# **Regulations Compliance Report**

Approved Document L1A, 2013 Edition, England assessed by Stroma FSAP 2012 program, Version: 1.0.4.16 *Printed on 25 March 2019 at 10:44:47* 

Assessed By: Mark Heptonstall (STRO004925) Building Type: Detached House           Details:         Total Floor Area: 186.7m <sup>2</sup> New DWELLING DESIGN STAGE         Total Floor Area: 186.7m <sup>2</sup> Site Reference:         8035 Mellor Brook, Blackburn, BB2 7PL           Citent Details:         Name:           Address:         House B, Mellor Brook, Blackburn, BB2 7PL           Citent Details:         Name:           Address:         This report covers items included within the SAP calculations.           It is not a complete report of regulations compliance.         16.51 kg/m <sup>2</sup> Fuel for main heating system: Mains gas         Tust for main heating system: Mains gas           Fuel for main heating system: Mains gas         16.51 kg/m <sup>2</sup> Puelling Carbon Dixide Emission Rate (DER)         16.51 kg/m <sup>2</sup> Diffee and DFEE         OK           Target Carbon Dixide Emission Rate (DER)         16.40 kWh/m <sup>2</sup> Detailing Carbon Dixide Emission Rate (DER)         16.71 kg/m <sup>2</sup> Detailing Carbon Dixide Emission Rate (DER)         10.71 (max. 0.70)           OK         Parter Adverage         Highest           Target Carbon Dixide Emission Rate (DER)         0.17 (max. 0.70)         OK           Parter Details         0.17 (max. 0.20)         0.17 (max. 0.70)         OK           Zarbernal Dridging <th>Project Information</th> <th>on:</th> <th></th> <th></th> <th></th> <th></th>	Project Information	on:				
New DWELLING DESIGN STAGE       Total Floor Area: 186.7m <sup>2</sup> Sife Reference:       8055 - Mellor Brook, Blackburn, BB2 7PL         Address:       House B, Mellor Brook, Blackburn, BB2 7PL         Client Details:       Name:         Address:       Image: State St	Assessed By:	Mark Heptonstall	(STRO004925)	Building Type:	Detached House	
Site Reference:       8635 - Mellor Brook, Blackburn, BB2 7PL         Address:       House B, Mellor Brook, Blackburn, BB2 7PL         Chern Details:       Name:         Address:	Dwelling Details:					
Address : House B, Mellor Brook, Blackburn, BB2 7PL Cleant Details: Name: Address : This report covers items included within the SAP calculations. It is not a complete report of regulations compliance. <b>10 TER and DER</b> Fuel for main heating system: Mains gas Fuel for main heating system: Mains gas Fuel for main heating system: Mains gas Fuel for main heating system: Mains gas Target Carbon Dioxide Emission Rate (TER) 16.51 kg/m <sup>2</sup> Dwelling Carbon Dioxide Emission Rate (DER) 14.74 kg/m <sup>2</sup> Mulling Fabric Energy Efficiency (TFEE) 64.0 kWh/m <sup>2</sup> Dwelling Fabric Energy Efficiency (DFEE) 76.9 kWh/m <sup>2</sup> Dwelling Stem Nith radiators or underflow (DFEE) 76.9 kWh/m <sup>2</sup> Data from manufacturer Combi boiler Efficiency 80.9 kSEDBUK/2009 Minimum 88.0 % 76.0 kK Data from manufacturer Combi boiler Efficiency 80.9 kSEDBUK/2009 Minimum 88.0 % 76.0 kK Deta Fabric	NEW DWELLING	DESIGN STAGE		Total Floor Area: 1	86.7m²	
Client Details:         Name:         Address :         This report covers items included within the SAP calculations. It is not a complete report of regulations compliance. <b>1a TER and DER</b> Fuel for main heating system: Mains gas         Fuel for main heating system: Mains gas         Fuel for main heating system: Mains gas         Target Carbon Dioxide Emission Rate (DER)         16.51 kg/m²         OK <b>1 Target Fabric Energy Efficiency (TFEE)</b> 64.0 kWh/m²         OK <b>2 Fabric U-values OK CK 2 Fabric U-values OK CK CK OK CK Colspacu</b>	Site Reference :	8635 - Mellor Bro	ok	Plot Reference:	House B	
