Planning Conditions Report

Storage World, Unit 4, Ambrose House, Ambrose Street, Manchester, M12 5DD

Prepared on behalf of:
PF Investments Limited

BE 18953

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Issue	Issue Date	Written by	Notes
V1	06/08/2026	Ceris Fussell	As built issue
V2	08/06/2026	Ceris Fussell	Update to specification details
V3	06/08/2026	Ceris Fussell	Update to air permeability

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Introduction

This report accompanies the energy modelling undertaken to address the requirements of the Building Regulations.

In accordance with requirements of Manchester City Council's Core Planning Policies, the development must achieve the targets set out in Policy ENE04 on operational carbon emissions. These requirements are:

- A 10% carbon emission reduction compared to Part L of Building Regulations 2010 requirements

The following report and associated documentation show that the scheme has achieved the required target of a 10% reduction in carbon as well implementing the improvements as stated in Waterman's Renewable and Sustainable Planning Report issued in October 2022. The initial report was also conducted using the Apache calculation engine, we have run the assessment using the SBEM methodology.

Demand Reduction

The following section outlines the measures, also detailed within the specification document (issued separately), which have been taken to reduce the energy demand of the final building. This includes both architectural and building fabric measures (passive design) and energy efficient services (active design), considered at the earliest design stage.

Demonstrating CO_2 Savings from Demand Reduction Measures

Active design measures have been integrated into the design to reduce energy of which includes high efficiency lighting and ventilation alongside enhanced U-values and air tightness as stipulated in Waterman's report submitted in 2022. The specification for these items as proposed for the project is outlined below:

Specification at 'Be Lean' Stage

Demand Reduction Measures	**Target Values**	**Specification Achieved**
Building Fabric - U-Values (W/m²K)		
Walls	0.26	0.18
Floors	0.18	0.12
Roofs	0.18	0.18
Solid Personnel Doors	1.60	1.50
Glazing Type GL-A	1.60	1.00 g-value: 0.41
Glazing Type GL-B	1.60	1.10 g-value: 0.41
Building Fabric - Other		
Air Permeability (m^3/hm^2)	8	4.27 (Achieved target at as built stage)
Services		
Heating	SCOP – 2.50 SEER – 5.00	Daikin FTXM20A SCOP – 5.10 SEER – 8.65
Hot Water	Efficiency 100%	Efficiency 100%
Ventilation	2 (W/(l/s)	Supply and extract ventilation
Low Energy Lighting	95 (lm/W)	Low energy LED's with efficacy of 98 – 157 (lm/W)
Renewable Technology	0.50 kWh/m^2	0.66 kWh/m^2 Total 9.32 kWp

Solar Generation

A solar array has been installed on the pitched roof of the building, with a total capacity of 9.32 kW that will generate an estimated annual 8500 kWh for the site supplementing the electricity for the site through renewable means. The photograph below shows the solar array placement on the roof.



Figure 1: Photograph of the installed solar array taken February 2026

The carbon produced and reductions achieved by the project when the above specification is applied are shown under 'Achieved Carbon Emissions'.

Achieved Carbon Emissions

The development has been assessed using the SBEM methodology, the results of which provide the achieved regulated carbon emissions at the 'as built stage'. Full details of the assumptions that have been used to produce these calculations are outlined within the accompanying Specification Document. Enforcement bodies must ensure that they are satisfied that these inputs are an accurate reflection of the final building before using this reporting and attached energy modelling output documents to demonstrate compliance.

The Policy ENE06 references a 10% betterment of Part L2A 2010 (for an electric intensive building as the proposed building is), the final as 'as built' assessment has been made against the more onerous Part L2A 2013 assessment criteria. The below assessment has been conducted using a baseline TER to represent the 2010 requirements BRUKL document (Appendix A) shows that a betterment is being achieved, which will equate to a higher level of betterment on a 2010 Part L assessment.

The table below summarises the results (the carbon figures can be found within the associated SBEM documents):

Part L Building Regulations CO_2 target (baseline TER)	3.45 $kgCO_2/m^2$/year
Proposed Dwelling Emissions (average BER)	2.63 $kgCO_2/m^2$/year
Average emission reduction below Building Regulations target (%)	**23.77%**

Conclusion

These results demonstrate that the Storage World building at Ambrose Street, Manchester has achieved over the required target 10% carbon emission reduction compared to Part L of Building Regulations 2010 requirements of which is in accordance with requirements of Policy ENE04 set out within Manchester City Council's Core Planning Policies and has achieved a 23.77% reduction in carbon from the baseline calculation through fabric improvements and the inclusion of energy efficient services and solar power.

