



University of Manchester: The Relocation of The Limes, Fallowfield Campus

Energy Statement

*For University of Manchester c/o Rider Levett
Bucknall*

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1. Introduction

Hydrock Consultants has been appointed by University of Manchester c/o Rider Levett Bucknall to provide planning stage advisory services in relation to the design and construction of the proposed Relocation of the Limes, Fallowfield Campus project at the University of Manchester.

This document forms part of the detailed planning application for the site and will inform the Manchester Council Planning Department of the proposed energy strategy and BREEAM requirements for the site.

The Proposed Development will combine the University's Catering Central Processing Unit (CPU), Maintenance Services Unit (MSU), Environmental Services Unit (ESU) and Residences Team to form a facility consisting of facility management stores and workshops, catering facilities, staff workspaces and storage facilities.

The site is divided into two main sections: the western part is designated for parking, while the eastern section houses the building, which is split into the main building and the external stores.

The western side of the Site will provide 45 car parking spaces, inclusive of 4 accessible car parking space. It is noted that Richmond Park Halls will be allocated 2 dedicated accessible car parking spaces. The eastern side of the Site will provide 14 car parking spaces for staff car parking inclusive of 2 accessible car parking bays, 2 accessible car parking space will be dedicated to Richmond Park Halls for student parking; 5 electric vehicle (EV) car parking space will be provided inclusive of 1 accessible EV parking bay; and 1 parking space will be provided for Tail Lift/Sprinter parking. The total number of car parking spaces will be 66 and 1 Tail Lift/Sprinter parking. The overall car parking provision represents a reduction of 64 spaces. Additionally, a bike store with 20 cycle spaces and 7 cycle racks will be provided for staff and students outside the entrance to the main building.



Figure 1: Site Layout

2. Planning Policy Review

2.1 National Policy

2.1.1 National Planning Policy Framework

The National Planning Policy Framework (December 2023) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other developments can be produced. It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own local and neighbourhood plans and as a material consideration in the determination of planning applications.

Within this context National Guidance says that:

- a. The purpose of the planning system is to contribute towards achieving sustainable development, set out in chapter 2.
- b. Sustainable development comprises of economic, social and environmental dimensions. These are interdependent and need to be pursued in mutually supportive ways, set out in chapter 2:
 - Economic - contributing to building a strong, responsive and competitive economy.
 - Social - supporting strong, vibrant and healthy communities.
 - Environmental - contributing to protecting and enhancing the natural, built and historic environment.
- c. These objectives are not criteria against which every decision can or should be judged. Plans and decisions must take into account local circumstances to ensure sustainable development is responded to appropriately in different areas.
- d. At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development (paragraph 11), for both plan-making and

decision-taking. For decision-making this means that:

- a. Approving development proposals that accord with the development plan without delay; and
- b. Where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:
 - specific policies in this Framework indicate development should be restricted; or
 - any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.

Planning policies should follow the presumption in favour of sustainable development approach so development which is sustainable can be approved without delay. All plans should set clear policies that will guide how the presumption should be applied locally.

2.1.2 Building Regulations Part L

The development will need to meet the standards set by Building Regulations Approved Document Part L, Conservation of Fuel and Power, Volume 1: Dwellings and Volume 2: Buildings other than dwellings (2021).

These standards include a minimum level for Regulated carbon emissions defined by the Target Emission Rate (TER) which relate to a 'Notional Building', automatically generated as part of the Standard Assessment Procedure (SAP) and Simplified Building Energy Model (SBEM) toolkits for residential and non-residential respectively. In addition, there are minimum levels of fabric efficiency set by the Target Fabric Energy Efficiency rating (TFEE) under the SAP methodology.

The resulting Dwelling Emission Rate (DER) or Building Emission Rate (BER) must be less than the relevant TER in order to comply.

2.2 Local Sustainability Policy

This section discusses the relevant policies from Manchester City Council: Core Strategy (2012-2027) (Adopted July 2012).

2.2.1 CS Policy EN 4: Reducing CO₂ Emissions by Enabling Low and Zero Carbon Development

The Council will seek to reduce fuel poverty and decouple growth in the economy, growth in CO₂ emissions, and rising fossil fuel prices, through the following actions:

- » Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies.
- » Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings.
- » Where appropriate new development and retrofit projects will be required to connect to and/or make contributions to low or zero carbon energy schemes and/or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes.
- » The use of building materials with low embodied carbon in new development and refurbishment schemes.

2.2.2 Places for Everyone

This section discusses the relevant policies from Places for Everyone Joint Development Plan for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan (2022-2039) (Adopted March 2024).

The Places for Everyone policies align with overall intentions of the development and have been considered where applicable for the design approach.

