ENERGY STATEMENT

260 Coombe Lane, London, UK, SW20 0RW

ASSESSED BY: GHLENN CAPUYAN ASSESSOR ID: CN57-0001

ISSUED ON JANUARY 2024



A. PROJECT DESCRIPTION

A.1 INTRODUCTION & PROJECT DESCRIPTION

This Energy Statement has been prepared for the redevelopment of property at 260 Coombe Lane, London SW20 0RW, with a lot area of 587.39 sqm, into a 6 self-contained flats across a 2 storey dwelling with accommodation in the roof and basement level. The development would also have an off-street parking and dedicated bins and cycle storage. Floor areas are as follows:

Flat 1 (GF-Basement) - 3b4p - 91.70 sqm Flat 2 (GF) - 2b3p - 62.57 sqm Flat 3 (Basement) - 3b4P - 77.39 sqm Flat 4 (1F)- 1b1p - 42.70 sqm Flat 5 (1F)- 2b3p - 61.55 sqm Flat 6 (2F)- 2b3p - 81.25 sqm

The SAP methodology used in this assessment is to model energy demand and carbon emissions of the development. The report assesses carbon emission reductions by following the energy hierarchy stipulated in the London Plan. C. Merton council stated that at design stage should secure at least 19% reduction in CO2 emissions rate based in Approved Document Part L1B. Energy efficiency should be considered in building primary energy and fabric to reduce its energy consumption.

B. POLICY CONTEXT

B.1 Policy SI 2: Minimizing Greenhouse Gas Emissions in Accordance to the London Plan 2021: Sustainable Infrastructure

- A. Major development should be net zero-carbon. This involves reducing greenhouse gas emissions during operation and minimizing both annual and peak energy demand, following the energy hierarchy outlined below:
 - 1. Be lean: decrease energy usage and manage demand during operation.
 - 2. Be clean: utilize local energy resources, such as secondary heat, and distribute energy efficiently and cleanly.
 - 3. Be green: maximize opportunities for renewable energy by generating, storing, and utilizing renewable energy on-site.
 - 4. Be seen: monitor, verify, and report on energy performance.
- B. Comprehensive energy strategies must be included in major development proposals to illustrate how the zero-carbon target will be met within the framework of the energy hierarchy.
- C. Major development projects are required to achieve a minimum on-site reduction of at least 35 percent beyond Building Regulations. Residential developments should aim for a 10 percent reduction, while non-residential developments should target a 15 percent reduction through energy efficiency measures. In cases where it is evident that the zero-carbon goal cannot be fully achieved on-site, any shortfall should be addressed in agreement with the borough. This can be done through:
 - 1. A cash contribution to the borough's carbon offset fund, or
 - 2. Off-site, provided that an alternative proposal is identified, and delivery is certain.

ENERGY STATEMENT

- D. Boroughs must establish and manage a carbon offset fund. Payments to the offset fund must be ringfenced for implementing projects that result in carbon reductions. The operation of offset funds should undergo annual monitoring and reporting.
- E. Major development proposals should calculate and minimize carbon emissions from any other part of the development, including plant or equipment, not covered by Building Regulations, i.e., unregulated emissions.
- F. Development proposals subject to the Mayor's authority should calculate whole lifecycle carbon emissions through a nationally recognized Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

B.2 Policy CS 15 of Merton Core Planning Strategy (2011):

All minor and major developments, including significant refurbishments, must demonstrate the following, unless developers can convincingly justify why full compliance with the policy requirements is not feasible:

- How they effectively utilize resources and materials, minimize water use, and reduce CO2 emissions.
- How development proposals contribute maximally to reducing carbon dioxide emissions in alignment with the energy hierarchy:
 - 1. Be lean: use less energy.
 - 2. Be clean: supply energy efficiently.
 - 3. Be green: use renewable energy.
- How they are located and designed to withstand the long-term impacts of climate change, particularly the effects of rising temperatures on mechanical cooling requirements.
- Regeneration plans in town centers offer an excellent opportunity to implement District Heat and Power networks, and all major developments are strongly encouraged to be 'Multi Utility Services Company (MUSCo) ready where viable and actively contribute to the networks where possible.
- We will require that all new developments involving the creation of new dwellings achieve Code for Sustainable Homes Level 4.

B.3 London Borough of Merton Explanatory Note: Approaches to Sustainable Design and Construction (2020):

Minor development proposals must provide a sustainability statement (either within the Design and Access Statement or as a standalone statement) and all supporting evidence, outlining how the development will make the most substantial contribution to minimizing carbon dioxide emissions following the Mayor's energy hierarchy. At a minimum, minor schemes must achieve no less than a 19% reduction in regulated carbon dioxide emissions (beyond Building Regulations Part L 2013) on-site.

However, developers should be aware that they are expected to demonstrate that on-site savings have been maximized at all stages of the energy hierarchy, whether or not the minimum target has already been achieved. In accordance with the aforementioned local policies, the proposed scheme is required to secure at least a 19% reduction in CO2 emissions below the target emission rate (TER) based on Part L of the 2013 Building Regulations.

ENERGY STATEMENT

C. METHODOLOGY

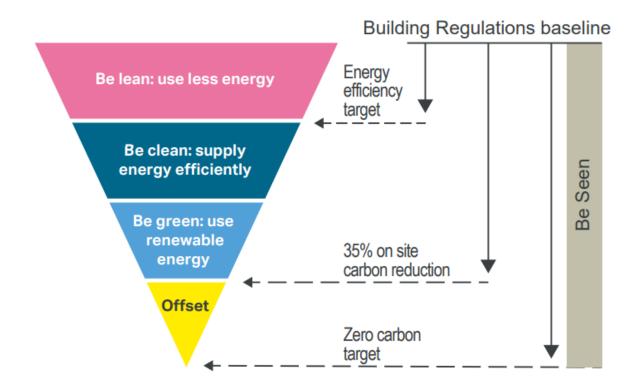
Elmhurst Energy SAP 10 calculation is the methodology used to model energy demand and carbon emissions of the proposed development. It calculates both elements in Part L under R24-27C section 1 - Calculating the target primary energy rate, target emission rate and target fabric energy efficiency rate and section 2 - Calculating the dwelling primary energy rate (DPER), dwelling emission rate (DER) and dwelling fabric energy efficiency rate (DFEE).

Then the percent reduction will be calculated using the formula (Target Value – Dwelling Value) x 100 / Target Value. The % Reduction shall have a positive result for a passing score. The four key metrics are as follows:

- Primary Energy Energy from renewable and non-renewable sources which has not undergone any conversion or transformation process. SAP calculates how much primary energy has been used to heat, light, cool and ventilate a dwelling, expressed in kWh/m2/yr.
- Carbon Emissions the predicted carbon dioxide emissions based on the fuels used to heat, light, cool and ventilate a dwelling, expressed in kgCO2/
- Fabric Energy Efficiency the predicted energy used to heat and cool a dwelling expressed in kWh/m2/yr.
- Running Costs the predicted running costs based on the fuels used to heat, light, cool and ventilate a dwelling, expressed in £/yr.

The report then assesses carbon emission reductions for the proposed scheme by following the energy hierarchy stipulated in the London Plan 2021:

- BE LEAN. The initial stage involves adopting a 'be lean' approach, aiming to minimize the carbon dioxide emissions associated with a development by reducing energy consumption throughout its construction and occupancy. Consistent with the first step of the energy hierarchy, all developments should strive to enhance the insulating properties (U-values) of the building fabric, attain high levels of air tightness, and implement efficient services and lighting to lower energy demand in buildings.
- BE CLEAN. The subsequent phase involves adopting a 'be clean' approach, aiming to supply the anticipated energy demands of a development with maximum efficiency. Major developments should assess the viability of decentralized energy systems, potentially fueled by combined heat and power systems, and explore connections to existing district heating networks wherever feasible.
- 3. **BE GREEN.** The final stage in the hierarchy is to 'be green' by integrating renewable energy technologies into developments.



The carbon emission figures derived from the above stages are then compared in order to establish whether the carbon reduction target set by the Council has been achieved or not. Refer to Table 3 for the detailed calculation methodology

% CO2 Reduction = (Baseline CO2 – Calculated CO2) x 100 / Baseline CO2

Calculated CO2 = Be Lean CO2 + Be Clean CO2 + Be Green CO2

Legend

% CO2 Reduction = C02 reduced implementing the London Plan 2021

Baseline CO2 = CO2 emission from notional dwelling

Calculated CO2 = Total CO2 emission calculated indicating the action steps in accordance to London Plan 2021 Chapter 9 Sustainable Infrastructures..

