



Premier Assessors

Energy and Sustainability Solutions

SAP Assessors ~ OCDEA ~ DEA ~ Code for Sustainable Homes Assessors

BREEAM Domestic Refurbishment Assessors

ELMHURST AX44 - 0001 ~ BRE HISC AS43

To show the percentage reduction of CO2 through renewable energy in both new build flats and refurbished flats.

CLIENT: NBI Holdings (London) Limited

DEVELOPMENT: 3 – 4 New Broadway, Hampton Hill, Hampton TW12 1JG

DATE OF ASSESSMENT: 20 June 2024

ASSESSOR: Mr Andrew Simpson Accredited SAP Assessor & OCDEA

Proposal

To show the percentage reduction of CO2 against Part L of 2021 Building Regulations in both the Refurbished Flats (flats 1, 2, 4 and 5) and New Build flats (flats 3, 6 and 7) through renewable energy.

Refurbished Flats

The construction data has been entered into Elmhurst SAP 10, an approved BRE computer program. For flats 1, 2, 4 and 5 the table summarises data for the two scenarios considered;

- The notional (no renewables) refurbished dwelling CO2 emissions
- The proposed (with renewables) refurbished dwelling CO2 emissions
- Calculation of the % reduction of CO2.

n.b. SAP = The Governments **S**tandard **A**ssessment **P**rocedure calculated as per Elmhurst SAP 10

RESULTS FROM SAP REPORTS - Section 12, box 272 in SAP calculations

All refurbished flats will have a minimum of 0.5kWp of Photovoltaic panel installed with electric boilers (Heatrae Sadia Electromax or similar – see Appendix 1).

Refurbished flats 3-4 New Broadway			
Dwelling	SAP Rating	CO2 (kg/Yr)	% reduction in CO2
Flat 1 notional	68D	347.62	347.62- 284.33 = 63.69
Flat 1 proposed	73C	284.33	63.69/347.62* 100= 18.32%
Flat 2 notional	68D	352.58	352.58 – 292.58=60
Flat 2 proposed	72C	292.58	60/352.58*100= 17%
Flat 4 notional	74C	334.15	334.15-242.32=91.83
Flat 4 proposed	76C	242.32	91.83/334.15*100= 27.5%
Flat 5 notional	74C	334.15	334.15-246.267=69.88
Flat 5 proposed	76C	246.26	69.68/334.15*100= 26.3%

New Build Flats

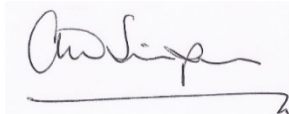
To achieve the results shown below, Flat 3 will have 1.5kWp of Photovoltaic panels installed and flats 6 and 7 will have 1 kWp installed for each flat with electric boilers (Heatrae Sadia Electromax or similar – see Appendix 1).

New Build Flats 3-4 New Broadway				
Dwelling	SAP Rating	TER	DER	DER/TER % Reduction in CO2
Flat 3	71C	15.54	7.41	52.32%
Flat 6	71C	18.71	8.61	53.98%
Flat 7	71C	18.23	8.47	53.54%

Summary

Despite the proposed development being a minor scheme and therefore only required to achieve a 10% reduction under Policy SI 2 (C) of the 2021 London Plan, the renewable proposals demonstrate that all refurbishment flats (flats 1, 2, 4 and 5) exceed the 10% reduction requirement and all new build flats (flats 3, 6 and 7) substantially exceed the 10% reduction against Part L Building Regulations 2021.

END OF REPORT

A handwritten signature in black ink, appearing to read 'AW Simpson', is written over a light grey rectangular background. The signature is fluid and cursive.

AW Simpson OCDEA

DATA SHEET

Electromax

COMBINED ELECTRIC FLOW BOILER AND DIRECT UNVENTED HOT WATER CYLINDER

Electromax is the combination of an electric flow boiler with a hot water storage cylinder and a pre-plumbed, factory fitted circulating pump. Electromax can provide wet central heating and a hot water supply, both at the same time if required, with only a mains electrical connection and cold water supply needed. The integral duplex stainless steel unvented cylinder has a 180 litre capacity, delivering mains pressure showering, fast filling baths and a balanced supply to multiple tap outlets. Electromax is designed for sealed systems and is compact in size, easily fitting into a standard domestic airing cupboard and is available in two domestic kW sizes.

