Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:40

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 1

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	18.45 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	9.83 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	0.15 (max. 0.25)	0.15 (max. 0.70)	**OK**
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Not significant	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: South	4.88m², Overhang twice as wide as window, ratio NaN
Windows facing: East	3.8m², Overhang twice as wide as window, ratio NaN
Windows facing: West	4.9m², Overhang twice as wide as window, ratio NaN
Ventilation rate:	8.00
Blinds/curtains:	None
	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Windows U-value	1.4 W/m²K
Floors U-value	0.15 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address:
Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	18.45
DER	9.83

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		9.83	*(ZC1)*
TER		18.45	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		9.83	
% improvement DER/TER	46.7		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	9.83	*(ZC1)*
CO2 emissions from appliances, equation (L14)	16.22	*(ZC2)*
CO2 emissions from cooking, equation (L16)	2.24	*(ZC3)*
Net CO2 emissions	28.3	*(ZC8)*

Result:

Credits awarded for Ene 1 = 5

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 46.07

Credits awarded for Ene 2 = 3.6

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		37.32
Standard DER		18.87
Actual Case CO2 emissions		29.85
Actual DER		11.4
Reduction in CO2 emissions	20.02	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.

Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:37

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 2

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	24.83 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.18 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.19 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	0.15 (max. 0.25)	0.15 (max. 0.70)	**OK**
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Not significant	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: East	6.24m², Overhang twice as wide as window, ratio NaN
Ventilation rate:	8.00
Blinds/curtains:	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Windows U-value	1.4 W/m²K
External Walls U-value	0.18 W/m²K
Floors U-value	0.15 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address: Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	24.83
DER	15.18

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		15.18	*(ZC1)*
TER		24.83	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		15.18	
% improvement DER/TER	38.9		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	15.18	*(ZC1)*
CO2 emissions from appliances, equation (L14)	18.83	*(ZC2)*
CO2 emissions from cooking, equation (L16)	4.63	*(ZC3)*
Net CO2 emissions	38.6	*(ZC8)*

Result:

Credits awarded for Ene 1 = 4.3

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 49.56

Credits awarded for Ene 2 = 0

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		50.6
Standard DER		27.14
Actual Case CO2 emissions		41.32
Actual DER		17.86
Reduction in CO2 emissions	18.34	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.

Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:34

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 3

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	17.12 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.47 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	(no floor)		
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Not significant	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: South	3.77m², Overhang twice as wide as window, ratio NaN
Windows facing: East	2.96m², Overhang twice as wide as window, ratio NaN
Windows facing: West	11.8m², Overhang twice as wide as window, ratio NaN
Ventilation rate:	8.00
Blinds/curtains:	None
	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Windows U-value	1.4 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address:
Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	17.12
DER	10.47

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		10.47	*(ZC1)*
TER		17.12	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		10.47	
% improvement DER/TER	38.8		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	10.47	*(ZC1)*
CO2 emissions from appliances, equation (L14)	15.84	*(ZC2)*
CO2 emissions from cooking, equation (L16)	2.08	*(ZC3)*
Net CO2 emissions	28.4	*(ZC8)*

Result:

Credits awarded for Ene 1 = 4.3

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 41.15

Credits awarded for Ene 2 = 5.9

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		34.97
Standard DER		17.05
Actual Case CO2 emissions		29.85
Actual DER		11.93
Reduction in CO2 emissions	14.64	

Credits awarded for Ene 7 = 1

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.

Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:32

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 4

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	17.73 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	9.23 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	(no floor)		
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Slight	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: East	4.9m², Overhang twice as wide as window, ratio NaN
Windows facing: West	11.8m², Overhang twice as wide as window, ratio NaN
Ventilation rate:	8.00
Blinds/curtains:	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Windows U-value	1.4 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address:
Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	17.73
DER	9.23

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		9.23	*(ZC1)*
TER		17.73	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		9.23	
% improvement DER/TER	47.9		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	9.23	*(ZC1)*
CO2 emissions from appliances, equation (L14)	17.41	*(ZC2)*
CO2 emissions from cooking, equation (L16)	3.22	*(ZC3)*
Net CO2 emissions	29.9	*(ZC8)*

Result:

Credits awarded for Ene 1 = 5.1

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 40.78

Credits awarded for Ene 2 = 6.1

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		40.93
Standard DER		20.3
Actual Case CO2 emissions		31.91
Actual DER		11.28
Reduction in CO2 emissions	22.04	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.

Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:29

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 5

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	18.01 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.85 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	(no floor)		
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Not significant	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: South	3.75m², Overhang twice as wide as window, ratio NaN
Windows facing: East	1.85m², Overhang twice as wide as window, ratio NaN
Windows facing: West	4.06m², Overhang twice as wide as window, ratio NaN
Windows facing: North	2.64m², Overhang twice as wide as window, ratio NaN
Ventilation rate:	8.00
Blinds/curtains:	None
	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Windows U-value	1.4 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address:
Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	18.01
DER	10.85

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		10.85	*(ZC1)*
TER		18.01	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		10.85	
% improvement DER/TER	39.8		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	10.85	*(ZC1)*
CO2 emissions from appliances, equation (L14)	16.47	*(ZC2)*
CO2 emissions from cooking, equation (L16)	2.37	*(ZC3)*
Net CO2 emissions	29.7	*(ZC8)*

Result:

Credits awarded for Ene 1 = 4.3

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 42.35

Credits awarded for Ene 2 = 5.3

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		37.24
Standard DER		18.4
Actual Case CO2 emissions		31.22
Actual DER		12.38
Reduction in CO2 emissions	16.17	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

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Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:26

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 6

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	16.48 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	9.64 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	(no floor)		
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Not significant	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: East	3.07m², Overhang twice as wide as window, ratio NaN
Windows facing: West	17.64m², Overhang twice as wide as window, ratio NaN
Ventilation rate:	8.00
Blinds/curtains:	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Windows U-value	1.4 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address: Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	16.48
DER	9.64

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		9.64	*(ZC1)*
TER		16.48	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		9.64	
% improvement DER/TER	41.5		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	9.64	*(ZC1)*
CO2 emissions from appliances, equation (L14)	16.98	*(ZC2)*
CO2 emissions from cooking, equation (L16)	2.74	*(ZC3)*
Net CO2 emissions	29.4	*(ZC8)*

Result:

Credits awarded for Ene 1 = 4.5

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 40.86

Credits awarded for Ene 2 = 6.1

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		38.47
Standard DER		18.75
Actual Case CO2 emissions		31.17
Actual DER		11.45
Reduction in CO2 emissions	18.98	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.

Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:22

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 7

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	20.24 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.00 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	(no floor)		
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Not significant	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: South	3.75m², Overhang twice as wide as window, ratio NaN
Windows facing: East	1.85m², Overhang twice as wide as window, ratio NaN
Windows facing: West	4.06m², Overhang twice as wide as window, ratio NaN
Windows facing: North	2.64m², Overhang twice as wide as window, ratio NaN
Roof windows facing: Horizontal	3.13m²
Ventilation rate:	8.00
Blinds/curtains:	None
	shutter closed 100% of daylight hours

10 Key features

Thermal bridging	0.04
Air permeablility	4.0 m³/m²h
Roof window U-value	1.4 W/m²K
Windows U-value	1.4 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address: Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	20.24
DER	12

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		12	*(ZC1)*
TER		20.24	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		12	
% improvement DER/TER	40.7		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	12	*(ZC1)*
CO2 emissions from appliances, equation (L14)	16.47	*(ZC2)*
CO2 emissions from cooking, equation (L16)	2.37	*(ZC3)*
Net CO2 emissions	30.8	*(ZC8)*

Result:

Credits awarded for Ene 1 = 4.4

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 49.81

Credits awarded for Ene 2 = 0

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		38.6
Standard DER		19.76
Actual Case CO2 emissions		32.58
Actual DER		13.74
Reduction in CO2 emissions	15.6	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.

Regulations Compliance Report

Approved Document L1A 2010 edition assessed by Stroma FSAP 2009 program, Version: 1.5.0.60
Printed on 24 October 2014 at 10:15:18

Project Information:

Assessed By: Anthony Wing-King (STRO002972) **Building Type:** Flat

Dwelling Details:

NEW DWELLING DESIGN STAGE

Site Reference : Garages adj. no 10 Ferdinand St. **Plot Reference:** Flat 8

Address : Flat 1, Garages adj. to 10 Ferdinand St., Camden, London, NW1 8ET

Client Details:

Name:

Address :

This report covers items included within the SAP calculations.
It is not a complete report of regulations compliance.