D. DESIGN PARAMETER

The DER, DPER, and DFEE constitute the total CO2 emission reduction required in London Plan 2021 under the Be Lean, Be Clean and Be Green program. The notional dwelling specification indicated in Approved Document Part L under summary of notional dwelling specification for new dwelling is the baseline of London Plan 2021. The

Element or system	Reference value for target setting
Opening areas (windows, roof windows, rooflights and doors)	Same as for actual dwelling not exceeding a total area of openings of 25% of total floor area ⁽²⁾
External walls including semi-exposed walls	U = 0.18 W/(m ² ·K)
Party walls	U = 0
Floors	U = 0.13 W/(m ^{2.} K)
Roofs	U = 0.11 W/(m ² ·K)
Opaque door (less than 30% glazed area)	U = 1.0 W/(m ² ·K)
Semi-glazed door (30–60% glazed area)	U = 1.0 W/(m ² ·K)
Windows and glazed doors with greater than 60% glazed area	U = 1.2 W/(m²·K) Frame factor = 0.7
Roof windows	U = 1.2 W/(m^{2} -K), when in vertical position (for correction due to angle, see specification in SAP 10 Appendix R)
Rooflights	U = 1.7 W/(m^2 ·K), when in horizontal position (for correction due to angle, see specification in SAP 10 Appendix R)
Ventilation system	Natural ventilation with intermittent extract fans
Air permeability	5 m³/(h·m²) at 50 Pa
Main heating fuel (space and water)	Mains gas
Heating system	Boiler and radiators Central heating pump 2013 or later, in heated space Design flow temperature = 55 °C
Boiler	Efficiency, SEDBUK 2009 = 89.5%
Heating system controls	Boiler interlock, ErP Class V
	Either:
	 single storey dwelling in which the living area is greater than 70% of the total floor area: programmer and room thermostat
	 any other dwelling: time and temperature zone control, thermostatic radiator valves
Hot water system	Heated by boiler (regular or combi as above) Separate time control for space and water heating
Wastewater heat recovery (WWHR)	All showers connected to WWHR, including showers over baths Instantaneous WWHR with 36% recovery efficiency utilisation of 0.98
Hot water cylinder	If cylinder, declared loss factor = $0.85 \times (0.2 + 0.051 \text{ V}^{2/3}) \text{ kWh/day}$ where V is the volume of the cylinder in litres
Lighting	Fixed lighting capacity (lm) = 185 × total floor area Efficacy of all fixed lighting = 80 lm/W
Air conditioning	None
Photovoltaic (PV) system	For houses: kWp = 40% of ground floor area, including unheated spaces \angle 6.5 For flats: kWp = 40% of dwelling floor area \angle (6.5 × number of storeys in block
	System facing south-east or south-west

For a dwelling connected to an existing district heat network, an alternative notional building is used. See paragraph 1.8 and SAP 10.
 See SAP 10 for details.

ENERGY STATEMENT

Then the data input in the Elmhurst SAP calculation reflects the Be Lean, Be Clean, and Be Green. These are the following:

Building Component	Parameter	Measures
External Cavity Wall, W/m2K	0.14	See Summary for Input Data
External Wall to Corridor, W/m2K	0.09	See Summary for Input Data
Basement Wall, W/m2K	0.11	See Summary for Input Data
External Wall - Room in Roof, W/m2K	0.14	See Summary for Input Data
Pitched Roof with Insulated Pitched Ceiling, W/m2K	0.11	See Summary for Input Data
Pitched Roof with Insulated Flat Ceiling, W/m2K	0.11	See Summary for Input Data
Flat Roof with Insulated Flat Ceiling, W/m2K	0.11	See Summary for Input Data
Basement Floor for Flat 1, W/m2K	0.11	See Summary for Input Data
Basement Floor for Flat 3, W/m2K	0.12	See Summary for Input Data
Party Wall, W/m2K	0	Plasterboard on timber frame
Party Ceiling, W/m2K	0	Plasterboard on timber frame
Party Floor, W/m2K	0	Plasterboard on timber frame
Door on Roof, W/m2K	1.4	Triple Glazed Air Filled
Roof Light, W/m2K	1.4	Triple Glazed Argon Filled
Window, W/m2K	1.3	Triple Glazed Air Filled
Flat Entrance Door, W/m2K	3	Solid Wooden Door
Ventilation System		Natural Ventilation with intermittent extract fans
Lighting Efficacy, Lm/W	80%	High efficacy LED luminaires
Air Permeability, m3/hr/m2	4	Designed AP50 Blower Door Method
Heating System fuel		electric
Space Heating System		Air source heat pump using radiators. Design Flow temperature is 55deg C
Water Heating System		Air source heat pump coupled with unvented and fully insulated hot water cylinder. Design Flow temperature is 55deg C
The boiler SEDBUK 2009 efficiency	N/A	ASHP will be use

PV Solar Power System is to be installed.

A+++ Air source heat pump will be used for space and water heating with SCOP of 3.57 at 55degC.

E. BE LEAN

To have a lowest possible U value, thicker with best U value PIR insulation boards in the market is highly considered as one of the primary layers of the wall, floor, and roof to prevent transmission (see wall, floor, and roof U value report). Solar blocks are also considered on walls as layer. The property is also committed to significantly reduce the thermal building by obeying the Accredited Building Construction details. Triple glazed window with specification of low e soft of 0.05 and 16mm glazing gap are chosen to minimize the heat transmission. Also, the developer is committed to have a 4m3/hr/m2 at AP50 blower type pressure test.

F. BE CLEAN

The most significant factor that contributes to this part is the usage of A+++ 6KW Ecodan Mitsubishi air source heat pump instead of gas boiler. Time and temperature zone control by device in PCDB will be used to manage and schedule space heating. Installation of hot water cylinder with independent time control and thermostat also have a good effect reducing the emission of CO2. Reduction of water usage to 110L/person also helps. Also, lighting with efficacy of not less than 80lm/watts will be used across the house.

G. BE GREEN

1.5KW PV solar panel is planned to be installed at the later phase of the project, for the renewable energy component of the property. Based on the calculation, it shows that it greatly helps the emission of CO2. In total, the property has at least 9KW power of renewable energy.

I. CONCLUSION

			% CO2
Flat	Calculated	Baseline	Reduction
1	406.35	1761.15	76.93%
2	276.98	1287.73	78.49%
3	344.99	1508.93	77.14%
4	219.52	961.18	77.16%
5	271.76	1158.08	76.53%
6	384.54	1582.69	75.70%
TOTAL	384.54	1582.69	75.70%

With the figures above, this assessment report shows that the total CO2 emission reduction is 75.70% from the baseline value calculated in accordance to building regulation standards. The proposed development complies with energy conservation and efficiency relevant to the planning policies indicated above.



Property Reference	Flat 1		Flat 1					
Assessment Reference	00001			Prop Type Ref				
Property	260, Coombe Lane,	London, SW20 0RW						
SAP Rating		82 B	DER	4.43	TER	13.18		
Environmental		96 A	% DER <	< TER		66.39		
CO ₂ Emissions (t/year)		0.34	DFEE	34.50	TFEE	37.78		
Compliance Check	Compliance Check		% DFEE	< TFEE		8.69		
% DPER < TPER		34.47	DPER	46.03	TPER	70.25		
Assessor Details	Ghlenn Capuyan				Assessor ID	CN57-0001		
Client	0001, Cosy Hauz Develo	pment Ltd.						
SUMMARY FOR INPUT D	ATA FOR: New Buil	ld (As Designed)						
Orientation		Southeast						
Property Tenture		ND						
Transaction Type		6						
Terrain Type		Urban						
1.0 Property Type		Flat, Semi-Detacl	ned					
Position of Flat		Ground-floor flat						
Which Floor		1						
2.0 Number of Storeys		2						
3.0 Date Built		2025						
4.0 Sheltered Sides		2						
5.0 Sunlight/Shade		Very little						
6.0 Thermal Mass Parameter		Precise calculation	n					
7.0 Electricity Tariff		Standard						
Smart electricity meter fitted		Yes						
Smart gas meter fitted		Yes						

