

# PREDICTED ENERGY ASSESSMENT

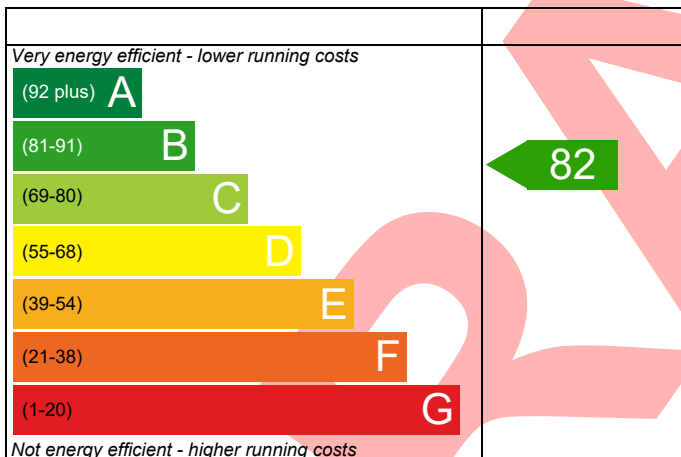
Plot 5045, 1 Bed, 1B,  
Southampton,  
Hampshire

Dwelling type: Flat, Semi-Detached  
Date of assessment: 20/02/2020  
Produced by: AES Sustainability Consultants Ltd.  
Total floor area: 41.82 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.

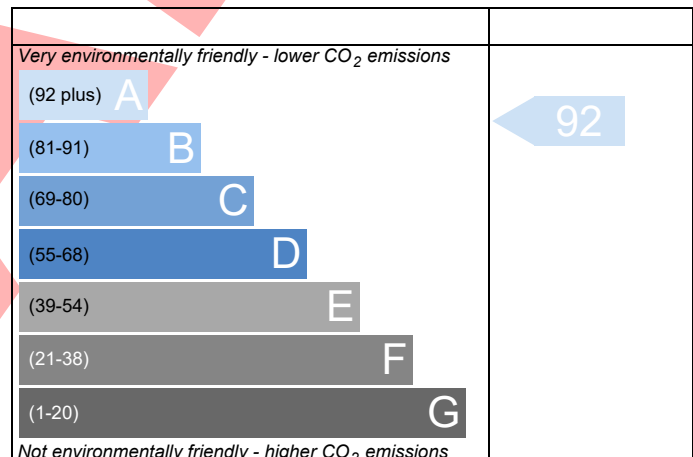
## Energy Efficiency Rating



**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.

*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	4907-0012-3738-5045	Issued on Date	20/02/2020
Assessment Reference	As Built	Prop Type Ref	E4/5 Ground Floor Flat
Property	Plot 5045, 1 Bed, 1B, Southampton, Hampshire		
SAP Rating	82 B	DER	14.39
Environmental	92 A	TER	21.44
CO <sub>2</sub> Emissions (t/year)	0.51	% DER<TER	32.88
General Requirements Compliance	Fail	DFEE	54.17
		TREE	51.25
		% DFEE<TFEE	-5.70
Assessor Details	Mr. Mitchell Bennellick, Mitchell Bennellick, Tel: 01884 242050, mitchell.bennellick@aessouthern.co.uk	Assessor ID	4907-0012
Client			

### 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	Mains gas (c)		
Fuel factor	1.00 (mains gas)		
Target Carbon Dioxide Emission Rate (TER)	21.44	kgCO <sub>2</sub> /m <sup>2</sup>	
Dwelling Carbon Dioxide Emission Rate (DER)	14.39	kgCO <sub>2</sub> /m <sup>2</sup>	Pass
	-7.05 (-32.9%)	kgCO <sub>2</sub> /m <sup>2</sup>	

##### 1b TFE and DFEE

Target Fabric Energy Efficiency (TFEE)	51.25	kWh/m <sup>2</sup> /yr	
Dwelling Fabric Energy Efficiency (DFEE)	54.17	kWh/m <sup>2</sup> /yr	
Excess energy	3.0 (5.9%)	kWh/m <sup>2</sup> /yr	Fail

#### Criterion 2 – Limits on design flexibility

##### Limiting Fabric Standards

##### 2 Fabric U-values

Element	Average	Highest	
External wall	0.17 (max. 0.30)	0.17 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.19 (max. 0.25)	0.19 (max. 0.70)	Pass
Openings	1.30 (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	4.00 (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	

##### 5 Cylinder insulation

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Hot water storage

No cylinder

### 6 Controls

Space heating controls

Charging system linked to use of community heating, programmer and TRVs

Pass

Hot water controls

No cylinder

### 7 Low energy lights

Percentage of fixed lights with low-energy fittings

100 %

Minimum

75 %

Pass

### 8 Mechanical ventilation

Continuous extract system

Specific fan power

0.16

Maximum

0.7

Pass

## 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 North East

2.13 m<sup>2</sup>, No overhang

Windows facing North West

6.61 m<sup>2</sup>, No overhang

Air change rate

2.00 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

Filled Cavity with Edge Sealing

0.00 W/m<sup>2</sup>K

Pass

Solid Wall

0.00 W/m<sup>2</sup>K

Pass

### Air permeability and pressure testing

#### 3 Air permeability

Air permeability at 50 pascals

4.00 (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

Party wall U-value

0.00 W/m<sup>2</sup>K

Party wall U-value

0.00 W/m<sup>2</sup>K

Community CHP, Mains gas

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			0	0	Not applicable
Photovoltaic			0	0	Not applicable
Wind turbine			0	0	Not applicable
<b>Totals</b>	<b>£0</b>	<b>£0</b>	<b>B 82</b>	<b>A 92</b>	

**DRAFT**

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