

# PREDICTED ENERGY ASSESSMENT

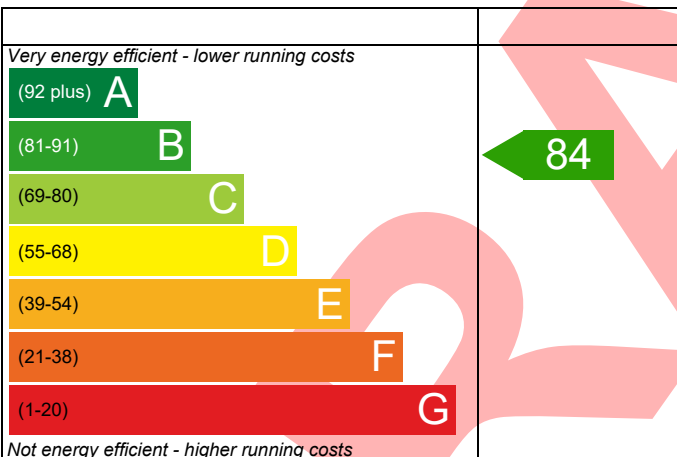
Brunswick, Plot 23, 3 Bed,  
K, WC, B, ES

Dwelling type: House, End-Terrace  
Date of assessment: 14/12/2022  
Produced by: Mitchell Bennelick  
Total floor area: 83.8 m<sup>2</sup>

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<sub>2</sub>) emissions.

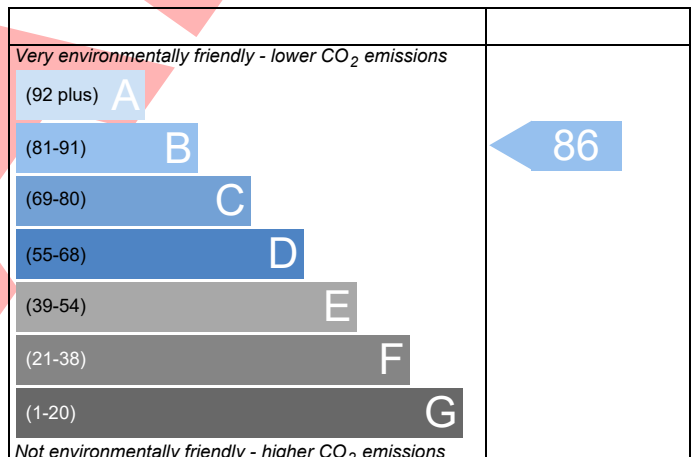
## Energy Efficiency Rating



**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<sub>2</sub>) 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<sub>2</sub>) 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)



Property Reference	4907-0012-6779-023	Issued on Date	14/12/2022		
Assessment Reference	023	Prop Type Ref	Brunswick End (OP)		
Property	Brunswick, Plot 23, 3 Bed, K, WC, B, ES				
SAP Rating	84 B	DER	17.80	TER	18.53
Environmental	86 B	% DER<TER	3.95		
CO <sub>2</sub> Emissions (t/year)	1.29	DFEE	48.34	TFEE	53.32
General Requirements Compliance	Pass	% DFEE<TFEE	9.33		
Assessor Details	Mr. Mitchell Bennellick, Mitchell Bennellick, Tel: 01884 242050, mitchell.bennellick@aessc.co.uk		Assessor ID	P635-0001	
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	Mains gas		
Fuel factor	1.00 (mains gas)		
Target Carbon Dioxide Emission Rate (TER)	18.53	kgCO <sub>2</sub> /m <sup>2</sup>	
Dwelling Carbon Dioxide Emission Rate (DER)	17.80	kgCO <sub>2</sub> /m <sup>2</sup>	Pass
	-0.73 (-3.9%)	kgCO <sub>2</sub> /m <sup>2</sup>	

##### 1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	53.32	kWh/m <sup>2</sup> /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.34	kWh/m <sup>2</sup> /yr	
	-5.0 (-9.4%)	kWh/m <sup>2</sup> /yr	Pass

#### Criterion 2 – Limits on design flexibility

##### Limiting Fabric Standards

##### 2 Fabric U-values

Element	Average	Highest	
External wall	0.26 (max. 0.30)	0.26 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.13 (max. 0.25)	0.13 (max. 0.70)	Pass
Roof	0.11 (max. 0.20)	0.11 (max. 0.35)	Pass
Openings	1.25 (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	5.00 (design value)	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	
Maximum	10.0	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	Pass

##### Limiting System Efficiencies

##### 4 Heating efficiency

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## Calculation Type: New Build (As Designed)

Main heating system	Boiler system with radiators or underfloor - Mains gas Data from database Ideal LOGIC COMBI ESP1 35 Combi boiler Efficiency: 89.6% SEDBUK2009 Minimum: 88.0%	Pass
Secondary heating system	None	

### 5 Cylinder insulation

Hot water storage	No cylinder	
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### 6 Controls

Space heating controls	Programmer, room thermostat and TRVs	Pass
Hot water controls	No cylinder	
Boiler interlock	Yes	Pass

### 7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

### 8 Mechanical ventilation

Continuous extract system (decentralised)		
Specific fan power	0.1600 0.2000	
Maximum	0.7	Pass

## Criterion 3 – Limiting the effects of heat gains in summer

### 9 Summertime temperature

Overheating risk (West Pennines (England))	Not significant	Pass
Based on:		
Overshading	Average	
Windows facing North East	5.94 m <sup>2</sup> , No overhang	
Windows facing South East	4.38 m <sup>2</sup> , No overhang	
Windows facing North West	2.16 m <sup>2</sup> , No overhang	
Air change rate	4.00 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/m <sup>2</sup> K	Pass

### Air permeability and pressure testing

#### 3 Air permeability

Air permeability at 50 pascals	5.00 (design value)	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	
Maximum	10.0	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa	Pass

### 10 Key features

Party wall U-value	0.00	W/m <sup>2</sup> K
Roof U-value	0.11	W/m <sup>2</sup> K

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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	£25	B 85	B 88	Recommended
Photovoltaic	£3,500 - £5,500	£348	A 95	A 97	Recommended
Wind turbine			0	0	Not applicable
<b>Totals</b>	<b>£7,500 - £11,500</b>	<b>£374</b>	<b>A 95</b>	<b>A 97</b>	

**DRAFT**

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