7.0 Measurements

7.0 Measurements			Basement Ground floor	:	t Loss P 24.00 22.30	m	r In	ternal Flo 49.00 r 42.70 r	n²	2	Storey Height 2.60 m 2.60 m
8.0 Living Area			28.18					m	1 ²		
9.0 External Walls											
Description	Туре	Construction		U-Value			Nett Area		Shelter	Openings	Area Calculation
External Wall	Cavity Wall	lightweight aggregation	oard on dabs or battens, te block, filled cavity, any	(W/m²K) 0.14	(kJ/m²K) 110.00	Area(m²) 53.43) (m²) 29.62	Res 0.00	None	23.81	Type Enter Gross Area
External Wall to Corridor Basement Wall	Timber Frame Cavity Wall		(one layer of plasterboard) laster, lightweight aggregate ny outside structure	0.09 0.11	9.00 140.00	15.60 51.35	13.71 51.35	0.00 0.00	None None	1.89 0.00	Enter Gross Area Enter Gross Area
9.1 Party Walls											
Description	Туре	Constru	ction					kappa (kJ/m²K)	Area (m²)	Shelter Res	Shelter
Party Wall 1	Solid Wall		plasterboard on both side out sheathing board	es, twin t	imber f r	ame	0.00	20.00	47.58		None
9.2 Internal Walls											
Description		Construc	tion							Kapı (kJ/m	
Internal Wall 1		Plasterboa	ard on timber frame							9.0	
10.1 Party Ceilings											
Description		Construc	tion							Kapı (kJ/m	
Party Ceiling		Timber I-jo	oists, carpeted							20.0	0 42.70
10.2 Internal Ceilings											
Description Internal Ceiling 1		Storey Basement	Construction Plasterboard ceiling	, carpete	ed chipb	oard floo	or				Area (m²) 42.57



11.0 Heat Loss Floors Description	Туре	Storey Index	x	Construction		U-Va		Shelter Code			pa Area (m
Heatloss Floor 1	Basement Floor	Basement		Slab on ground, screed ov	er insulation	(W/m 0.1		None		ctor (kJ/n .00 110	
11.2 Internal Floors											
Description		Storey	Con	struction							Area (m²
Internal Floor 1		Index	Plas	erboard ceiling, carpe	ted chipboard fl	oor				(kJ/m²K 9.00) 42.70
12.0 Opening Types											
Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Window	SAP table	Window		Triple Low-E So	ft 0.05	Gap ≥ 16 mm	Type Argon Filled	0.57	Type PVC	Factor 0.70	(W/m²K) 1.30
Door	SAP table	Door to C	orrido	r			1 mea				1.40
13.0 Openings											
Name	Opening Ty	/pe		Location		Orient		Area (Р	itch
Door Window NE	Door Window			External Wall to Corric External Wall	lor	South North		1.89 10.7			
Window NW	Window			External Wall		North	West	2.82	2		
Window SW	Window			External Wall		South	West	10.2	8		
14.0 Conservatory			[None							
15.0 Draught Proofing			[100				%			
16.0 Draught Lobby			[No							
17.0 Thermal Bridging			[Calculate Bridges							
17.1 List of Bridges			L								
Bridge Type				се Туре	Length	Psi		d Reference:			Imported
E2 Other lintels (includir E3 Sill	ng other steel linte	els)		pendently assessed pendently assessed	11.90 8.50	0.04 0.03	0.04 0.03				No No
E4 Jamb				pendently assessed	30.60	0.03	0.03				No
E16 Corner (normal)	lists floor botwoor	duallinga		pendently assessed	31.20	0.09	0.09				No
P3 Party wall - Intermed (in blocks of flats)	late floor betweer	n aweilings	Inde	pendently assessed	18.30	0.00	0.00				No
È6 Intermediate floor wi	thin a dwelling			pendently assessed	14.25	0.07	0.07				No
E22 Basement floor E8 Balcony within a dwe	llina wall insulati	on		pendently assessed pendently assessed	10.85 3.87	0.00 0.00	0.00 0.00				No No
continuous	-	on		•							
E5 Ground floor (norma	l)		Inde	pendently assessed	20.00	0.06	0.06				No
Y-value			[0.04				W/m²K			
18.0 Pressure Testing			[Yes							
Designed AP ₅₀				4.00					²) @ 50 Pa	а	
Test Method				Blower Door) @ 001 1		
			L								
19.0 Mechanical Ventilatio											
Mechanical Ventilation Mechanical Ventila		ont	Г	No							
	,	ent	l								
20.0 Fans, Open Fireplace	s, Flues										
21.0 Fixed Cooling System	n		[No							
22.0 Lighting											
No Fixed Lighting			l	No							
				Name LED Light	Efficacy 80.00		wer 10	Capa 80		С	ount 25
24.0 Main Heating 1]	Database							
Description				Air Source Heat Pump)			Ξ			
Percentage of Heat				100.00				%			
Database Ref. No.				104632							
								\exists			
Fuel Type				Electricity				_			
In Winter			l	245.56							
In Summer			[189.21							
Model Name			Ī	Ecodan 6.0 kW							



26.0 Heat Networks	None	
25.0 Main Heating 2	None	
Flow Temperature Value	55.00	
Flow Temperature	Enter value	
Heat Emitter	Fan Coil Units	
Heating Pump Age	2013 or later	
Is MHS Pumped	Pump in unheated space	
Controls SAP Code	2208	
System Type	Heat Pump	

28.0 Water Heating

Water Heating	Main Heating 1
SAP Code	901
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery Instantaneous System 1	No
Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Cold Water Source	From mains
Bath Count	1
Immersion Only Heating Hot Water	No

28.1 Showers

Description			Shower Type	•		I	Flow Rate [I/min]	Rated Pov [kW]	wer C	onnected	d Connected	То
28.3 Waste Wate	r Heat Recove	ry System										
29.0 Hot Water C	ylinder			Hot Wat	er Cylinder							
Cylinder Stat				No								
Cylinder In He	eated Space			No								
Independent	Time Control			No								
Insulation Typ	e			Measure	ed Loss							
Cylinder Volu	me			300.00						L		
Loss				2.38						kWh/da	ý	
Pipes insulation	on			Fully ins	ulated prim	ary pipework						
In Airing Cupt	ooard			No								
31.0 Thermal Sto	ore			None								
32.0 Photovoltai	c Unit			One Dw	elling							
Export Capab	le Meter?			No								
Connected To	Dwelling			Yes								
Diverter				No								
Battery Capa	city [kWh]			0.00								
PV Cell	s kWp	Orientation	Elevation	Ove	ershading	FGHRS	MCS Ce	ertificate	Overs Facto		MCS Certificate Reference	Panel Manufacturer
1.50		North West	45°	Nor	e Or Little		No		1.00		Kelerence	
34.0 Small-scale	Hydro			None								
Jan	Feb	Mar	Apr	Мау	Jun	Jul	Au	g s	бер	Oct	Nov	Dec
Recommendatio	ns											

Lower cost measures None

Further measures to achieve even higher standards

Typical Cost

Typical savings per year

Ratings afte	r improvement
SAP rating	Environmental Impact
0	0
0	0
0	0





Property Reference	Flat 2				Issued on Date	29/11/2023
Assessment Reference	00002		Р	rop Type Ref		
Property	260, Coombe Lane	e, London, SW20 0RW				
SAP Rating		85 B	DER	4.43	TER	13.57
Environmental		97 A	% DER < TEI	R		67.35
CO ₂ Emissions (t/year)		0.23	DFEE	32.03	TFEE	33.12
Compliance Check		See BREL	% DFEE < TF	FEE		3.29
% DPER < TPER		35.80	DPER	45.93	TPER	71.55
Assessor Details	Ghlenn Capuyan				Assessor ID	CN57-0001
Client	0001, Cosy Hauz Devel	opment Ltd.				
SUMMARY FOR INPUT	DATA FOR: New Bu	ild (As Designed)				
Orientation		Northwest				
Property Tenture		ND				
Transaction Type		6				
Terrain Type		Urban				
1.0 Property Type		Flat, Semi-Detach	led			
Position of Flat		Ground-floor flat				
Which Floor		1				
2.0 Number of Storeys		1				
3.0 Date Built		2025				
4.0 Sheltered Sides		1				
5.0 Sunlight/Shade		Very little				
6.0 Thermal Mass Parameter		Precise calculatio	n			
7.0 Electricity Tariff		Standard				
Smart electricity meter fitted	I	No				
Smart gas meter fitted		No				

