PREDICTED ENERGY ASSESSMENT

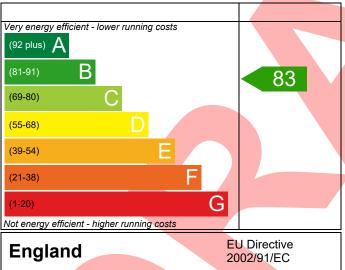


Plot 147, 2 Bed, K+B Dwelling type: Flat, Detached
Date of assessment: 22/09/2020
Produced by: Kieran Davies
Total floor area: 69.65 m²

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.

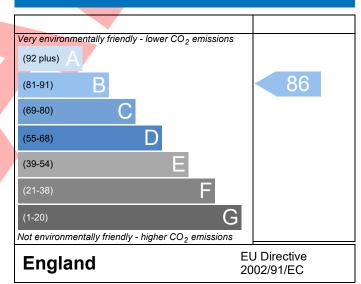
The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating



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



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.



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



Assessment Reference Property Piot 147, 2 Bed, K+B SAP Rating 83 B DER 18.56 TER 20.11 Environmental 86 B	Property Reference	4907-0012-4592-14	7				Issued on Date	22/09/2020
Plot 147, 2 Bed, K+B SAP Rating 83 B DER 18.56 TER 20.11	Assessment	Plot 147				Prop Type Ref	Flat Type 16 GF	
SAP Rating	Reference							
Environmental	Property	Plot 147, 2 Bed, K+B						
CO; Emissions (t/year) General Requirements Compliance Pass	SAP Rating			83 B	DER	18.56	TER	20.11
Assessor Details	Environmental			86 B	% DER <ter< td=""><td></td><td>7.72</td><td></td></ter<>		7.72	
Assessor Details Mr. Kieran Davies, Kieran Davies , Tel: 01884 242050, Kieran.davies@aessc.co.uk South, Countryside NH & C 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 Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 18.56 1.55 (-7.7%) 18.56 1.55 (-7.7%) 19.50 (-1.55 (-7.7%) 10.91 Limiting Fabric Energy Efficiency (DFEE) Element Average Element Average Element Average Highest External wall 0.18 (max. 0.30) 0.18 (max. 0.70) Pass Party wall 0.00 (max. 0.20) 0.17 (max. 0.70) Pass Floor 0.17 (max. 0.25) 0.17 (max. 0.70) Pass 2a Thermal bridging Thermal bridging Chermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Limiting System Efficiencies	CO₂ Emissions (t/year)			1.10	DFEE	50.91	TFEE	58.46
Kieran.davies@aessc.co.uk South, Countryside NH & C 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 Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) Target Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) Dwelling Fabric Energy Efficiency (DFEE) Criterion 2 - Limits on design flexibility Limiting Fabric Standards 2 Fabric U-values Element External wall O.18 (max. 0.30) O.18 (max. 0.70) Pass Party wall O.00 (max. 0.20) - Pass Floor O.17 (max. 0.25) Openings 1.18 (max. 2.00) 1.20 (max. 3.30) Pass 2 Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Alr permeability at 50 pascals Maximum 10.0 m²/(h.m²) @ 50 Pa Pass Pass Limiting System Efficiencies	General Requiremen	ts Compliance		Pass	% DFEE <tfee< td=""><td></td><td>12.92</td><td></td></tfee<>		12.92	
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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 Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 1a.56								
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Dwelling Carbon Dioxide Emission Rate (DER) 18.56	Fuel factor		[1.00 (ma	nins gas)			
-1.55 (-7.7%) kgCO ₂ /m² Target Fabric Energy Efficiency (DFEE) 58.46 kWh/m²/yr Dwelling Fabric Energy Efficiency (DFEE) 50.91 kWh/m²/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 0.17 (max. 0.25) 0.17 (max. 0.70) Pass Openings 1.18 (max. 2.00) 1.20 (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) m³/(h.m²) @ 50 Pa Maximum 10.0 m³/(h.m²) @ 50 Pa Pass Limiting System Efficiencies	Target Carbon Dioxide Emission Rate (TER)			20.11		kgCO ₂ /m ²		
Target Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) Dwelling Fabric Energy Efficiency (DFEE) 58.46 S0.91 kWh/m²/yr Fass Criterion 2 – Limits on design flexibility Limiting Fabric Standards 2 Fabric U-values Element External wall 0.18 (max. 0.30) Pass Party wall 0.00 (max. 0.20) Floor 0.17 (max. 0.25) Openings 1.18 (max. 2.00) 1.20 (max. 3.30) Pass 2 Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.0 Maximum 10.0 Mayinum Pass kWh/m²/yr kWh/m²/yr Pass Nuh/m²/yr Pass So.91 kWh/m²/yr Pass Nuh/m²/yr Pass Nuh/m²/yr Pass Nuh/m²/yr Pass Nuh/m²/yr Pass Nuh/m²/yr Pass Nuh/m²/yr Pass	Dwelling Carbon Dioxide Emission Rate (DER)			18.56		kgCO ₂ /m ²	Pass	
Target Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) 50.91 -7.6 (-13.0%) 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 0.17 (max. 0.25) 0.17 (max. 0.70) Pass Openings 1.18 (max. 2.00) 1.20 (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 Maximum 10.0 m³/(h.m²) @ 50 Pa Pass Limiting System Efficiencies				-1.55 (-7	.7%)		kgCO₂/m²	
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Party wall Pass Floor 0.17 (max. 0.25) 0.17 (max. 0.70) Pass Openings 1.18 (max. 2.00) 1.20 (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 Maximum 5.00 (design value) m³/(h.m²) @ 50 Pa Pass Limiting System Efficiencies						_	-	
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Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.0 Maximum				,			•	
Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.0 m³/(h.m²) @ 50 Pa Pass Limiting System Efficiencies			1.10 (IIIax.	. 2.00)		1.20 (IIIax. 5.5	0)	Pass
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Maximum 10.0 m³/(h.m²) @ 50 Pa Pass Limiting System Efficiencies			~	F 00 /-l	alam valvV		3// 2\ 0.50.5	_
Limiting System Efficiencies		y at 50 pascals			sign value)			
		fficiencies	<u> </u>	10.0			III /(II.III⁻) @ 50 P	a Pass



