PREDICTED ENERGY ASSESSMENT

AES Sustainability Consultants

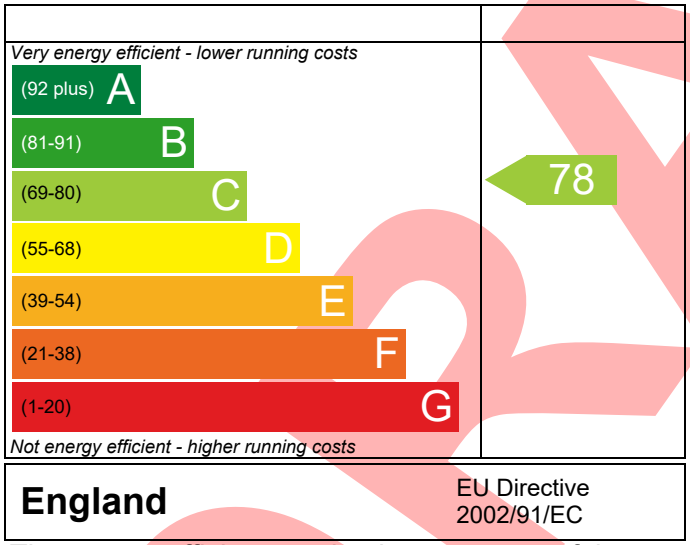
Plot 240, 2 bed,
K, B, ES,
2

Dwelling type:	Flat, Semi-Detached
Date of assessment:	12/05/2023
Produced by:	Eloise Utley
Total floor area:	79.56 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 (CO_2) emissions.

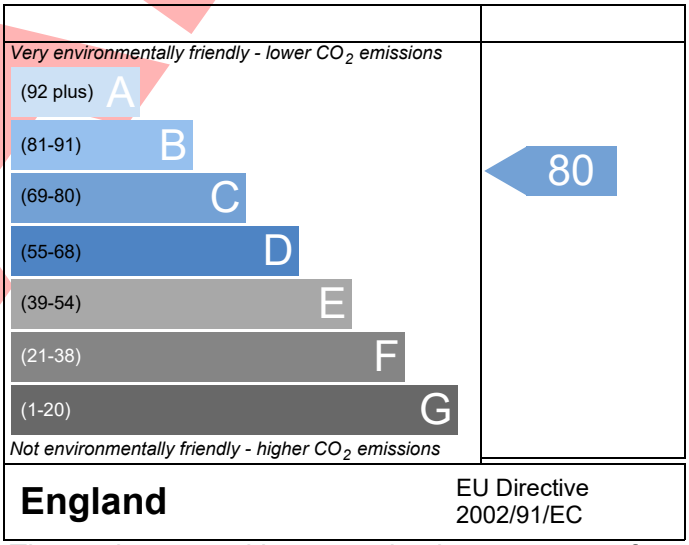
Energy Efficiency Rating



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 (CO_2) 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 (CO_2) emissions. The higher the rating the less impact it has on the environment.

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BUILDING REGULATION COMPLIANCE
Calculation Type: New Build (As Designed)

AES Sustainability Consultants

Property Reference	4907-0015-4290-240	**Issued on Date**	12/05/2023
Assessment Reference	Plot 240	**Prop Type Ref**	Flat Type 2U
Property	Plot 240, 2 bed, K, B, ES, 2		

SAP Rating	78 C	**DER**	26.83	**TER**	23.54
Environmental	80 C	**% DER<TER**	-13.96		
CO_2 Emissions (t/year)	1.66	**DFEE**	40.65	**TFEE**	42.44
General Requirements Compliance	Fail	**% DFEE<TFEE**	4.22		

Assessor Details	Ms. Eloise Utley, Eloise Utley , Tel: 01884 242 050, Eloise.Utley@aessc.co.uk	**Assessor ID**	T714-0001
Client			

SUMARY 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)	23.54	$kgCO_2/m^2$	
Dwelling Carbon Dioxide Emission Rate (DER)	26.83	$kgCO_2/m^2$	
Excess emissions	3.29 (14.0%)	$kgCO_2/m^2$	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.44	$kWh/m^2/yr$	
Dwelling Fabric Energy Efficiency (DFEE)	40.65	$kWh/m^2/yr$	
	-1.8 (-4.2%)	$kWh/m^2/yr$	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.16 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.14 (max. 0.70)	Pass
Openings and curtain wall	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	3.80 (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	Room heaters - Electric Panel, convector or radiant heaters	

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Secondary heating system	None		
5 Cylinder insulation			
Hot water storage	Measured cylinder loss: 1.18 kWh/day Permitted by DBSCG 1.85		Pass
Primary pipework insulated	No primary pipework		
6 Controls			
Space heating controls	Programmer and appliance thermostats		Pass
Hot water controls	Cylinderstat		Pass
7 Low energy lights			
Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass
8 Mechanical ventilation			
Continuous supply and extract system			
Specific fan power	0.61		
Maximum	1.5		Pass
MVHR efficiency	93	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Slight		Pass
Based on:			
Overshading	Average		
Windows facing North Windows facing South	5.18 m², No overhang 10.99 m², No overhang		
Air change rate	3.00 ach		
Blinds/curtains	None		

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	3.80 (design value)	m³/(h.m²) @ 50 Pa	
Maximum	10.0	m³/(h.m²) @ 50 Pa	Pass

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10 Key features

External wall U-value	0.14	W/m²K
Party wall U-value	0.00	W/m²K
Party wall U-value	0.00	W/m²K
Party wall U-value	0.00	W/m²K
Floor U-value	0.11	W/m²K
Door U-value	1.10	W/m²K
Door U-value	1.09	W/m²K
Air permeability	3.8	m³/m²h

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	Typical cost	Typical savings per year	Energy efficiency	Environmental impact	Result
Low energy lights			0	0	Already installed
Solar water heating			0	0	Not applicable
Photovoltaic			0	0	Not applicable
Wind turbine			0	0	Not applicable
Totals	**£0**	**£0**	**C 78**	**C 80**	

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