

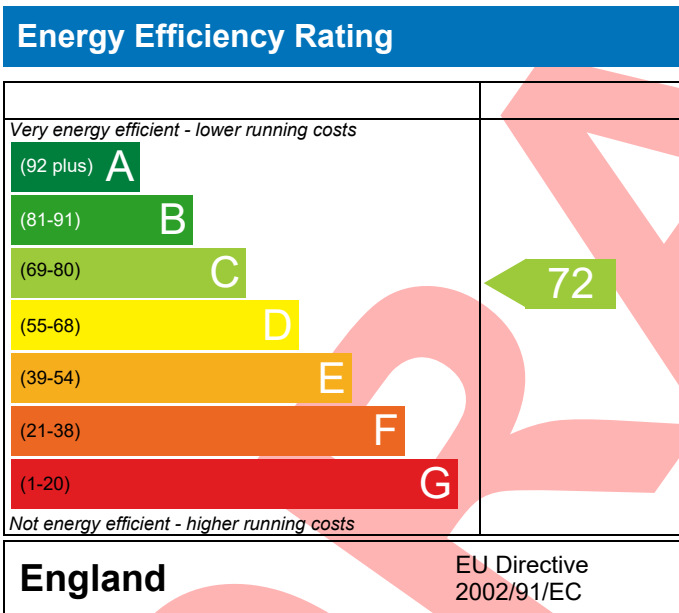
# PREDICTED ENERGY ASSESSMENT

Plot 59, Pennsylvania Close,  
Portland,  
Weymouth,  
Dorset,  
DT5

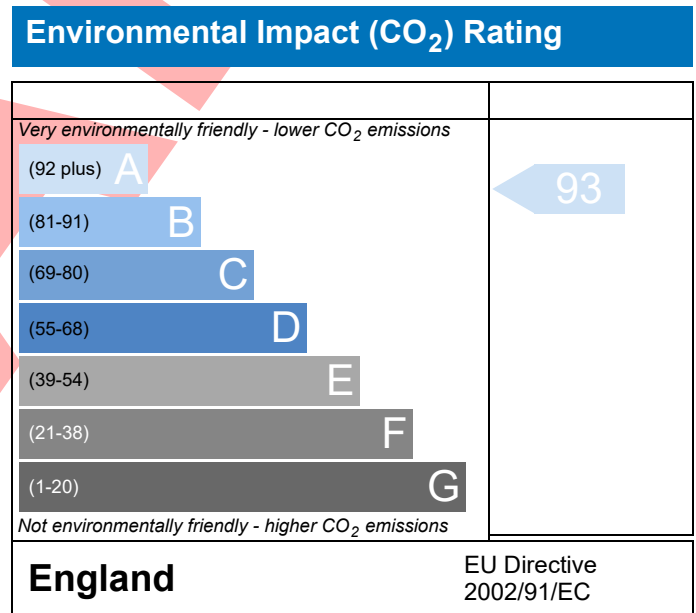
Dwelling type: House, Mid-Terrace  
Date of assessment: 28/07/2023  
Produced by: Robyn Berry Energy & Sustainability Services  
Total floor area: 116.9 m<sup>2</sup>

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.



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.



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.

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	Plot 59	Issued on Date	28/07/2023
Assessment Reference	Plot 59	Prop Type Ref	Plot 59
Property	Plot 59, Pennsylvania Close, Portland, Weymouth, Dorset, DT5		

SAP Rating	72 C	DER	7.36	TER	14.10
Environmental	93 A	% DER<TER	47.81		
CO <sub>2</sub> Emissions (t/year)	0.72	DFEE	30.88	TREE	40.35
General Requirements Compliance	Pass	% DFEE<TFEE	23.46		

Assessor Details	Ms. Robyn Berry, Robyn Berry Energy & Sustainability Services, Tel: 07595 945 359, rbess@outlook.com	Assessor ID	AW54-0001
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Client	Vivir Properties, Vivir Properties
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### SUMMARY FOR INPUT DATA FOR New Build (As Designed)

#### Criterion 1 – Achieving the TER and TFE rate

##### 1a TER and DER

Fuel for main heating	Biomass (c)		
Fuel factor	1.00 (biomass)		
Target Carbon Dioxide Emission Rate (TER)	14.10	kgCO <sub>2</sub> /m <sup>2</sup>	
Dwelling Carbon Dioxide Emission Rate (DER)	7.36	kgCO <sub>2</sub> /m <sup>2</sup>	Pass
	-6.74 (-47.8%)	kgCO <sub>2</sub> /m <sup>2</sup>	

##### 1b TFE and DFEE

Target Fabric Energy Efficiency (TFEE)	40.35	kWh/m <sup>2</sup> /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.88	kWh/m <sup>2</sup> /yr	
	-9.4 (-23.3%)	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	0.15 (max. 0.30)	0.15 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.09 (max. 0.25)	0.09 (max. 0.70)	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	0.88 (max. 2.00)	1.30 (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	3.00 (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

Main heating system	Community heating scheme	-
Secondary heating system	None	

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# BUILDING REGULATION COMPLIANCE

## Calculation Type: New Build (As Designed)

### 5 Cylinder insulation

Hot water storage	Measured cylinder loss: 2.24 kWh/day Permitted by DBSCG 2.24	Pass
Primary pipework insulated	Yes (assumed)	Pass

### 6 Controls

Space heating controls	Charging system linked to use of community heating, TRVs	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

Not applicable

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

### 9 Summertime temperature

Overheating risk (Southern England)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing East	5.31 m <sup>2</sup> , No overhang	
Windows facing West	7.86 m <sup>2</sup> , No overhang	
Air change rate	2.50 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	3.00 (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
Floor U-value	0.09	W/m <sup>2</sup> K
Door U-value	1.00	W/m <sup>2</sup> K
Window U-value	0.80	W/m <sup>2</sup> K
Air permeability	3.0	m <sup>3</sup> /m <sup>2</sup> h
Community heating, Biomass	N/A	

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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	£409	C 77	A 94	Recommended
Photovoltaic	£3,500 - £5,500	£777	B 85	A 102	Recommended
Wind turbine			0	0	Not applicable
<b>Totals</b>	<b>£7,500 - £11,500</b>	<b>£1186</b>	<b>B 85</b>	<b>A 102</b>	

**DRAFT**

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