Name: Address : This report covers items included within the SAP calculations. It is not a complete report of regulations compliance. <b>1 a TEA and DER</b> Fuel for main heating system: Mains gas Fuel factor: 1.00 (mains gas) Target Carbon Dioxide Emission Rate (TER) 16.51 kg/m² Dwelling Carbon Dioxide Emission Rate (DER) 14.74 kg/m² OK <b>1 b TEE and DFEE</b> Target Fabric Energy Efficiency (IFEE) 64.0 kWh/m² Dwelling Fabric Energy Efficiency (IFEE) 56.9 kWh/m² Dwelling Fabric Energy Efficiency (IFEE) 56.9 kWh/m² Dwelling Fabric Energy Efficiency (IFEE) 0.17 (max. 0.30) 0.17 (max. 0.70) 0K Roof 0.17 (max. 0.25) 0.17 (max. 0.70) 0K Roof 0.17 (max. 0.25) 0.17 (max. 0.70) 0K Roof 0.14 (max. 0.30) 0.17 (max. 0.70) 0K Ca Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction <b>3 Air permeability</b> at 50 pascals 5.00 (design value) Maximum 50 opa 0.90 % SEDBUK2009 Mainimum 88.0 % 0K Secondary heating system: None	Address :	House B, Mellor E	Brook, Blackburn, BB2 7PL			
Address : This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.  I a TER and DER  Fuel for main heating system: Mains gas Fuel factor: 1.00 (mains gas) Target Carbon Dioxide Emission Rate (TER) Puelling Carbon Dioxide Emission Rate (DER)  16.51 kg/m²  Neuling Carbon Dioxide Emission Rate (DER)  16.51 kg/m²  Neuling Fabric Energy Efficiency (IFEE)  17.74 kg/m²  Neuling Fabric Energy Efficiency (IFEE)  17.75  17.	Client Details:					
This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.  IDTER and DER  Fuel form anin heating system: Mains gas Farget Carbon Dioxide Emission Rate (TER) 16.51 kg/m² Dweling Carbon Dioxide Emission Rate (DER) 0.17 (max. 0.70) OK  2 Fabric U-values  Element Average Highest Element 0.17 (max. 0.25) 0.17 (max. 0.70) OK  Carbon 0.14 (max. 0.20) 0.14 (max. 0.35) OK  2 Arbornal bridging calculated from linear thermal transmittances for each junction Thermal bridging calculated from linear thermal transmittances for each junction Air permeability at 50 pascals 5.00 (design value) Maximum 5.0 % SEDBUK2009 Maximum 5.0 % SEDBUK2009 Minimum 88.0 % OK  Secondary heating system: None  5 Cylinder insulation Hot water Storage: No cylinder	Name:					
It is not a complete report of regulations compliance. <b>1a TER and DER</b> Fuel for main heating system: Mains gas         Fuel for main heating system: Mains gas)         Target Carbon Dioxide Emission Rate (TER)         16.51 kg/m²         OK <b>16.51 kg/m²</b> OK <b>14.74 kg/m²</b> OK <b>15.51 kg/m²</b> OK <b>16.51 kg/m²</b> OK <b>14.74 kg/m²</b> OK <b>OK 15.51 kg/m² OK OK OK Colspan="2" OK 2 Fabric U-values OK OK Colspan= 2 OK OK OK OK OK Colspan= 1 OK OK</b> </td <td>Address :</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Address :					
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Fuel for main heating system: Mains gas Fuel factor: 1.00 (mains gas) Target Carbon Dioxide Emission Rate (DER) 16.51 kg/m <sup>2</sup> Dwelling Carbon Dioxide Emission Rate (DER) 14.74 kg/m <sup>2</sup> OK 1b TFEE and DFEE Target Fabric Energy Efficiency (TFEE) 64.0 kWh/m <sup>2</sup> Dwelling Fabric Energy Efficiency (DFEE) 64.0 kWh/m <sup>2</sup> OK 2 Fabric U-values Element Average Highest External wall 0.17 (max. 0.30) 0.17 (max. 0.70) OK Floor 0.17 (max. 0.25) 0.17 (max. 0.70) OK Roof 0.14 (max. 0.20) 0.14 (max. 0.35) OK Openings 1.60 (max. 2.00) 1.60 (max. 3.30) OK 2 a Thermal bridging calculated from linear thermal transmittances for each junction Air permeability at 50 pascals 5.00 (design value) Maximum 10.0 OK 4 Heating efficiency Main Heating system: Boiler systems with radiators or underfloor heating - mains gas Data from manufacturer Combi boiler Efficiency 89.0 % SEDBUK2009 Minimum 88.0 % OK	-	• •	tions compliance.			
Fuel factor: 1.00 (mains gas)       16.51 kg/m²         Target Carbon Dioxide Emission Rate (DER)       16.51 kg/m²         OK       14.74 kg/m²       OK         Target Fabric Energy Efficiency (TFEE)       64.0 kWh/m²         Dwelling Carbon Dioxide Emission Rate (DER)       64.0 kWh/m²         Target Fabric Energy Efficiency (DFEE)       64.0 kWh/m²         Dwelling Carbon Dioxide Emission Rate (DER)       0K         2 Fabric U-values       0K         Element       Average       Highest         External wall       0.17 (max. 0.30)       0.17 (max. 0.70)       0K         Roof       0.14 (max. 0.20)       0.14 (max. 0.35)       0K         Qpenings       1.60 (max. 2.00)       1.60 (max. 3.30)       0K         2a Thermal bridging calculated from linear thermal transmittances for each junction       3 Air permeability at 50 pascals       5.00 (design value)         Mair Meating system:       Boiler systems with radiators or underfloor heating - mains gas       Data from manufacturer       Combi boiler         Efficiency       Boiler systems with radiators or underfloor heating - mains gas       Data from manufacturer       OK         Secondary heating system:       None       OK       OK						