1 TER and DER

Fuel for main heating system: Natural gas
Fuel factor: 1.00 (natural gas)

Target Carbon Dioxide Emission Rate (TER)	18.77 kg/m²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.91 kg/m²	**OK**

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	**OK**
Floor	(no floor)		
Roof	0.16 (max. 0.20)	0.16 (max. 0.35)	**OK**
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)	**OK**

3 Air permeability

Air permeability at 50 pascals	4.00	
Maximum	10.0	**OK**

4 Heating efficiency

Main Heating system:	Database: (rev 366, product index 016776): Boiler system with radiators or underfloor - mains gas Brand name: Ideal Model: Logic Combi E Model qualifier: 30 (Combi boiler) Efficiency 89.0 % SEDBUK2009 Minimum 88.0 %	**OK**
Secondary heating system:	None	

5 Cylinder insulation

Hot water Storage:	No cylinder	

6 Controls

Space heating controls	Time and temperature zone control	**OK**
Hot water controls:	No cylinder	
Boiler interlock:	Yes	**OK**

Regulations Compliance Report

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100.0%	
Minimum	75.0%	**OK**

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (Thames valley):	Slight	**OK**

Based on:

Overshading:	Average or unknown
Windows facing: East	3.07m², Overhang twice as wide as window, ratio NaN
Windows facing: West	17.64m², Overhang twice as wide as window, ratio NaN
Roof windows facing: Horizontal	5m²
Ventilation rate:	8.00
Blinds/curtains:	shutter closed 100% of daylight hours

10 Key features

Air permeablility	4.0 m³/m²h
Roof window U-value	1.4 W/m²K
Windows U-value	1.4 W/m²K
Photovaltaic array	

Code for Sustainable Homes Report

Assessor and House Details

Assessor Name: Anthony Wing-King **Assessor Number:** STRO002972

Property Address: Flat 1
Garages adj. to 10 Ferdinand St.
Camden
London
NW1 8ET

Buiding regulation assessment

	kg/m²/year
TER	18.77
DER	10.91

The following code calculations are taken from the Code for Sustainable Homes Technical Guide (Nov 10)

Ene 1 Assessment - Dwelling Emission Rate

Total Energy Type CO2 Emissions for Codes Levels 1 - 5

	%	kg/m²/year	
DER from SAP 2009 DER Worksheet		10.91	*(ZC1)*
TER		18.77	
Residual CO2 emissions offset from biofuel CHP		0	*(ZC5)*
CO2 emissions offset from additional allowable electricty generation		0	*(ZC7)*
Total CO2 emissions offset from SAP Section 16 allowances		0	
DER accounting for SAP Section 16 allowances		10.91	
% improvement DER/TER	41.9		

Total Energy Type CO2 Emissions for Codes Levels 6

	kg/m²/year	
DER accounting for SAP Section 16 allowances	10.91	*(ZC1)*
CO2 emissions from appliances, equation (L14)	16.98	*(ZC2)*
CO2 emissions from cooking, equation (L16)	2.74	*(ZC3)*
Net CO2 emissions	30.6	*(ZC8)*

Result:

Credits awarded for Ene 1 = 4.5

Code Level = 4

Ene 2 - Fabric energy Efficiency

Fabric energy Efficiency: 49.78

Credits awarded for Ene 2 = 0

Ene 7 - Low or Zero Carbon (LZC) Technologies

Reduction in CO2 Emissions

	%	kg/m²/year
Standard Case CO2 emissions		39.94
Standard DER		20.22
Actual Case CO2 emissions		32.64
Actual DER		12.92
Reduction in CO2 emissions	18.28	

Credits awarded for Ene 7 = 2

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a direct supply of energy produced to the dwelling under assessment.
- Where covered by the Microgeneration Certification Scheme (MCS), technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

It is the responsibly of the Accredited OCDEA and Code Assessor to ensure all technologies use in the calculation are appropriate before awarding credits.