The scheme is all electric, with no reliance on fossil fuels; EV charging has included in the external car park; and the possibility of connection points within plant areas for district heating networks will be explored.

2.2.2.1 Policy JP-S1 - Sustainable Development

To help tackle climate change, development should aim to maximise its economic, social and environmental benefits simultaneously, minimise its adverse impacts, utilise sustainable construction techniques and actively seek opportunities to secure net gains across each of the different objectives.

2.2.2.2 Policy JP-S2 - Carbon and Energy

The aim of delivering a carbon neutral Greater Manchester no later than 2038, with a dramatic reduction in greenhouse gas emissions,

For non-residential developments, achieve at least BREEAM excellent standard (or equivalent) for the 'Ene 01 – reduction of energy use and carbon emissions' category rising to 'BREEAM outstanding' equivalent for ENE 01 from 2028.

2.2.2.3 Policy JP-S3 - Heat and Energy Networks

The provision of decentralised energy infrastructure is critical to the delivery of our objectives for low carbon growth, carbon reductions and an increase in local energy generation.

3. BREEAM

3.1 ENE 01: Reduction of energy use and carbon emissions

In line with the Places for Everyone Policy JP-S2 the ENE 01 credits have been assessed to achieve at least a 'Very Good' rating. The results indicate the Limes can achieve 7 credits for ENE 01 therefore surpassing the current requirement.

The BREEAM assessment will be monitored throughout the design and construction phases to ensure that the 'Very Good' rating is maintained as a minimum.

4. Heat and Energy Networks

There is an energy centre adjacent to the Limes which has an existing district heating network but it has not been possible to identify any spare capacity and during the energy centre survey it was identified there were apparent issues with the CHP engine operation. The CHP and district heating network is gas fired which does not align with the university policy of "no fossil fuels" and the scheme's all electric strategy.

It was concluded for these reasons not to include connections to the heat network at this time. However, this will continue to be reviewed and the possibility of connection points within plant areas for district heating networks will be explored.

5. Energy Strategy and Part L Compliance

This section of the report describes the energy consumption and associated CO₂ emissions for the scheme, based on the proposed fabric and building services strategy. The energy consumption and carbon dioxide emissions are modelled against Building Regulations 2021 Part L.

5.1 Energy Hierarchy

The MEP services within the building will be designed with the aim to reduce CO₂ emissions and reduce energy consumption.

The energy strategy will be developed to minimise the energy consumed by a lean, clean and green approach as defined below:

- » **Lean** - Use advanced building modelling and passive construction techniques as far as is cost effective to minimise energy demand.
- » **Clean** - Incorporate high efficiency systems and effective controls within the design to reduce energy consumption.
- » **Green** - Incorporate renewable energy sources where necessary and

economically viable to achieve the carbon emissions and energy targets.



Our strategy minimises energy usage, via the use of passive design measures. This includes such design measures as high building fabric thermal performance, low air permeability & optimising the extent of external glazing to maximise natural day lighting without giving rise to excessive heat gains.

Wherever mechanical ventilation is provided due to function or for building regulations compliance it is both energy efficient and simple to operate and incorporates heat recovery to reduce space heating energy.

Our design will provide simple and efficient environmental systems that are easy to understand and operate, giving end users full control over their environment. The systems will have low operating energy and maintenance lifecycle costs.

The strategy also proposes to incorporate solar photovoltaic (PV) panels on the roof of the building as well as using Air Source Heat Pumps (ASHP) to generate hot water. These renewable technologies will further lower the energy consumption and carbon emissions of the development in addition to the other energy saving measures.

5.2 MEP Strategy

The following describes the proposed MEP strategy for the development and the inputs used to model compliance for Building Regulations Part L 2021.

5.2.1 Internal Gains

As required by Part L all building occupancies, room heating set-points, ventilation rates and illumination levels have been modelled using National Calculation Method (NCM) standard templates.

CIBSE approved 'Test Reference Year' weather data for Manchester, the nearest available to the proposed site, has been used in the simulation.

5.2.2 Building Fabric (Lean)

The following tables shows the proposed U-values and construction details for the development which were inputted into the model.

Table 1: Proposed Building Element U-Values

Building Element	Element U-Value
Roof	0.18 W/m ² k
Wall	0.18 W/m ² k
Floor	0.15 W/m ² k
Glazing	1.20 W/m ² k

Table 2: Proposed Building Element Values

Building Element	Value
Glazing G-Value	0.4
Air Permeability	3 m ³ /hr/m ² at 50Pa

5.2.3 Building Services (Clean)

The proposed services strategy for the development are as follows.