Target Carbon Dioxide Emission Rate (TER)       16.51 kg/m²       OK         Dwelling Carbon Dioxide Emission Rate (DER)       14.74 kg/m²       OK         1b TFEE and DFEE           Target Fabric Energy Efficiency (IFFEE)       64.0 kWh/m²       OK         Dwelling Fabric Energy Efficiency (OFEE)       56.9 kWh/m²       OK         2 Fabric U-values         OK         Element       Average       Highest           External wall       0.17 (max. 0.30)       0.17 (max. 0.70)       OK         Roof       0.14 (max. 0.20)       0.14 (max. 0.35)       OK         Openings       1.60 (max. 2.00)       1.60 (max. 3.30)       OK         2 Thermal bridging             Air permeability             Air permeability       10.0       OK           Maximum       10.0       OK           Altreating efficiency       Boiler systems with radiators or underfloor heating - mains gas Data from manufacturer Combi boiler Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %       OK         Secondary heating system:       None            5 Cylinder insulation <td></td> <td></td> <td>as</td> <td></td> <td></td> <td></td>			as			
Dwelling Carbon Dioxide Emission Rate (DER)       14.74 kg/m²       OK         11 TFEE and DFEE       7 arget Fabric Energy Efficiency (TFEE)       64.0 kWh/m²         Dwelling Fabric Energy Efficiency (DFEE)       56.9 kWh/m²       OK         2 Fabric U-values       OK       OK         Element       Average       Highest       OK         External wall       0.17 (max. 0.30)       0.17 (max. 0.70)       OK         Roof       0.14 (max. 0.20)       0.14 (max. 0.35)       OK         Openings       1.60 (max. 2.00)       1.60 (max. 3.30)       OK         2 Thermal bridging       Thermal bridging calculated from linear thermal transmittances for each junction       OK         3 Air permeability       5.00 (design value)       0.00       OK         4 Heating efficiency       Boiler systems with radiators or underfloor heating - mains gas       Data from manufacturer         Combi boiler       Efficiency 89.0 % SEDBUK2009       OK       OK         Secondary heating system:       None       OK	•	- /	(TER)	16.51 kg/m²		
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Dwelling Fabric Energy Efficiency (DFEE)       56.9 kWh/m²         2 Fabric U-values       OK         2 Fabric U-values       Highest         Element       Average       Highest         External wall       0.17 (max. 0.30)       0.17 (max. 0.70)       OK         Floor       0.17 (max. 0.25)       0.17 (max. 0.70)       OK         Roof       0.14 (max. 0.20)       0.14 (max. 0.35)       OK         Openings       1.60 (max. 2.00)       1.60 (max. 3.30)       OK         2a Thermal bridging       Thermal bridging calculated from linear thermal transmittances for each junction       Starp ermeability         Air permeability at 50 pascals Maximum       5.00 (design value) 10.0       OK         4 Heating efficiency       Data from manufacturer Combi boiler       OK         Secondary heating system:       Boiler systems with radiators or underfloor heating - mains gas Data from manufacturer Combi boiler       OK         Secondary heating system:       None       OK				J.		