7.0 Measurements

7.0 Measurements			Ground floo		Loss P 30.64		r In	ternal Floo 62.57 r		Average S	Store 60 n	
8.0 Living Area			25.72					m	2			
9.0 External Walls												
Description	Туре	Construction		U-Value			Nett Area		Shelter	Openings	Area	Calculation
External Wall	Cavity Wall		oard on dabs or battens, e block, filled cavity, any	(vv/m²K) 0.14	(kJ/m²K) 110.00	61.57	(m²) 41.03	Res 0.00	None	20.54	Enter	Type Gross Area
External Wall to Corridor	Cavity Wall	Cavity wall; plasterbo	oard on dabs or battens, e block, filled cavity, any	0.09	110.00	17.84	15.95	0.00	None	1.89	Enter	Gross Area
9.1 Party Walls												
Description	Туре	Construc	ction					Kappa	Area	Shelter	Sł	elter
Party Wall	Solid Wall		asterboard on dabs bot e blocks, cavity or cavi		ightweigł	nt	(vv/m²k) 0.00	(kJ/m²K) 110.00	(m²) 16.09	Res	None	
9.2 Internal Walls												
Description		Construct	ion							Kapp (kJ/m ²		Area (m²)
Internal Wall 1		Plasterboa	rd on timber frame							9.00		136.97
10.1 Party Ceilings												
Description		Construct	ion							Kapp (kJ/m ²		Area (m²)
Party Ceiling		Concrete f	loor slab, carpeted							100.0		62.57
11.1 Party Floors												
Description			nstruction							Кар		Area (m²)
Party Floor		Index Lowest Co occupied	ncrete floor slab, carpe	eted						(kJ/n 100		62.57



Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	Frame	Frame	U Value	
Window	SAP table	Window		Triple Low-E Soft (.05	Gap ≥ 16 mm	Type Argon	0.57	Type PVC	Factor 0.70	(W/m²K) 1.30	
Door	SAP table	Door to C	orridor				Filled				1.40	
13.0 Openings Name Door Window SW Window E Window SE Window SW	NameOpening TypeDoorDoorWindow SWWindowWindow EWindowWindow SEWindowWindow SWWindow			cation ternal Wall to Corridor ternal Wall ternal Wall ternal Wall ternal Wall		Orienta North V South Eas South North	West West st East	Area 1.8 5.9 6.9 2.4 5.2	9 9 1 1	Pitch		
14.0 Conservatory			Nc	ne								
15.0 Draught Proofing			10					%				
16.0 Draught Lobby			No	1								
17.0 Thermal Bridging 17.1 List of Bridges			Ca	lculate Bridges								
Bridge Type E2 Other lintels (includi E3 Sill E4 Jamb E16 Corner (normal) P3 Party wall - Intermed (in blocks of flats) E17 Corner (inverted – external area) E5 Ground floor (norma E8 Balcony within a dw continuous	diate floor betweer internal area great	n dwellings ter than	Indeper Indeper Indeper Indeper Indeper	Type Indently assessed Indently assessed Indently assessed Indently assessed Indently assessed Indently assessed Indently assessed	Length 11.30 10.45 32.60 13.00 6.85 2.60 25.70 4.62	Psi 0.04 0.03 0.09 0.00 -0.09 0.06 0.00	Adjusted 0.04 0.03 0.09 0.00 -0.09 0.06 0.00	Reference	:		Imported No No No No No No No	
Y-value			0.0)5				W/m²K				
18.0 Pressure Testing			Ye	s								
Designed AP ₅₀			4.0	00				 m³/(h.m	^{1²}) @ 50 Pa	I		
Test Method			Blo	ower Door								
19.0 Mechanical Ventilatio Mechanical Ventilation Mechanical Ventil		ent	Nc									
20.0 Fans, Open Fireplace	es, Flues											
			Nc	,								
20.0 Fans, Open Fireplace 21.0 Fixed Cooling System 22.0 Lighting]				
21.0 Fixed Cooling System			Nc		fficacy 80.00		wer 0	Capa 80	acity		ount 25	
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting			Nc	Name E								
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting			Nc L Da	Name E ED Light								
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1			Nc L Da	Name E ED Light tabase								
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description			Nc L Da Air 10	Name E ED Light tabase Source Heat Pump				80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat			Nd L Da Air 10	Name E ED Light tabase Source Heat Pump 0.00				80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No.			Nc L Dz Air 10 10 Ele	Name E ED Light tabase Source Heat Pump 0.00 4632				80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type			L Da Air 10 10 Ele 24	Name E ED Light tabase Source Heat Pump 0.00 4632 ectricity				80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter			Nc Da Air 10 10 24 19	Name E ED Light E Source Heat Pump 0.00 4632 ectricity 0.73				80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer			No Da Air 10 10 10 24 19 Economic	Name E ED Light tabase Source Heat Pump 0.00 4632 ectricity 0.73 0.99	80.00			80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name			L Da Air 10 10 Ele 24 19 Ecc Mir	Name E ED Light E tabase 0.00 4632 0.00 actricity 0.73 0.99 0.00 KW	80.00			80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name Manufacturer			L Da Air 10 10 Ele 24 19 Ecc Mir	Name E ED Light E tabase E Source Heat Pump E 0.00 E 4632 E sectricity E 0.73 E odan 6.0 kW E tsubishi Electric Europ E at Pump E	80.00			80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name Manufacturer System Type			No Da Air 10 10 10 24 19 Ecc Mir Hee 22	Name E ED Light E tabase E Source Heat Pump E 0.00 E 4632 E sectricity E 0.73 E odan 6.0 kW E tsubishi Electric Europ E at Pump E	e B.V.			80				
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name Manufacturer System Type Controls SAP Code			Nac L Da Air 10 10 Ele 24 19 Ecc Mi Ecc Mi Hee 22 Pu	Name E ED Light E tabase E Source Heat Pump E 0.00 E 4632 E ectricity E 0.73 E 0.99 E odan 6.0 kW E tsubishi Electric Europ E at Pump E 08 E	e B.V.			80				



Flow Temperature			Enter value							
Flow Temperature Value			55.00							
25.0 Main Heating 2			None]		
26.0 Heat Networks			None					1		
Heat Source	e Fuel Typ	e Heating Us	L	ency Pe	ercentage Of Heat	Heat	Power	ctrical	Fuel Factor	Efficiency type
Heat source 1 Heat source 2 Heat source 3 Heat source 4 Heat source 5							Ratio			
28.0 Water Heating								-		
Water Heating			Main Heatin	ng 1						
SAP Code			901							
Flue Gas Heat Recovery Syst	em		No							
Waste Water Heat Recovery I	nstantaneous	System 1	No							
Waste Water Heat Recovery I	nstantaneous	System 2	No							
Waste Water Heat Recovery	Storage Syster	n	No							
Solar Panel			No							
Water use <= 125 litres/perso	n/day		Yes							
Cold Water Source			From mains	5						
Bath Count			1							
Immersion Only Heating Hot V	Water		No							
28.1 Showers Description		Shower Type	•		F	low Rate R	ated Power [kW]	Connecte	ed Connected	То
28.3 Waste Water Heat Recover	y System									
29.0 Hot Water Cylinder			Hot Water C	Cylinder				1		
Cylinder Stat			No	-				ī		
Cylinder In Heated Space			No					Ī		
Independent Time Control			No					ī		
Insulation Type			Measured L	.oss				ī		
Cylinder Volume			500.00					- L		
Loss			2.38					kWh/da	av	
Pipes insulation				ted prima	ary pipework			1	,	
In Airing Cupboard			No	-	,,,,			i		
31.0 Thermal Store			None]		
32.0 Photovoltaic Unit			One Dwellir	ng				1		
Export Capable Meter?			No					Ī		
Connected To Dwelling			Yes					Ī		
Diverter			No					Ī		
Battery Capacity [kWh]			0.00					ī		
PV Cells kWp	Orientation	Elevation	Oversh	nading	FGHRS	MCS Certi	ficate Ove Fact	⊐ rshading :or	Certificate	Panel Manufacturer
1.50	South East	45°	None C	Dr Little		No	1.00		Reference	
34.0 Small-scale Hydro			None]		
Jan Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oc	t Nov	Dec
Recommendations										

Lower cost measures

None

Further measures to achieve even higher standards



Typical Cost

Typical savings per year

Ratings after improvementSAP ratingEnvironmental Impact00000000



Property Reference	Flat 3				Issued on Date	29/11/2023	
Assessment Reference	00003		Р	rop Type Ref			
Property	260, Coombe Lan	e, London, SW20 0RW					
SAP Rating		83 B	DER	4.46	TER	13.74	
Environmental		97 A	% DER < TE	R		67.54	
CO ₂ Emissions (t/year)		0.28	DFEE	36.07	TFEE	39.58	
Compliance Check		See BREL	% DFEE < T	FEE		8.88	
% DPER < TPER		36.26	DPER	46.12	TPER	72.36	
Assessor Details	Ghlenn Capuyan				Assessor ID	CN57-0001	
Client	0001, Cosy Hauz Deve	elopment Ltd.					
SUMMARY FOR INPUT	DATA FOR: New B	uild (As Designed)					
Orientation		Southwest					
Property Tenture		ND					
Transaction Type		6					
Terrain Type		Urban					
1.0 Property Type		Flat, Semi-Detac	hed				
Position of Flat		Ground-floor flat					
Which Floor		1					
2.0 Number of Storeys		1					
3.0 Date Built		2025					
4.0 Sheltered Sides		1					
5.0 Sunlight/Shade		Very little					
6.0 Thermal Mass Parameter		Precise calculation	on				
7.0 Electricity Tariff		Standard					
Smart electricity meter fitte	d	Yes					
Smart gas meter fitted	Smart gas meter fitted		Yes				