- » **Heating** - Heating to offices and staff rooms will be provided via Low Temperature Hot Water heating system fed from refrigerant based Air Source Heat pumps.
- » **Ventilation** - Mechanical Ventilation with Heat Recovery (MVHR) will be provided to the development. This will include

offices, staff rooms and WCs/changing facilities. The kitchen will be provided with separate supply and extract ventilation in line with DW172 guidance.

- » **Domestic Water** - The development will be provided with a domestic cold water storage tank and booster pumps. Domestic hot water will be generated using dedicated ASHPs
- » **Lighting** - Lighting will be efficient LED fixtures throughout, with energy saving automatic controls. The lighting controls will be presence detection in the offices, circulation and WC while catering will have manual controls.
- » **Controls** - The building will be provided with a comprehensive BMS to allow control and monitoring of plant, systems and metering (water, electricity, energy).

Table 3: Proposed Building Services' Efficiencies

Building Service	Efficiency
ASHP - SCOP	3.5
ASHP Hot Water - SCOP	4.3
AHU - Heat Recovery	80%
AHU - SFP	17 W/L/s
MVHR - Heat Recovery	80%
MVHR - SFP	15 W/L/s
Lighting - Efficacy	100 lm/W

5.2.4 Renewable Technology (Green)

As part of reducing the energy and carbon emissions of the development, PV panels were incorporated. The table below shows the PV which was modelled.

Table 4: Proposed PV Panels

Technology	Area	Efficiency
PV Panels	30 m ²	20%

5.3 Predicted Energy Consumption and Carbon Emissions

Using the fabric and building services inputs detailed in this report, the development was modelled to determine the predicted energy consumption and carbon emissions.

The proposed building was modelled using IES version 2024.5.1.0.0.

There are two targets which need to be met, Target Emission Rate (TER) and Target Primary Energy Rate (TPER). These are compared to the calculated building rates, Building Emission Rate (BER) and Building Primary Energy Rate (BPER).

The following tables show the results from the modelling and the reduction against the target rates.

Table 5: TER and BER Results

Target and Building Rates		Reduction
TER	4.05 kgCO ₂ /m ² /yr	17%
BER	3.35 kgCO ₂ /m ² /yr	
TPER	42.96 kWh/m ² /yr	17%
BPER	35.53 kWh/m ² /yr	

The results show that with the described strategy and efficiencies the development will comply with Building Regulations Part L.

The BRUKL document showing the results is included in Appendix A.

Appendix A BRUKL Document

BRUKL Output Document HM Government
Compliance with England Building Regulations Part L 2021

Project name

The Limes As designed

Date: Wed Sep 04 16:33:51 2024

Administrative information

Building Details

Address: Richmond Park, Manchester, M14 6YY

Certifier details

Name: Katie Askwith

Telephone number: 0161 804 5550

Address: 9-21 Princess Street, Manchester, M2 4DN

Certification tool

Calculation engine: Apache

Calculation engine version: 7.0.26

Interface to calculation engine: IES Virtual Environment

Interface to calculation engine version: 7.0.26

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

Foundation area [m²]: 508.85

The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	4.05
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	3.35
Target primary energy rate (TPER), kWh _m /m ² :annum	42.96
Building primary energy rate (BPER), kWh _m /m ² :annum	35.53
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 -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	L0000015:Surf[0]
Floors	0.18	0.15	0.15	L0000015:Surf[2]
Pitched roofs	0.16	-	-	No pitched roofs in building
Flat roofs	0.18	0.18	0.18	L0000015:Surf[3]
Windows** and roof windows	1.6	1.2	1.2	L0000003:Surf[1]
Rooflights***	2.2	-	-	No roof lights in building
Personnel doors^	1.6	1.5	1.5	L0000012:Surf[0]
Vehicle access & similar large doors	1.3	-	-	No vehicle access doors in building
High usage entrance doors	3	-	-	No high usage entrance doors in building
U_a-Limit = Limiting area-weighted average U-values [W/(m²K)] U_a-Calc = Calculated area-weighted average U-values [W/(m²K)] U_i-Calc = Calculated maximum individual element U-values [W/(m²K)] * 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/m²K 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		
m³/(h.m²) at 50 Pa	8	3		

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	YES
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- ASHP with Radiators

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	3.5	-	0.2	0	0.8
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

1- ASHP Hot Water

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	4.3	0.003
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	
L0 - COSHH	-	-	-	1.5	-	-	-	-	-	-	N/A	
L0 - CPU Office	-	-	-	1.5	-	-	-	-	-	-	N/A	
L0 - Dispatch	-	-	-	1.5	-	-	-	-	-	-	N/A	
L0 - Goods In Office	-	-	-	1.5	-	-	-	-	-	-	N/A	
L0 - WC & Showers	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - Comms	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - CPU Office 4p	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - CPU Staff Rest	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - COSHH	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - Drying Store	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - FMC Meeting Room	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - FMC Office 3p	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - FMC Office 12p	-	-	-	1.5	-	-	-	-	-	-	N/A	
L1 - FMC Staff Rest	-	-	-	1.5	-	-	-	-	-	-	N/A	