OK     OK       2 Fabric U-values     Highest       External wall     0.17 (max. 0.30)     0.17 (max. 0.70)     OK       Floor     0.17 (max. 0.25)     0.17 (max. 0.70)     OK       Roof     0.14 (max. 0.20)     0.14 (max. 0.35)     OK       Openings     1.60 (max. 2.00)     1.60 (max. 3.30)     OK       2a Thermal bridging     Thermal bridging calculated from linear thermal transmittances for each junction     3 Air permeability       Air permeability     Air permeability at 50 pascals     5.00 (design value)     0K       Maximum     10.0     OK       4 Heating efficiency     Boiler systems with radiators or underfloor heating - mains gas     Data from manufacturer       Combi boiler     Efficiency 89.0 % SEDBUK2009     OK       Secondary heating system:     None     OK	-					
2 Fabric U-values         Element       Average       Highest         External wall       0.17 (max. 0.30)       0.17 (max. 0.70)       OK         Floor       0.17 (max. 0.25)       0.17 (max. 0.70)       OK         Roof       0.14 (max. 0.20)       0.14 (max. 0.35)       OK         Openings       1.60 (max. 2.00)       1.60 (max. 3.30)       OK         2a Thermal bridging       If permeability       OK         Air permeability       5.00 (design value)       0.00         Maximum       10.0       OK         4 Heating efficiency       Boiler systems with radiators or underfloor heating - mains gas Data from manufacturer Combi boiler Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %       OK         Secondary heating system:       None       OK	Dwelling Fabric E	nergy Efficiency (DF	EE)	56.9 kWh/m <sup>2</sup>		<b>.</b>
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Thermal bridging calculated from linear thermal transmittances for each junction         3 Air permeability at 50 pascals         Air permeability at 50 pascals       5.00 (design value)         Maximum       10.0       OK         4 Heating efficiency         Main Heating system:       Boiler systems with radiators or underfloor heating - mains gas       Oata from manufacturer         Combi boiler       Efficiency 89.0 % SEDBUK2009       OK         Secondary heating system:       None       OK         Ok         Main Heating system:       None			1.60 (max. 2.00)	1.60 (max. 3.30)		ОК
3 Air permeability       Air permeability at 50 pascals       5.00 (design value)       OK         Maximum       10.0       OK         4 Heating efficiency       Boiler systems with radiators or underfloor heating - mains gas       Oata from manufacturer         Main Heating system:       Boiler systems with radiators or underfloor heating - mains gas       Oata from manufacturer         Combi boiler       Efficiency 89.0 % SEDBUK2009       OK         Secondary heating system:       None       OK         5 Cylinder insulation       Hot water Storage:       No cylinder						
Air permeability at 50 pascals       5.00 (design value)         Maximum       10.0       OK         4 Heating efficiency       Boiler systems with radiators or underfloor heating - mains gas       OK         Main Heating system:       Boiler systems with radiators or underfloor heating - mains gas       OK         Data from manufacturer       Combi boiler       Efficiency 89.0 % SEDBUK2009       OK         Secondary heating system:       None       OK         5 Cylinder insulation       Hot water Storage:       No cylinder			rom linear thermal transmittan	ces for each junction		
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4 Heating efficiency       Boiler systems with radiators or underfloor heating - mains gas         Data from manufacturer       Data from manufacturer         Combi boiler       Efficiency 89.0 % SEDBUK2009         Minimum 88.0 %       OK         Secondary heating system:       None         6 Cylinder insulation       No cylinder		bility at 50 pascals			ue)	ок
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Minimum 88.0 %     OK       Secondary heating system:     None       5 Cylinder insulation						
Secondary heating system:       None         5 Cylinder insulation       Image: Molecular system:         Hot water Storage:       No cylinder				2009		
5 Cylinder insulation         Hot water Storage:       No cylinder			Minimum 88.0 %			OK
Hot water Storage: No cylinder	Secondary	heating system:	None			
Hot water Storage: No cylinder	5 Cylinder insul	ation				
			No cylinder			
			, - <b>,</b>			N/A