Appendix A

BRUKL output documents baseline and final ‘as built’.

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

Project name

Storage World

As built

Date: Thu Aug 06 10:16:31 2026

Administrative information

Building Details

Address: Unit 4, Ambrose House, Ambrose Street, Manchester, M12 5DD

Certifier details

Name: Liam Bartlett

Telephone number: 0330 055 3405

Address: A37 Aerodrome Studios, 2-8 Airfield Way, Christchurch, BH23 3TS

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: Virtual Environment

Interface to calculation engine version: v7.0.31

BRUKL compliance module version: v6.1.e.1

Foundation area [m^2]: 87.82

The CO_2 emission and primary energy rates of the building must not exceed the targets

Target CO_2 emission rate (TER), $kgCO_2/m^2.annum$	2.66	
Building CO_2 emission rate (BER), $kgCO_2/m^2.annum$	2.63	
Target primary energy rate (TPER), $kWh_{PE}/m^2.annum$	28.95	
Building primary energy rate (BPER), $kWh_{PE}/m^2.annum$	28.61	
Do the building's emission and primary energy rates exceed the targets?	BER =< TER	BPER =< TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	First surface with maximum value
Walls*	0.26	0.18	1.01	ST00000C_W0_O0
Floors	0.18	0.12	0.13	ST00000B_F
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.18	0.18	ST00000A_C
Windows** and roof windows	1.6	1.01	1.01	ST00000C_W0_O1
Rooflights***	2.2	-	-	No external rooflights
Personnel doors^	1.6	-	-	No external personnel doors
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$]

$U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check.

*** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m^2K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
$m^3/(h.m^2)$ at 50 Pa	8	5.27

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- Daikin FTXM20A

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	5.1	8.65	-	1.8	0.89
Standard value	2.5*	N/A	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

2- Daikin FTXM50A

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	4.71	7.41	-	1.8	0.89
Standard value	2.5*	N/A	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

3- Panel heaters

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES

1- SYST0002-DHW

	Water heating efficiency	**Storage loss factor [kWh/litre per day]**
This building	1	-
Standard value	1	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	**System type in the Approved Documents**
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter

NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

Zone name	**SFP [W/(l/s)]**									**HR efficiency**	
ID of system type	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	**Zone**	**Standard**
Staff Room	-	-	-	-	-	-	-	0.3	-	-	N/A

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
IT Room	-	-	-	-	-	-	-	0.3	-	-	N/A
Reception	-	-	-	-	-	-	-	0.3	-	-	N/A
WC	-	-	0.4	-	-	-	-	-	-	-	N/A
WC Acc	-	-	0.4	-	-	-	-	-	-	-	N/A
Shower	-	-	0.4	-	-	-	-	-	-	-	N/A
01_Storage Area	-	-	-	-	1.2	-	-	-	-	-	N/A
02_Storage Area	-	-	-	-	1.2	-	-	-	-	-	N/A
03_Storage Area	-	-	-	-	1.2	-	-	-	-	-	N/A
04_Storage Area	-	-	-	-	1.2	-	-	-	-	-	N/A

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
Standard value	95	80	0.3
Staff Room	98	-	-
IT Room	98	-	-
Reception	98	98	1.378
WC	121	-	-
WC Acc	121	-	-
Shower	121	-	-
Cupboard	124	-	-
Riser 3	157	-	-
Stairwell 3	157	-	-
Stairwell 2	157	-	-
Riser 2	157	-	-
Stairwell 1	157	-	-
Riser 1	157	-	-
Storage Area	157	-	-
01_Storage Area	157	-	-
02_Storage Area	157	-	-
03_Storage Area	157	-	-
04_Storage Area	157	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Staff Room	N/A	N/A
IT Room	N/A	N/A
Reception	YES (+7.3%)	YES
Riser 3	N/A	N/A
Stairwell 3	N/A	N/A
Stairwell 1	N/A	N/A
Riser 1	N/A	N/A
Storage Area	N/A	N/A