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



Main heating system	Boiler system with radiators or underfloor - Mains gas	Pass
	Data from database	
	Potterton ASSURE 36 COMBI	
	Combi boiler	
	Efficiency: 89.0% SEDBUK2009	
	Minimum: 88.0%	
Secondary heating system	None	
5 Cylinder insulation		
Hot water storage	No cylinder	
<u>6 Controls</u>		
Space heating controls	Time and temperature zone control	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	0.1900 0.1800	
Maximum	0.7	Pass
Criterion 3 – Limiting the effects of heat gains in sur	nmer	
9 Summertime temperature		
Overheating risk (South East England)	Medium	Pass
Based on:		
Overshading	A	_
	Average	
Windows facing North		_
Windows facing North Windows facing East	2.83 m², No overhang 2.07 m², No overhang	
_	2.83 m², No overhang	
Windows facing East	2.83 m², No overhang 2.07 m², No overhang	
Windows facing East Windows facing West	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang	
Windows facing East Windows facing West Air change rate	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None	
Windows facing East Windows facing West Air change rate Blinds/curtains	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None	
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None	
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with I Party Walls	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None DER and DFEE rate	Pass
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with I Party Walls	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None DER and DFEE rate U-value	Pass
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with Party Walls Type	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None DER and DFEE rate U-value	Pass
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with I Party Walls Type Air permeability and pressure testing	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None DER and DFEE rate U-value	Pass
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with Party Walls Type Air permeability and pressure testing 3 Air permeability	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None U-value W/m²K	Pass
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with I Party Walls Type Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None DER and DFEE rate U-value W/m²K 5.00 (design value) m³/(h.m²) @ 50 Pa	
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with I Party Walls Type Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals	2.83 m², No overhang 2.07 m², No overhang 10.74 m², No overhang 3.00 ach None DER and DFEE rate U-value W/m²K 5.00 (design value) m³/(h.m²) @ 50 Pa	



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



10 Key features

Party wall U-value

Door U-value

Door U-value

Door U-value

0.00	W/m²K
1.00	W/m²K
1.10	W/m²K
0.78	W/m²K



This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.



Regs Region: England Elmhurst Energy Systems SAP2012 Calculator (Design System) version 4.12r02

RECOMMENDATIONS



	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	£O	£O	B 83	B 86	