# **Regulations Compliance Report**

6 Controls						
Space heating controls	Space heating controls TTZC by plumbing and electrical services					
Hot water controls:	No cylinder					
	No cylinder					
Boiler interlock:	Yes		OK			
7 Low energy lights						
Percentage of fixed lights v	vith low-energy fittings	100.0%				
Minimum		75.0%	OK			
8 Mechanical ventilation						
Not applicable						
9 Summertime temperature						
Overheating risk (West Per	nnines):	Not significant	ОК			
Based on:						
Overshading:		Average or unknown				
Windows facing: South East	st	7.46m <sup>2</sup>				
Windows facing: South East	st	2.43m <sup>2</sup>				
Windows facing: North We	st	19.16m <sup>2</sup>				
Windows facing: North Eas	t	12.48m <sup>2</sup>				
Ventilation rate:		8.00				
Blinds/curtains:						
		Closed 100% of daylight hours	6			

10 Key features

Photovoltaic array

### **Predicted Energy Assessment**

House B Mellor Brook Blackburn BB2 7PL Dwelling type: Date of assessment: Produced by: Total floor area: Detached House 14 March 2019 Mark Heptonstall 186.7 m<sup>2</sup>

Environmental Impact (CO<sub>2</sub>) Rating

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact 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. The environmental impact rating is a measure of a home's impact on the environment in terms of carbonn dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.



# **SAP Input**

Property Details: H	ouse B							
Address: Located in: Region: UPRN:	Located in: E Region: V		e B, Mellor Brook, Bland Nd Pennines	ackburn, BB2 7PL				
Date of assessm	nent:	14 Ma	arch 2019					
Date of certifica			arch 2019					
Assessment type			dwelling design stage	е				
Transaction type Tenure type:	9:	Unkn	dwelling own					
Related party di	sclosure:		lated party					
Thermal Mass P		Indica	ative Value Low					
Water use <= 1	25 litres/per	5	True					
PCDF Version:		440						
Property descriptio	n:							
Dwelling type:		House						
Detachment:		Detao 2019	ched					
Year Completed:	•							
Floor Location:	Location:		r area:	c	Storey height			
Floor 0		82.85	m <sup>2</sup>		2.93 m			
Floor 1		103.8			2.2 m			
Living area:			m <sup>2</sup> (fraction 0.122)	)				
Front of dwelling f Opening types:	aces:	Soutr	n East					
	Courses	-	Turno.	Clasing		Argon	Frame	<b>0</b> :
Name: SE	Source: Manufacturer		Type: Half glazed	Glazing:	0.15, hard coat	Argon: Yes	Fram PVC-U	e:
SE	Manufacturer		Windows		0.15, hard coat	Yes	PVC-U	
SED	Manufacturer		Windows		0.15, hard coat	Yes	PVC-U	
NW	Manufacturer		Windows		0.15, hard coat	Yes	PVC-U	
NE	Manufacturer		Windows	low-E, En =	0.15, hard coat	Yes	PVC-U	
Name:	Gap:		Frame Factor	: g-value:	U-value:	Area:	No. o	f Openings:
SE		r more mm	0.7	0.72	1.6	1.94	1	
SE	16mm o		0.7	0.72	1.6	7.46	1	
SED NW	16mm o 16mm o		0.7 0.7	0.72 0.72	1.6 1.6	2.43 19.16	1 1	
NE	16mm o		0.7	0.72	1.6	12.48	1	
Name:	Type-Nam		Location:	Orient:		Width:	Hoiak	<b>^+</b> ·
SE	туре-матт		External Walls	South East		0 0	Heigł 0	11.
SE			External Walls	South East		0	0	
SED			Dormer	South East		0	0	
NW			External Walls	North West		0	0	
NE			External Walls	North East		0	0	
Overshading:		Avera	ige or unknown					
Opaque Elements:								
Type: <u>External Elements</u>	Gross area:	Openings:	Net area:	U-value:	Ru value:	Curtain	wall:	Kappa:
External Walls	208.45	41.04	167.41	0.17	0	False		N/A
Exposed Garage	33.54	0	33.54	0.17	0	False		N/A
Exposed Loft	3.47	0	3.47 2.17	0.14	0	False		N/A
Dormer	4.6	2.43	2.17	0.14	0	False		N/A

# **SAP Input**

Rafters	17.95	0	17.95	0.14	0	N/A
Joists	86.62	0	86.62	0.14	0	N/A
Exposed Loft	3.46	0	3.46	0.14	0	N/A
Dormer	3.57	0	3.57	0.14	0	N/A
Ground Floor	82.85			0.17		N/A
Exposed Garage	24.46			0.17		N/A
Internal Elements						
Party Elements						