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
01_Storage Area	NO (-91.1%)	NO
02_Storage Area	NO (-88.3%)	NO
03_Storage Area	NO (-88.3%)	NO
04_Storage Area	N/A	N/A

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	YES
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m^2]	11071.4	11071.4
External area [m^2]	27441.4	27441.4
Weather	MAN	MAN
Infiltration [m^3/hm^2@ 50Pa]	5	5
Average conductance [W/K]	4704.4	6456.11
Average U-value [W/m^2K]	0.17	0.24
Alpha value* [%]	5.73	10.28

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	Retail/Financial and Professional Services
	Restaurants and Cafes/Drinking Establishments/Takeaways
	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
100	**Storage or Distribution**
	Hotels
	Residential Institutions: Hospitals and Care Homes
	Residential Institutions: Residential Schools
	Residential Institutions: Universities and Colleges
	Secure Residential Institutions
	Residential Spaces
	Non-residential Institutions: Community/Day Centre
	Non-residential Institutions: Libraries, Museums, and Galleries
	Non-residential Institutions: Education
	Non-residential Institutions: Primary Health Care Building
	Non-residential Institutions: Crown and County Courts
	General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger Terminals
	Others: Emergency Services
	Others: Miscellaneous 24hr Activities
	Others: Car Parks 24 hrs
	Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	0.33	0.34
Cooling	0.02	0.02
Auxiliary	4.36	3.18
Lighting	5.88	7.61
Hot water	8.96	8.96
Equipment*	29.77	29.77
TOTAL**	**19.55**	**20.11**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	0.66	0.5
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*0.66*	*0.5*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m^2]	98.14	119.42
Primary energy [kWh_{PE}/m^2]	28.61	28.95
Total emissions [kg/m^2]	2.63	2.66

HVAC Systems Performance

System Type		Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Fan coil systems, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	22.8	58.9	1.4	2.6	20.3	4.41	6.36	5.1	8.65
	Notional	157.5	58.5	16.6	6	0	2.64	2.7	----	----
[ST] Fan coil systems, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	67.1	77	4.6	3.9	29.4	4.07	5.45	4.71	7.41
	Notional	202.1	22.3	21.3	2.3	0	2.64	2.7	----	----
[ST] Other local room heater - unfanned, [HS] Direct or storage electric heater, [HFT] Electricity, [CFT] Electricity										
	Actual	437.4	10	144.3	0	14.6	0.84	0	1	0
	Notional	505.9	19.1	104.9	0	22.5	1.34	0	----	----
[ST] No Heating or Cooling										
	Actual	76.7	20.6	0	0	4.2	0	0	0	0
	Notional	72.8	45.1	0	0	3.2	0	0	----	----

Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

Project name

Storage World-TER

As built

Date: Wed Jun 03 11:00:06 2026

Administrative information

Building Details

Address: Unit 4, Ambrose House, Ambrose Street, Manchester, M12 5DD

Certifier details

Name: Liam Bartlett

Telephone number: 0330 055 3405

Address: A37 Aerodrome Studios, 2-8 Airfield Way, Christchurch, BH23 3TS

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: Virtual Environment

Interface to calculation engine version: v7.0.30

BRUKL compliance module version: v6.1.e.1

Foundation area [m^2]: 87.82

The CO_2 emission and primary energy rates of the building must not exceed the targets

The building does not comply with England Building Regulations Part L 2021

Target CO_2 emission rate (TER), $kgCO_2/m^2$.annum	2.64	
Building CO_2 emission rate (BER), $kgCO_2/m^2$.annum	3.45	
Target primary energy rate (TPER), kWh_{PE}/m^2.annum	28.73	
Building primary energy rate (BPER), kWh_{PE}/m^2.annum	37.58	
Do the building's emission and primary energy rates exceed the targets?	BER > TER	BPER > TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	First surface with maximum value
Walls*	0.26	0.18	1.01	ST00000C_W0_O0
Floors	0.18	0.12	0.13	ST00000B_F
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.18	0.18	ST00000A_C
Windows** and roof windows	1.6	1.01	1.01	ST00000C_W0_O1
Rooflights***	2.2	-	-	No external rooflights
Personnel doors^	1.6	-	-	No external personnel doors
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$]

$U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check.

*** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m^2K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
$m^3/(h.m^2)$ at 50 Pa	8	4.97

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- ASHP

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	3	5	-	3	0.89
Standard value	2.5*	5	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

1- SYST0002-DHW

	Water heating efficiency	**Storage loss factor [kWh/litre per day]**
This building	1	-
Standard value	1	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	**System type in the Approved Documents**
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter

NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

Zone name	**SFP [W/(l/s)]**									**HR efficiency**	
ID of system type	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	**Zone**	**Standard**
WC	-	-	0.5	-	-	-	-	-	-	-	N/A
WC Acc	-	-	0.5	-	-	-	-	-	-	-	N/A
Shower	-	-	0.5	-	-	-	-	-	-	-	N/A
01_Storage Area	-	-	-	-	2	-	-	-	-	-	N/A
02_Storage Area	-	-	-	-	2	-	-	-	-	-	N/A
03_Storage Area	-	-	-	-	2	-	-	-	-	-	N/A
04_Storage Area	-	-	-	-	2	-	-	-	-	-	N/A

General lighting and display lighting	**General luminaire**	**Display light source**	
Zone name	**Efficacy [lm/W]**	**Efficacy [lm/W]**	**Power density [W/m²]**
Standard value	95	80	0.3
Staff Room	95	-	-
IT Room	95	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	**Efficacy [lm/W]**	**Efficacy [lm/W]**	**Power density [W/m²]**
Standard value	95	80	0.3
Reception	95	15	9
WC	95	-	-
WC Acc	95	-	-
Shower	95	-	-
Cupboard	95	-	-
Riser 3	95	-	-
Stairwell 3	95	-	-
Stairwell 2	95	-	-
Riser 2	95	-	-
Stairwell 1	95	-	-
Riser 1	95	-	-
Storage Area	95	-	-
01_Storage Area	95	-	-
02_Storage Area	95	-	-
03_Storage Area	95	-	-
04_Storage Area	95	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Staff Room	N/A	N/A
IT Room	N/A	N/A
Reception	YES (+7.3%)	YES
WC	N/A	N/A
WC Acc	N/A	N/A
Shower	N/A	N/A
Riser 3	N/A	N/A
Stairwell 3	N/A	N/A
Stairwell 1	N/A	N/A
Riser 1	N/A	N/A
Storage Area	N/A	N/A
01_Storage Area	NO (-92.1%)	YES
02_Storage Area	NO (-89.5%)	YES
03_Storage Area	NO (-89.5%)	YES
04_Storage Area	N/A	N/A

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	YES
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m^2]	11071.4	11071.4
External area [m^2]	27441.4	27441.4
Weather	MAN	MAN
Infiltration [m^3/hm^2@ 50Pa]	5	5
Average conductance [W/K]	4703.4	6453.21
Average U-value [W/m^2K]	0.17	0.24
Alpha value* [%]	5.73	10.28

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	Retail/Financial and Professional Services
	Restaurants and Cafes/Drinking Establishments/Takeaways
	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
100	**Storage or Distribution**
	Hotels
	Residential Institutions: Hospitals and Care Homes
	Residential Institutions: Residential Schools
	Residential Institutions: Universities and Colleges
	Secure Residential Institutions
	Residential Spaces
	Non-residential Institutions: Community/Day Centre
	Non-residential Institutions: Libraries, Museums, and Galleries
	Non-residential Institutions: Education
	Non-residential Institutions: Primary Health Care Building
	Non-residential Institutions: Crown and County Courts
	General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger Terminals
	Others: Emergency Services
	Others: Miscellaneous 24hr Activities
	Others: Car Parks 24 hrs
	Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	0.03	0.16
Cooling	0.06	0.02
Auxiliary	7.23	3.21
Lighting	9.21	7.61
Hot water	8.96	8.96
Equipment*	29.77	29.77
TOTAL**	**25.49**	**19.97**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	0.66	0.5
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*0.66*	*0.5*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m^2]	96.16	118.74
Primary energy [kWh_{PE}/m^2]	37.58	28.73
Total emissions [kg/m^2]	3.45	2.64

HVAC Systems Performance

System Type		Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	41.5	75.7	3.9	7	34	2.95	3.01	3	5
	Notional	193.2	28.2	20.3	2.9	9.8	2.64	2.7	----	----
[ST] No Heating or Cooling										
	Actual	71.5	24.5	0	0	7	0	0	0	0
	Notional	72.8	45.1	0	0	3.2	0	0	----	----

Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type