180 mins	57 Litres	6 or 9 kW
HEAT UP TIME	ONE HOUR BOOST	BOILER OUTPUT



FEATURES

Underfloor and radiator boiler models available
Combined package of boiler and unvented cylinder
99.8% boiler efficiency and integrated economy controller
TP5000 and TP9000 controllers provided

BENEFITS

Flexibility of heating system specified
Ease of installation provided through factory fitted components and combined product
High energy efficiency and money saving integration through use of economy tariffs
Provides end user comfort

For more information 01603 420220 | enquiries@heatraesadia.com | www.heatraesadia.com

Electromax

COMBINED ELECTRIC FLOW BOILER AND DIRECT UNVENTED HOT WATER CYLINDER

TECHNICAL SPECIFICATION

Model	6KW RADIATOR	9KW RADIATOR	9KW UNDERFLOOR	6KW UNDERFLOOR
Product code	95:022:234	95:022:236	95:022:226	95:022:227
DHW cylinder				
Off peak immersion heater input (kW)	3 @ 240V 2.8 @ 230V	3 @ 240V 2.8 @ 230V	3 @ 240V 2.8 @ 230V	3 @ 240V 2.8 @ 230V
Boost immersion heater input (kW)	3 @ 240V 2.8 @ 230V	3 @ 240V 2.8 @ 230V	3 @ 240V 2.8 @ 230V	3 @ 240V 2.8 @ 230V
Rated pressure (bar)	6	6	6	6
Pressure Reducing valve*** (bar)	3.5	3.5	3.5	3.5
Capacity (litres)	180	180	180	180
DHW expansion vessel (litres/bar)	18/3.5	18/3.5	18/3.5	18/3.5
Temperature/Pressure relief valve (°C/bar)	90/10	90/10	90/10	90/10
Combined thermostat (°C)	10-70	10-70	10-70	10-70
Resettable thermal cut-out (°C)	85	85	85	85
Minimum Insulation Thickness (mm)	40	40	40	40
Heat up time off peak Δt 45°C (mins)	180	180	180	180
Heat up time off peak Δt 50°C (mins)	200	200	200	200
First hour performance 3kW boost element Δt 45°C (litres)	57	57	57	57
Heat loss (kWh/24hr)	1.95	1.95	1.95	1.95
Electric Boiler and Primary Circuit				
Maximum electrical input (kW)	6 @ 240V 5.5 @ 230V	9 @ 240V 8.3 @ 230V	9 @ 240V 8.3 @ 230V	6 @ 240V 5.5 @ 230V
Electrical supply voltage (V)	220-240	220-240	220-240	220-240
Electrical supply frequency (Hz)	50	50	50	50
Internal fuse rating – pump supply (Amps)	2	2	2	2
Primary system operating pressure – min (bar)	1	1	1	1
Primary system pressure relief valve setting (bar)	3	3	3	3
Primary system expansion vessel (litres/bar)	12/1	12/1	12/1	12/1
Primary flow temperature radiator model (°C)	65-80	65-80	65-80	65-80
Primary flow temperature underfloor model (°C)	30-60	30-60	30-60	30-60

*300mm minimum clearance must be allowed above the unit to allow for Top Panel access.

**50mm minimum clearance must be allowed at either side of the unit.

***Integral with cold water combination valve.

ERP TECHNICAL DATA

Hot water				
Water heating energy efficiency class of the model	C	C	C	C
Declared load profile	L	L	L	L
Mixed water at 40°C V40 in litres	286	286	286	286
Water heating energy efficiency (%)	37.9	37.9	37.9	37.9
Annual electricity consumption (kWh)	2701	2701	2701	2701
Daily fuel consumption Q _{fuel} (kWh)	12.490	12.490	12.490	12.490
Thermostat temperature settings of the water heater, as placed on the market by the supplier (°C)	60	60	60	60
Tested for off peak use	Yes	Yes	Yes	Yes

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Appendix 1