#### Thermal bridges:

Thermal bridges:		User-defined (individual PSI-values) Y-Value = 0.0762				
0		Length	Psi-value			
	[Approved]	26.56	0.5	E1	Steel lintel with perforated steel base plate	
	[Approved]	17.2	0.04	E3	Sill	
	[Approved]	46.12	0.05	E4	Jamb	
		37.74	0.08	E5	Ground floor (normal)	
		21.08	0.32	E20	Exposed floor (normal)	
	[Approved]	39.62	0.07	E6	Intermediate floor within a dwelling	
	[Approved]	29.97	0.06	E10	Eaves (insulation at ceiling level)	
	[Approved]	19.67	0.04	E11	Eaves (insulation at rafter level)	
		20.66	0.12	E12	Gable (insulation at ceiling level)	
	[Approved]	8.37	0.04	E13	Gable (insulation at rafter level)	
	[Approved]	39.41	0.09	E16	Corner (normal)	
	[Approved]	22.65	-0.09	E17	Corner (inverted internal area greater than external area)	

Ventilation:	
Pressure test: Ventilation: Number of chimneys: Number of open flues: Number of fans: Number of passive stacks: Number of sides sheltered: Pressure test:	Yes (As designed) Natural ventilation (extract fans) 0 0 5 0 2 5
Main heating system:	
Main heating system:	Boiler systems with radiators or underfloor heating Gas boilers and oil boilers Fuel: mains gas Info Source: Manufacturer Declaration Manufacturer's data Efficiency: 89.0% (SEDBUK2009) Condensing combi with automatic ignition Fuel Burning Type: Unknown Systems with radiators Central heating pump : 2013 or later Design flow temperature: Design flow temperature<=35°C Room-sealed Boiler interlock: Yes Delayed start
Main heating Control:	
Main heating Control:	Time and temperature zone control by suitable arrangement of plumbing and electrical services Control code: 2110
Secondary heating system:	
Secondary heating system:	None

# **SAP Input**

Water heating:	
Water heating:	From main heating system Water code: 901 Fuel :mains gas No hot water cylinder Solar panel: False
Others:	
Electricity tariff: In Smoke Control Area: Conservatory: Low energy lights: Terrain type: EPC language: Wind turbine: Photovoltaics:	Standard Tariff Unknown No conservatory 100% Low rise urban / suburban English No
Photovoltaics:	Photovoltaic 1 Installed Peak power: 0.6 Tilt of collector: 30° Overshading: None or very little Collector Orientation: South
Assess Zero Carbon Home:	No

# SAP 2012 Overheating Assessment

Calculated by Stroma FSAP 2012 program, produced and printed on 25 March 2019

Proper	tv Deta	ils <sup>,</sup> H	ouse	R
TIOPCI		11.5 . 1 1	UUUUU	

Dwelling type: Located in: Region: Cross ventilation pos Number of storeys: Front of dwelling face Overshading: Overhangs: Thermal mass param Night ventilation: Blinds, curtains, shut Ventilation rate durin	es: eter: tters:	ather (a	ch):	Detached I England West Penn Yes 2 South East Average or None Indicative False 8 ( Window	ines - unknown		
Summer ventilation h	eat loss	coeffici	ent:	1244.02			(P1)
Transmission heat lo Summer heat loss co				170.1 1414.11			(P2)
Overhangs:							()
Orientation:	Ratio:		Z_overhangs:				
South East (SE)	0		1				
South East (SED)	0		1				
North West (NW)	0		1				
North East (NE)	0		1				
Solar shading:							
Orientation:	Z blinc	ls:	Solar access:	Over	hangs:	Z summer:	
South East (SE)	1		0.9	1		0.9	(P8)
South East (SED)	1		0.9	1		0.9	(P8)
North West (NW) North East (NE)	1 1		0.9 0.9	1		0.9 0.9	(P8) (P8)
Solar gains:	•		0.7	•		0.7	(,
						<u>.</u>	
Orientation	0.0.4		<b>Flux</b>	<b>g</b>	FF	Shading	Gains
South East (SE) South East (SED)	0.9 x 0.9 x	7.46 2.43	112.1 112.1	0.72 0.72	0.7 0.7	0.9 0.9	341.4 111.21
North West (NW)	0.9 x	19.16	89.66	0.72	0.7	0.9	701.27
North East (NE)	0.9 x	12.48	89.66	0.72	0.7	0.9	456.78
						Total	1/10/// (D2/D4)
						Total	1610.66 <b>(P3/P4)</b>
Internal gains:						lotai	1610.66 <b>(F3/F4)</b>

# SAP 2012 Overheating Assessment

Assessment of likelihood of high internal temperature: Not significant