7.0 Measurements

7.0 measurements			Ground floo		Loss Po 27.76		er In	ternal Floo 77.39 n		•	Storey Height 2.60 m
8.0 Living Area			27.16					m	2		
9.0 External Walls											
Description	Туре	Construction		U-Value (W/m ² K)	Kappa (kJ/m²K)		Nett Area) (m²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Cavity Wall		ard on dabs or battens, block, filled cavity, any	0.14	110.00	61.36	41.57	0.00	None	19.79	Enter Gross Area
External Wall to Corridor	Cavity Wall	Cavity wall; plasterbo	ard on dabs or battens, block, filled cavity, any	0.09	110.00	10.79	8.90	0.00	None	1.89	Enter Gross Area
9.1 Party Walls											
Description	Туре	Construc	tion					Kappa (kJ/m²K)	Area (m²)	Shelter Res	Shelter
Party Wall	Filled Cavi Edge Seal		sterboard on dabs bo blocks, cavity or cav		ghtweigł	nt	0.00	110.00	30.58	Res	None
9.2 Internal Walls											
Description		Constructi	on							Kap	
Internal Wall 1		Plasterboa	rd on timber frame							(kJ/m 9.00	
10.1 Party Ceilings											
Description		Constructi	on							Kapı (kJ/m	
Party Ceiling		Concrete fl	oor slab, carpeted							100.0	
11.0 Heat Loss Floors Description	Туре	Storey Index	Construction			-	-Value	Shelter	Code	Shelter	Kappa Area (m²
Basement Floor	Basement Floor	Lowest occupied	Slab on ground, screed	over insulati	on	()	V/m²K) 0.11	Nor	ne	Factor 0.00	kJ/m²K) 110.00 77.39



Darty Floor		Storey Index	Construction	tod					Kappa (kJ/m²K) 100.00	Area (m
Party Floor		Lowest occupied	Concrete floor slab, carpe	lea					100.00	62.57
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Window	SAP table	Window	Triple Low-E S	oft 0 05	Gapັ ≥ 16 mm	Type Argon	0.57	Type PVC	Factor 0.70	(W/m²K 1.30
	SAP table	Door to C		011 0.00	= 10 mm	Filled	0.07	1.00	0.70	1.40
Door	SAF LADIE									1.40
13.0 Openings Name Door Window NE Window E Window SE Window SW	Opening Ty Door Window Window Window Window	pe	Location External Wall to Corr External Wall External Wall External Wall External Wall	idor	Orienta South North Eas South South	West East st East	Area 1.8 5.4 6.7 2.4 5.1	9 8 6 1	Pit	ch
4.0 Conservatory			None							
5.0 Draught Proofing			100				%			
6.0 Draught Lobby			No				Ī			
7.0 Thormal Bridging			Coloulate Bridges							
I7.0 Thermal Bridging I7.1 List of Bridges			Calculate Bridges							
Bridge Type E2 Other lintels (including E3 Sill E4 Jamb E16 Corner (normal) P3 Party wall - Intermedia (in blocks of flats) E22 Basement floor E5 Ground floor (normal)		,	Source Type Independently assessed Independently assessed Independently assessed Independently assessed Independently assessed Independently assessed	Length 11.30 8.05 34.30 20.80 11.18 39.57 25.77	Psi 0.04 0.03 0.03 0.09 0.00 0.06 0.06	Adjusted 0.04 0.03 0.03 0.09 0.00 0.06 0.06	Reference	:		Importe No No No No No No
Y-value			0.05				W/m²K			
8.0 Pressure Testing			Yes							
Designed AP50			4.00					²) @ 50 P	а	
Test Method			Blower Door							
19.0 Mechanical Ventilation										
Mechanical Ventilation							_			
Mechanical Ventilati	ion System Pres	ent	No							
20.0 Fans, Open Fireplaces,	, Flues									
	, Flues		No							
21.0 Fixed Cooling System	, Flues		No							
20.0 Fans, Open Fireplaces, 21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting	, Flues		No							
1.0 Fixed Cooling System 2.0 Lighting	, Flues		No Name	Efficacy 80.00		wer 0	Capa 80			unt 25
1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting	, Flues		No Name LED Light	Efficacy 80.00		wer 0		acity 00		unt 25
1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1	, Flues		No Name LED Light Database	80.00						
 1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description 	, Flues		No Name LED Light Database Air Source Heat Pum	80.00			80			
 1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat 	, Flues		No Name LED Light Database Air Source Heat Purr 100.00	80.00						
 1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat Database Ref. No. 	, Flues		No Name LED Light Database Air Source Heat Pum 100.00 104632	80.00			80			
 1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type	, Flues		No Name LED Light Database Air Source Heat Purr 100.00 104632 Electricity	80.00			80			
1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter	, Flues		No Name LED Light Database Air Source Heat Pum 100.00 104632 Electricity 244.01	80.00			80			
1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer	, Flues		No Name LED Light Database Air Source Heat Purr 100.00 104632 Electricity 244.01 190.39	80.00			80			
1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name	, Flues		No Name LED Light Database Air Source Heat Purr 100.00 104632 Electricity 244.01 190.39 Ecodan 6.0 kW	80.00 ⁻			80			
 1.0 Fixed Cooling System 2.0 Lighting No Fixed Lighting 4.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name Manufacturer 	, Flues		No Name LED Light Database Air Source Heat Purr 100.00 104632 Electricity 244.01 190.39 Ecodan 6.0 kW Mitsubishi Electric Eu	80.00 ⁻			80			
Prived Cooling System Prived Lighting No Fixed Lighting Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name Manufacturer System Type	, Flues		No Name LED Light Database Air Source Heat Purr 100.00 104632 Electricity 244.01 190.39 Ecodan 6.0 kW Mitsubishi Electric Eu Heat Pump	80.00 ⁻			80			
21.0 Fixed Cooling System 22.0 Lighting No Fixed Lighting 24.0 Main Heating 1 Description Percentage of Heat Database Ref. No. Fuel Type In Winter In Summer Model Name Manufacturer	, Flues		No Name LED Light Database Air Source Heat Purr 100.00 104632 Electricity 244.01 190.39 Ecodan 6.0 kW Mitsubishi Electric Eu	80.00 np			80			



Heat Emitter				Fan Coil L	Jnits						
Flow Temperatur	e			Enter valu	е						
Flow Temperatur	e Value			55.00							
25.0 Main Heating 2	2			None							
26.0 Heat Networks				None							
	Heat Source	Fuel Typ	e Heating Us	e Effic	iency Pe	ercentage Of Heat	Po	leat Elec ower atio	trical I	Fuel Factor	Efficiency type
Heat source 1 Heat source 2 Heat source 3 Heat source 4 Heat source 5											
28.0 Water Heating											
Water Heating				Main Heat	ting 1						
SAP Code				901							
Flue Gas Heat R	ecovery Syste	em		No							
Waste Water Hea	at Recovery Ir	stantaneous	System 1	No							
Waste Water Hea	at Recovery Ir	stantaneous	System 2	No							
Waste Water Hea	at Recovery S	torage Syster	n	No							
Solar Panel				No							
Water use <= 12	5 litres/person	/day		Yes							
Cold Water Sour	се			From main	าร						
Bath Count				1							
Immersion Only I	Heating Hot W	/ater		No							
28.1 Showers Description			Shower Type			F		d Power C kW]	onnected	d Connected	То
28.3 Waste Water H	eat Recovery	System									
29.0 Hot Water Cyli	nder			Hot Water	Cylinder						
Cylinder Stat				No							
Cylinder In Heate	ed Space			No							
Independent Tim	e Control			No							
Insulation Type				Measured	Loss						
Cylinder Volume				500.00					L		
Loss				2.38					kWh/da	у	
Pipes insulation				Fully insul	ated prima	ary pipework					
In Airing Cupboa	rd			No							
31.0 Thermal Store				None							
32.0 Photovoltaic U	nit			One Dwel	ling						
Export Capable	Meter?			No							
Connected To Dv	velling			Yes							
Diverter				No							
Battery Capacity	[kWh]			0.00							
PV Cells k	Wp	Orientation	Elevation	Overs	shading	FGHRS	MCS Certifica	te Overs Facto		MCS Certificate	Panel Manufacturer
1.50		South West	Horizontal	None	Or Little		No	1.00		Reference	
34.0 Small-scale Hy	dro			None							
Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Recommendations											

