69
Environmental	103 A	TER	28.24
CO ₂ Emissions (t/year)	-0.62	% DER<TER	105.98
General Requirements Compliance	Pass	DFEE	58.02
		TFEE	62.21
		% DFEE<TFEE	6.74
Assessor Details	Mrs. Chitra Deshpande, Elmhurst Training Account, Tel: , chitra@philipwadge.co.uk		Assessor ID
			X001-5996
Client			

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)	28.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	-1.69	kgCO ₂ /m ²	Pass
	-29.93 (-106.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	62.21	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	58.02	kWh/m ² /yr	
	-4.2 (-6.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.11 (max. 0.30)	0.11 (max. 0.70)	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Roof	0.11 (max. 0.20)	0.11 (max. 0.35)	Pass
Openings	0.80 (max. 2.00)	0.80 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated using default γ -value of 0.15

3 Air permeability

Air permeability at 50 pascals	5.00 (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

Main heating system	Heat pump with radiators or underfloor - Electric Hitachi Yutaki RASM-3VNE	
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BUILDING REGULATION COMPLIANCE

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Secondary heating system

None

5 Cylinder insulation

Hot water storage

Measured cylinder loss: 2.00 kWh/day
Permitted by DBSCG 2.37

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 (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.23 m², No overhang

Windows facing East

2.16 m², No overhang

Windows facing South

10.53 m², No overhang

Windows facing West

6.48 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

5.00 (design value)

m³/(h.m²) @ 50 Pa

Maximum

10.0

m³/(h.m²) @ 50 Pa

Pass

10 Key features

External wall U-value

0.11

W/m²K

Roof U-value

0.11

W/m²K

Floor U-value

0.12

W/m²K

Door U-value

0.80

W/m²K

Window U-value

0.80

W/m²K

Window U-value

0.80

W/m²K

Photovoltaic array

5.00

kW

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RECOMMENDATIONS

	Typical cost	Typical savings per year	Energy efficiency	Environmental impact	Result
Low energy lights			0	0	Already installed
Solar water heating	£4,000 - £6,000	£54	A 105	A 104	Recommended
Photovoltaic			0	0	Already installed
Wind turbine			0	0	Not applicable
Totals	£4,000 - £6,000	£54	A 105	A 104	

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