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I	Zone	Standard
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1		
L1 - Shower & Change CPU	-	-	-	1.5	-	-	-	-	-	-	N/A
L1 - Shower & Change FMC	-	-	-	1.5	-	-	-	-	-	-	N/A
L1 - Workshop	-	-	-	1.5	-	-	-	-	-	-	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	
L0 - Circulation	100	-	-	
L0 - Cleaner Cupboard	100	-	-	
L0 - Cold/Freezer Room	100	-	-	
L0 - Cook	100	-	-	
L0 - COSHH	100	-	-	
L0 - CPU Office	100	-	-	
L0 - Dishwash	100	-	-	
L0 - Dispatch	100	-	-	
L0 - Dispatch Cold Store	100	-	-	
L0 - Dispatch Store	100	-	-	
L0 - Dispatch Store Packaging	100	-	-	
L0 - Dry Store	100	-	-	
L0 - Equipment Store	100	-	-	
L0 - Freezer Room (Pastry)	100	-	-	
L0 - Goods In	100	-	-	
L0 - Goods In Cold Store	100	-	-	
L0 - Goods In Office	100	-	-	
L0 - Holding Cold Room	100	-	-	
L0 - Plant Cupboard	100	-	-	
L0 - Prep	100	-	-	
L0 - Prep Allergens Gluten	100	-	-	
L0 - Prep Allergens Nuts	100	-	-	
L0 - Prep Bakery	100	-	-	
L0 - Stair	100	-	-	
L0 - Stair	100	-	-	
L0 - WC & Showers	100	-	-	
L1 - Circulation	100	-	-	
L1 - Comms	100	-	-	
L1 - CPU Office 4p	100	-	-	
L1 - CPU Staff Rest	100	-	-	
L1 - COSHH	100	-	-	
L1 - Drying Store	100	-	-	
L1 - FMC Meeting Room	100	-	-	
L1 - FMC Office 3p	100	-	-	
L1 - FMC Office 12p	100	-	-	
L1 - FMC Staff Rest	100	-	-	

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
L1 - Linen Store	100	-	-
L1 - Shower & Change CPU	100	-	-
L1 - Shower & Change FMC	100	-	-
L1 - Store	100	-	-
L1 - Internal Plant	100	-	-
L1 - Workshop	100	-	-

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?
L0 - CPU Office	NO (-69.5%)	NO
L0 - Dispatch	N/A	N/A
L0 - Goods In Office	N/A	N/A
L1 - Comms	N/A	N/A
L1 - CPU Office 4p	NO (-78.6%)	NO
L1 - CPU Staff Rest	NO (-70.3%)	NO
L1 - FMC Meeting Room	NO (-46.4%)	NO
L1 - FMC Office 3p	NO (-57%)	NO
L1 - FMC Office 12p	NO (-63.3%)	NO
L1 - FMC Staff Rest	NO (-58%)	NO
L1 - Workshop	NO (-74.9%)	NO

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?	YES
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters			Building Use	
	Actual	Notional	% Area	Building Type
Floor area [m²]	1167.3	1167.3		Retail/Financial and Professional Services
External area [m²]	2360	2360		Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	MAN	MAN	46	Offices and Workshop Businesses
Infiltration [m³/hm²@ 50Pa]	3	3		General Industrial and Special Industrial Groups
Average conductance [W/K]	466.11	625.22		Storage or Distribution
Average U-value [W/m²K]	0.2	0.26		Hotels
Alpha value* [%]	25.03	10		Residential Institutions: Hospitals and Care Homes
			54	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

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

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	5.97	9.24
Cooling	0	0
Auxiliary	4.09	2.46
Lighting	14.12	11.58
Hot water	3.7	5.39
Equipment*	43.41	43.41
TOTAL**	27.88	28.67

* 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/m²]

	Actual	Notional
Photovoltaic systems	4.48	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	4.48	0

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m²]	71.47	92.42
Primary energy [kWh _{PE} /m²]	35.53	42.96
Total emissions [kg/m²]	3.35	4.05

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 SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Central heating using water: radiators, [HS] ASHP, [HFT] Electricity, [CFT] Electricity									
	Actual	82	0	6.8	0	3.1	3.33	0	3.5
	Notional	106	0	10.6	0	1.8	2.78	0	----
[ST] No Heating or Cooling									
	Actual	0	0	0	0	0	0	0	0
	Notional	0	0	0	0	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