Lower cost measures



None Further measures to achieve even higher standards

Typical Cost

Typical savings per year

Ratings after improvement									
SAP rating	Environmental Impact								
0	0								
0	0								
0	0								



Property Reference	Flat 4				Issued on Date	29/11/2023	
Assessment Reference	00004			Prop Type Ref			
Property	260, Coombe Lan	e, London, SW20 0RW					
SAP Rating		85 B	DER	5.14	TER	15.74	
Environmental		97 A	% DER < TE	R		67.34	
CO ₂ Emissions (t/year)		0.19	DFEE	33.75	TFEE	35.46	
Compliance Check		See BREL	% DFEE < T	% DFEE < TFEE			
% DPER < TPER		36.07	DPER	53.41	TPER	83.54	
Assessor Details	Ghlenn Capuyan				Assessor ID	CN57-0001	
Client	0001, Cosy Hauz Deve	elopment Ltd.					
SUMMARY FOR INPUT D	ATA FOR: New B	uild (As Designed)					
Orientation		Southeast					
Property Tenture		ND					
Fransaction Type		6					
Terrain Type		Urban					
1.0 Property Type		Flat, Semi-Deta	ched				
Position of Flat		Mid-floor flat					
Which Floor		2					
2.0 Number of Storeys		1					
3.0 Date Built		2025					
4.0 Sheltered Sides		1					
5.0 Sunlight/Shade		Very little					
5.0 Thermal Mass Parameter		Precise calculation	ion				
7.0 Electricity Tariff		Standard					
Smart electricity meter fitted		Yes					
	Smart gas meter fitted		Yes				

7.0 Measurements

7.0 Measurements		Ground floor:		_oss P 24.00	erimete m	r Int	ternal FI 42.70		a Av	verage S 2.6	torey 60 m	Height
8.0 Living Area		21.17						m²				
9.0 External Walls												
Description	Туре	Construction		Kappa		Nett Area		Shelt	ter O	penings A		
External Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	(W/m²K) (0.14	(KJ/m²K) 110.00	51.35 Area(m ²)	(m²) 41.71	Res 0.00	Non	e	9.64 E		'ype Gross Area
External Wall to Corridor	Timber Frame	Timber framed wall (one layer of plasterboard)	0.09	9.00	11.05	9.16	0.00	Non	е	1.89 E	Enter G	Gross Area
9.1 Party Walls												
Description	Туре	Construction				U-Value					She	lter
Party Wall 1	Solid Wall	Double plasterboard on both side with/without sheathing board	s, twin tin	nber f i	ame	(W/m²K) 0.00	(kJ/m²k 20.00	() (m²) 16.9		S	None	
9.2 Internal Walls												
Description		Construction								Kappa (kJ/m²ł		rea (m²)
Internal Wall 1		Plasterboard on timber frame								9.00	Ŋ	72.54
10.0 External Roofs												
Description	Туре	Construction			Kappa kJ/m²K)/	Gross Area(m²)	Area	Shelter Code	Shelter Factor	Calcula Type)penings
Flat Ceiling in Pitched Roof	External Plan Roof	e Plasterboard, insulated at ceiling level	C	.11	9.00	7.89	(m²) 7.89	None	0.00	Enter G Area		0.00
10.1 Party Ceilings												
Description		Construction								Kappa (kJ/m²ł		rea (m²)
Party Ceiling		Timber I-joists, carpeted								20.00		32.50



Description		Storey Index	Construction						Kappa (kJ/m²K)	•
Party Floor		Lowest occupied	Timber I-joists, carpeted						20.00	42.70
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Window	SAP table	Window	Triple Low-E So	oft 0 05	Gap ≥ 16 mm	Type Argon	0.57	Type PVC	Factor 0.70	(W/m ² K) 1.30
Door	SAP table	Door to C		511 0.00	E 10 mm	Filled	0.07	1.00	0.70	1.40
13.0 Openings										1.40
Name Door Window NE Window NW Window SW	Opening Ty Door Window Window Window	ре	Location External Wall to Corri External Wall External Wall External Wall	External Wall to CorridorSouth EastExternal WallNorth EastExternal WallNorth West			Area 1.8 3.5 0.9 5.1	9 6 4	Pi	tch
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			No				_			
17.0 Thermal Bridging 17.1 List of Bridges Bridge Type E2 Other lintels (including E3 Sill E4 Jamb E16 Corner (normal) P3 Party wall - Intermedia (in blocks of flats)	te floor between	,	Calculate Bridges Source Type Independently assessed Independently assessed Independently assessed Independently assessed	Length 5.60 5.60 17.61 15.60 6.50	Psi 0.04 0.03 0.03 0.09 0.00	0.04 0.03 0.03 0.09 0.00	I Reference	:		Importe No No No No
E6 Intermediate floor with E8 Balcony within a dwell		on	Independently assessed Independently assessed	19.75 3.50	0.07 0.00	0.07 0.00				No No
continuous P4 Party wall - Roof (insul	lation at ceiling le	evel)	Independently assessed	11.30	0.00	0.00				No
Y-value			0.05				W/m²K			
18.0 Pressure Testing			Yes							
Designed AP50			4.00				m³/(h.m	^{1²}) @ 50 Pa	a	
Test Method			Blower Door							
19.0 Mechanical Ventilation										
Mechanical Ventilation							_			
Mechanical Ventilati	on System Pres	ent	No							
20.0 Fans, Open Fireplaces,	Flues									
21.0 Fixed Cooling System			No							
22.0 Lighting										
No Fixed Lighting			No Name	Efficacy	Po	wer	Capa	acity	Co	ount
			LED Light	80.00		10		00		20
24.0 Main Heating 1			Database							
Description			Air Source Heat Pum	р						
Percentage of Heat			100.00				%			
Database Ref. No.			104632							
Fuel Type			Electricity							
In Winter			226.17							
In Summer			191.82				7			
Model Name			Ecodan 6.0 kW				Ξ			
Manufacturer			Mitsubishi Electric Eu	rope B.V.			Ξ			
System Type			Heat Pump	·			Ξ			
Controls SAP Code			2208				Ξ			



Heating Pump Age	2013 or later]
Heat Emitter	Fan Coil Units]
Flow Temperature	Enter value]
Flow Temperature Value	55.00]
25.0 Main Heating 2	None]
26.0 Heat Networks	None]
28.0 Water Heating		
Water Heating	Main Heating 1]
SAP Code	901]
Flue Gas Heat Recovery System	No]
Waste Water Heat Recovery Instantaneous System 1	No]
Waste Water Heat Recovery Instantaneous System 2	No]
Waste Water Heat Recovery Storage System	No]
Solar Panel	No]
Water use <= 125 litres/person/day	Yes]
Cold Water Source	From mains]
Bath Count	1]
Immersion Only Heating Hot Water	No]
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	No]
Cylinder In Heated Space	No]
Independent Time Control	No]
Insulation Type	Measured Loss]
Cylinder Volume	150.00] L
Loss	2.38	kWh/day
Pipes insulation	Fully insulated primary pipework]
In Airing Cupboard	No]
31.0 Thermal Store	None]
32.0 Photovoltaic Unit	One Dwelling]
Export Capable Meter?	No]

PV Ce	PV Cells kWp Orier		n Elevation Overshading FGHRS M		MCS Certificate	Overshading Factor	MCS Certificate Reference		
1.50			st 45°	None Or Little		No		1.00	
34.0 Small-scal	le Hydro			None					
Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep Oc	t No
Recommendati Lower cost None Further me	measures	ieve even highe	er standards						

Yes

No

0.00

Ratings after improvement **Typical Cost** Typical savings per year SAP rating 0 0 Environmental Impact 0 0 0

Connected To Dwelling

Battery Capacity [kWh] PV Cells kWp

Diverter

Panel

Nov

Manufacturer

Dec



Property Reference	Flat 5				Issued on Date	29/11/2023			
Assessment Reference	00005		P	Prop Type Ref					
Property	260, Coombe Lane	e, London, SW20 0RW							
SAP Rating		85 B	DER	4.42	TER	13.06			
Environmental		97 A	% DER < TE	R		66.16			
CO ₂ Emissions (t/year)		0.23	DFEE	28.86	TFEE	30.24			
Compliance Check		See BREL	% DFEE < T	FEE		4.59			
% DPER < TPER		33.41	DPER	45.83	TPER	68.82			
Assessor Details	Ghlenn Capuyan				Assessor ID	CN57-0001			
Client	0001, Cosy Hauz Devel	lopment Ltd.							
SUMMARY FOR INPUT	DATA FOR: New Bu	ild (As Designed)							
Orientation		Northwest							
Property Tenture		ND							
Transaction Type		6							
Terrain Type		Urban							
1.0 Property Type		Flat, Semi-Detach	at, Semi-Detached						
Position of Flat		Mid-floor flat							
Which Floor		2							
2.0 Number of Storeys		1							
3.0 Date Built		2025							
4.0 Sheltered Sides		1							
5.0 Sunlight/Shade		Very little							
6.0 Thermal Mass Parameter		Precise calculation	1						
7.0 Electricity Tariff		Standard							
Smart electricity meter fitte	Smart electricity meter fitted								
Smart gas meter fitted	Smart gas meter fitted								

7.0 Measurements

7.0 measurements			Ground floo		Loss F 28.00	Perimete) m	er In	ternal F 61.5		a Av	erage St 2.6	orey 0 m	Height
8.0 Living Area			26.20						m²				
9.0 External Walls													
Description	Туре	Construction		U-Value	Kappa		Nett Area		Shel	ter O	penings A		
External Wall	Cavity Wall	Cavity wall; plasterboa lightweight aggregate outside structure	ard on dabs or battens, block, filled cavity, any	(W/m-K) 0.14	(KJ/M-K 110.00	Area(m ² 59.98) (m²) 43.74	Res 0.00	Nor	e	16.24 E		ype Gross Area
External Wall to Corridor	Cavity Wall	Cavity wall; plasterboa	ard on dabs or battens, block, filled cavity, any	0.09	110.00	15.08	13.19	0.00	Nor	e	1.89 E	nter G	Gross Area
9.1 Party Walls													
Description	Туре	Construct	tion				U-Value					She	lter
Party Wall	Solid Wall		Single plasterboard on dabs both s aggregate blocks, cavity or cavity f				(W/m²K) 0.00	(kJ/m²ł 110.00			S	None	
9.2 Internal Walls													
Description		Constructio	on								Kappa (kJ/m²K		rea (m²)
Internal Wall 1		Plasterboar	d on timber frame								9.00		104.23
10.0 External Roofs													
Description	Туре	Construction				Kappa (kJ/m²K)	Gross Area(m²)		Shelter Code	Shelter Factor	Calculat Type		penings
Flat Ceiling in Pitched Roof	External Plan Roof	e Plasterboard, i	nsulated at ceiling leve	el (D.11	9.00	6.43	(m²) 6.43	None	0.00	Enter Gr Area	oss	0.00
10.1 Party Ceilings													
Description		Constructio	on								Kappa (kJ/m²K		rea (m²)



Party Ceiling		Concr	ete floor slab, carpeted						100.00	47.02
1.1 Party Floors										
Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m
Party Floor		Lowest occupied	Concrete floor slab, carpeter	d					(K 5/11 K) 100.00	61.55
2.0 Opening Types										
Description	Data Source	Туре	Glazing		Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K
Window	SAP table	Window	Triple Low-E Soft	t 0.05	≥ 16 mm		0.57	PVC	0.70	` 1.30
Door	SAP table	Door to C	Corridor			1 meu				1.40
3.0 Openings										
Name Door	Opening Ty Door	pe	Location External Wall to Corrido	or	Orient North		Area 1.8		Pi	tch
Window NE	Window		External Wall		North	East	1.7	8		
Window E Window SE	Window Window		External Wall External Wall		Ea South		6.9 2.4			
Window SW	Window		External Wall		South	West	5.1	4		
4.0 Conservatory			None							
5.0 Draught Proofing			100				%			
6.0 Draught Lobby			No							
7.0 Thermal Bridging			Calculate Bridges							
7.1 List of Bridges										
Bridge Type E2 Other lintels (includir	na other steel linte	ls)	Source Type Independently assessed	Length 10.00	Psi 0.04	Adjusted 0.04	Reference	:		Importe No
E3 Sill	5	,	Independently assessed	10.00	0.03	0.03				No
E4 Jamb E6 Intermediate floor wit	thin a dwelling		Independently assessed Independently assessed	28.92 11.40	0.03 0.07	0.03 0.07				No No
E8 Balcony within a dwe continuous	elling, wall insulation	on	Independently assessed	5.40	0.00	0.00				No
E16 Corner (normal) P3 Party wall - Intermed	liate floor between	ı dwellings	Independently assessed Independently assessed	10.40 6.85	0.09 0.00	0.09 0.00				No No
(in blocks of flats) E17 Corner (inverted – i	internal area great	er than	Independently assessed	2.60	-0.09	-0.09				No
external area) P4 Party wall - Roof (ins	0		Independently assessed	13.86	0.00	0.00				No
Y-value		,	0.04				W/m²K			
8.0 Pressure Testing			Yes				<u></u>			
·			4.00					2) @ 50 P	2	
Designed AP ₅₀								1²) @ 50 Pa	a	
Test Method			Blower Door							
9.0 Mechanical Ventilatio										
Mechanical Ventilation Mechanical Ventila		ent	No							
0.0 Fans, Open Fireplace			<u>_</u>							
21.0 Fixed Cooling Systen	n		No							
22.0 Lighting										
No Fixed Lighting			No							
			Name LED Light	Efficacy 80.00		wer 10		acity)0		ount 25
4.0 Main Heating 1			Database							
Description			Air Source Heat Pump							
Percentage of Heat			100.00				%			
Database Ref. No.			104632							
Fuel Type			Electricity				Ξ			
In Winter			238.15				=			
							4			
In Summer			191.18				4			
Model Name			Ecodan 6.0 kW							
Manufacturer			Mitsubishi Electric Euro	ppe B.V.						



		1
System Type	Heat Pump	
Controls SAP Code	2208	
Is MHS Pumped	Pump in unheated space	
Heating Pump Age	2013 or later	
Heat Emitter	Fan Coil Units	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	
25.0 Main Heating 2	None]
26.0 Heat Networks	None]
Heat Source Fuel Type Heating U	se Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 Heat source 2 Heat source 3 Heat source 4 Heat source 5		
28.0 Water Heating		
Water Heating	Main Heating 1	
SAP Code	901	
Flue Gas Heat Recovery System	No]
Waste Water Heat Recovery Instantaneous System 1	No]
Waste Water Heat Recovery Instantaneous System 2	No]
Waste Water Heat Recovery Storage System	No]
Solar Panel	No]
Water use <= 125 litres/person/day	Yes]
Cold Water Source	From mains]
Bath Count	1]
Immersion Only Heating Hot Water	No]
28.1 Showers		
Description Shower Typ	e Flow Rate Rated Power 0 [l/min] [kW]	Connected Connected To
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	No	
Cylinder In Heated Space	No	
Independent Time Control	No]
Insulation Type	Measured Loss]
Cylinder Volume	500.00] L
Loss	2.38	kWh/day
Pipes insulation	Fully insulated primary pipework]
In Airing Cupboard	No]
31.0 Thermal Store	None]
32.0 Photovoltaic Unit]

32.0 Photovoltaic Unit			One Dwelling					
Export Capable Meter?			No					
Connected To Dwelling			Yes					
Diverter			No					
Battery Capacity [kWh]			0.00					
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer



1.50		South West	Horizontal	I None C	r Little		No	1.00			
34.0 Small-scale	Hydro			None							
Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Recommendation Lower cost m None Further meas	easures	ieve even higher		ypical Cost	т	ypical savings	s per year	Ra SAP rat 0 0 0		improvement Environme ((ntal Impact))



Property Reference	Flat 6				Issued on Date	29/11/2023				
Assessment Reference	00006			Prop Type Ref						
Property	260, Coombe lane,	London, SW20 0RW								
SAP Rating		83 B	DER	4.01	TER	10.59				
Environmental		96 A	% DER < T	ER		62.13				
CO ₂ Emissions (t/year)		0.34	DFEE	30.51	TFEE	32.23				
Compliance Check		See BREL	% DFEE < 1	TFEE		5.32				
% DPER < TPER		24.54	DPER	41.75	TPER	55.33				
Assessor Details	Ghlenn Capuyan				Assessor ID	CN57-0001				
Client	001, Cosy Hauz Devel	opment Ltd.								
SUMMARY FOR INPUT D	ATA FOR: New Bu	ild (As Designed)								
Orientation		Southwest								
Property Tenture		ND								
Transaction Type		6								
Terrain Type		Urban								
1.0 Property Type		Flat, Semi-Detac	ned	1						
Position of Flat		Top-floor flat								
Which Floor		2								
2.0 Number of Storeys		2								
3.0 Date Built		2025								
4.0 Sheltered Sides		1								
5.0 Sunlight/Shade		Average or unkno	own							
6.0 Thermal Mass Parameter		Precise calculation	n							
7.0 Electricity Tariff		Standard								
Smart electricity meter fitted	Smart electricity meter fitted									
Smart gas meter fitted		Yes								

7.0 Measurements

7.0 Measurements		Ground floo 1st Store	r:	Loss I 2.10 45.17		r In	ternal F 2.97 92.8		a Av	erage Stor 2.60 1.82	m
8.0 Living Area		32.81						m²			
9.0 External Walls											
Description	Туре	Construction	U-Value			Nett Area		Shelt	er O	penings Area	
External Wall - Filled Cavity	, i	Cavity wall; plasterboard on dabs or battens, ightweight aggregate block, filled cavity, any putside structure	(W/m²K) 0.14	(kJ/m²K 110.00	X) Area(m ²) 35.18) (m²) 27.42	Res 0.00	None	9	7.76 Ente	Type er Gross Area
External Wall - Room in Roof External Wall to Corridor	Timber Frame	Timber framed wall (one layer of plasterboard) Timber framed wall (one layer of plasterboard)	0.09 0.09	9.00 9.00	30.51 2.34	30.51 0.45	0.00 0.00	None None			er Gross Area er Gross Area
9.1 Party Walls											
Description	Туре	Construction				U-Value (W/m²K)			Shel		helter
Party Wall 1	Filled Cavity Edge Sealin		es, twin ti	imber f	rame	0.00	20.00				None
9.2 Internal Walls											
Description		Construction								Kappa (kJ/m²K)	Area (m²)
Internal Wall 1		Plasterboard on timber frame								9.00	177.76
10.0 External Roofs											
Description	Туре	Construction			Kappa (kJ/m²K)	Gross Area(m²)		Shelter Code	Shelter Factor	Calculatio Type	nOpening
Pitched Roof	External Plane Roof	Plasterboard, insulated at ceiling leve	el	0.11	9.00	70.63	(m²) 54.27	None	0.00	Enter Gros Area	s 16.36
Flat Roof	External Flat Roof	Plasterboard, insulated flat roof		0.11	9.00	41.06	41.06	None	0.00	Enter Gros Area	s 0.00

11.1 Party Floors



Description		Storey Index	Construc	tion						Kappa (kJ/m²K)	Area (m [:]	
Party Floor 1		Lowest occupied	Timber I-j	oists, carpeted						20.00	90.85	
12.0 Opening Types	Data Cauraa	Turne		Clasing		Clasing	Filling	Cualua	Frame	F	11. Value	
Description	Data Source	Туре		Glazing	0.05	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K	
Door on Roof Roof Light Window	SAP table SAP table SAP table	Roof Wind Roof Light Window		Triple Low-E Soft Triple Low-E Soft Triple Low-E Soft	0.05	≥ 16 mm ≥ 16 mm ≥ 16 mm	Air Filled Air Filled Argon	0.57 0.57 0.57	PVC PVC PVC	0.70 0.70 0.70	1.40 1.40 1.30	
Door	SAP table	Solid Door	r	I			Filled				3.00	
I3.0 Openings												
Name Roof Light NW Roof Light E Roof Light SE Roof Window SW Roof Window E Window NE Window SW Door	Opening Ty Roof Light Roof Light Door on Roo Door on Roo Window Window Door	f	Pitch Pitch Pitch Pitch Pitch Pitch Exte	Location Pitched Roof Pitched Roof Pitched Roof Pitched Roof Pitched Roof External Wall - Filled Cavity External Wall - Filled Cavity External Wall o Corridor			Orientation North South East West South East East West East		(m²) 0 4 2 0 0 8 8 9	4	tch 15 15 00 00	
14.0 Conservatory			None	9								
15.0 Draught Proofing			100					%				
16.0 Draught Lobby) Draught Lobby											
17.0 Thermal Bridging			Calc	ulate Bridges				7				
17.1 List of Bridges												
Bridge Type E2 Other lintels (includi	ng other steel lintel	Source T Independ	ype ently assessed	Length 19.96	Psi 0.03	Adjusted 0.03	Reference	:		Importe No		
E3 Sill	Independ	ently assessed	14.18 21.60	0.04	0.04				No No			
E16 Corner (normal) E8 Balcony within a dwo		ently assessed ently assessed	4.40	0.09 0.00	0.09				No			
	continuous P3 Party wall - Intermediate floor between dwellings				46.56	0.00	0.00				No	
(in blocks of flats) R1 Head of roof window	1		Independ	ently assessed	6.40	0.08	0.08				No	
R2 Sill of roof window			Independ	ently assessed	22.40	0.06	0.06				No	
R3 Jamb of roof windov R11 Upstands or kerbs	of rooflights		Independ	ently assessed ently assessed	6.40 35.20	0.08 0.00	0.08 0.00				No No	
E17 Corner (inverted – external area)	internal area greate	er than	Independ	ently assessed	12.60	-0.09	-0.09				No	
E4 Jamb			Independ	ently assessed	24.62	0.03	0.03				No	
Y-value			0.03					W/m²K				
18.0 Pressure Testing			Yes									
Designed AP50			4.00					m³/(h.m	1²) @ 50 P	а		
Test Method			Blow	er Door								
19.0 Mechanical Ventilation	on											
Mechanical Ventilation								_				
Mechanical Ventil	ation System Prese	ent	No									
20.0 Fans, Open Fireplace	es, Flues											
21.0 Fixed Cooling Syster	n		No									
22.0 Lighting												
No Fixed Lighting			No	ame	Efficient	De		 	aity	6		
				D Light	Efficacy 80.00		wer 10	Capa 80			ount 30	
24.0 Main Heating 1			Data	base								
Description			Air S	ource Heat Pump								
Percentage of Heat			100.	00	%							
Database Ref. No.			1046	32								
Fuel Type			Elec	tricity				Ī				
In Winter			244.	96				ī				
	In Summer							=				



Model Name	Ecodan 6.0 kW]
Manufacturer	Mitsubishi Electric Europe B.V.]
System Type	Heat Pump]
Controls SAP Code	2208]
Is MHS Pumped	Pump in unheated space]
Heating Pump Age	2013 or later]
Heat Emitter	Fan Coil Units]
Flow Temperature	Enter value]
Flow Temperature Value	55.00]
25.0 Main Heating 2	None]
26.0 Heat Networks	None	1
]
Heat Source Fuel Type Heating I Heat source 1 Heat source 2 Heat source 3 Heat source 4 Heat source 5	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
28.0 Water Heating		
Water Heating	Main Heating 1]
SAP Code	901	1
Flue Gas Heat Recovery System	No	1
Waste Water Heat Recovery Instantaneous System 1	No	1
Waste Water Heat Recovery Instantaneous System 2	No	1
Waste Water Heat Recovery Storage System	No	1
Solar Panel	No	1
Water use <= 125 litres/person/day	No	1
Cold Water Source	From mains	1
Bath Count	1	1
Immersion Only Heating Hot Water	No]
28.1 Showers Description Shower Typ	pe Flow Rate Rated Power [l/min] [kW]	Connected Connected To
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	No]
Cylinder In Heated Space	No]
Independent Time Control	No]
Insulation Type	Measured Loss	1
Cylinder Volume	300.00	j.
Loss	2.38	」 │ kWh/day
Pines insulation	Fully insulated primary pipework	7

Pipes insulation	Fully insulated primary pipework	
In Airing Cupboard	No	
31.0 Thermal Store	None	
32.0 Photovoltaic Unit	One Dwelling	
Export Capable Meter?	No	
Connected To Dwelling	Yes	
Diverter	No	
Battery Capacity [kWh]	0.00	



	PV Cells kWp		Orientation	Elevation	Oversha	ding	FGHRS	MCS Certificate	Overshad Factor	ing	MCS Certificate Reference	Panel Manufacturer
	1.50		South West	Horizontal	Modest			No	0.80		Reference	
34.0 Sma	III-scale H	ydro			None							
J	lan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oc	t Nov	Dec
Lowe	endations r cost mea None er measu	asures	eve even higher						Ratin	us a	fter improveme	ent
				Ту	/pical Cost		Typical savin	gs per year	SAP rating 0 0 0			nental Impact 0 0 0