

ENERGY STATEMENT

Site

1A, Brighton Road, South Croydon, CR2 6EA

Proposal

Construction of a Four Storey building with 25 Flats with commercial space on ground floor level

13th April 2023

Ref. AJ-727



Table of Contents

1)	Executive Summary	3
2)	Introduction	8
3)	Policy Context	9
4)	Energy Assessment	11
5)	Annual Carbon Dioxide Emission Reduction	22
6)	Overheating	23
8)	Carbon Offsets	24
9)	Conclusion	25
9)	Appendices	26

Report Completed By	<u>Asaps.co.uk</u>
	A SAPS
Reviewed By	
Signature	



1) Executive Summary

- a) This Energy Strategy has been produced by Asaps.co.uk on behalf of the Applicant.
- b) It will set out the design measures that have been implemented by the Applicant to achieve the required CO2 reductions at the development site: 1A, Brighton Road, South Croydon, CR2 6EA ('the Development').
- c) The Strategy is written in support of the full planning application being submitted to The London borough of Croydon.
- d) The Strategy will demonstrate measures taken by the Applicant to comply with:
 - i) National Planning Policy Framework.
 - ii) The London Plan (Greater London Authority, 2022) planning policies on climate change mitigation measures to:
 - iii) Development proposals should make the fullest contribution to minimizing carbon dioxide emissions in accordance with the following energy hierarchy:
 - (1) Be lean: use less energy
 - (2) Be clean: supply energy efficiently
 - (3) Be green: use renewable energy
- e) Energy Planning, Greater London Authority guidance on preparing energy assessments (March 2022).
- f) Local Planning Condition if any.
- g) The Energy Strategy describes demand-reduction measures, energy-efficiency measures renewable energy in relation to how the Applicant meets the objectives of the energy hierarchy: Be Lean, Be Clean, Be Green. Refer to Figure 1.



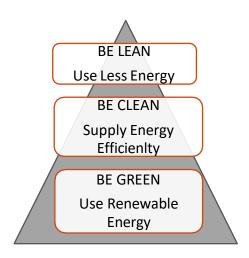


Figure 1 The Energy Hierarchy

h) The Strategy concludes that the following combination of measures, summarized here in Table 1, are included in the design of the Development:

Table 1 Measures incorporated to deliver the energy standard.

BE LEAN	 Energy-efficient building fabric and insulation to all heat loss floors, walls and roofs. High-efficiency double-glazed windows throughout. Quality of build will be confirmed by achieving good air-tightness results throughout. Efficient-building services including high-efficiency heating systems. Low-energy lighting throughout the building
BE CLEAN	No reduction through Be Clean.
BE GREEN	 PV of 0.5 KW for each for each Flat, South facing Panels are proposed, with little or no shading.

The impact of these design measures and low-carbon and renewable energy solutions, in terms of how the Applicant delivers their commitment to the energy hierarchy, is illustrated in Figure 2. The CO2 emissions at each stage of the energy hierarchy and percentage savings are set out in Table 2.



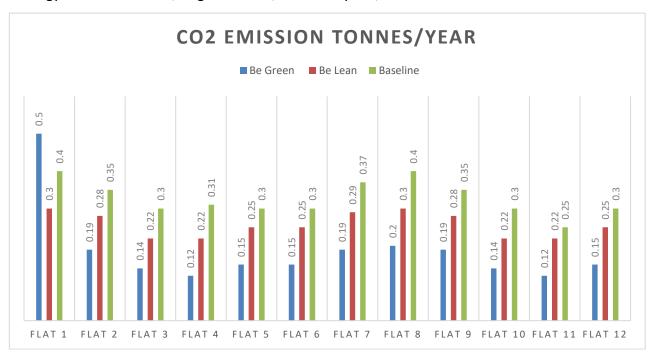


Figure 2 How the Development delivers the energy hierarchy

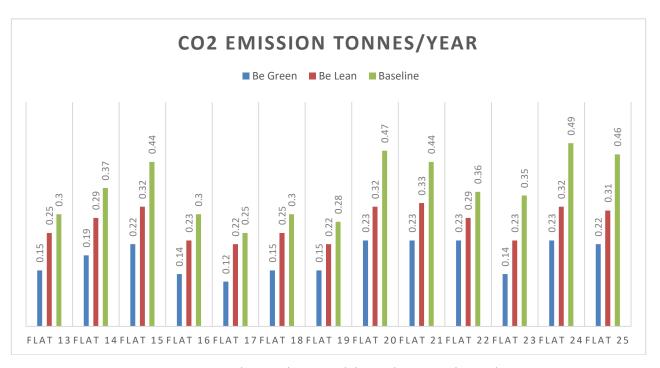


Figure 3 How the Development delivers the energy hierarchy

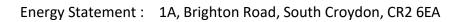


Table 2 CO2 emissions and savings after each stage of the energy hierarchy

Dwelling	Existing	Be Lean	Be Green	% Reduction
Emissions	Baseline	C02 Emissions	C02 Emissions	
	C02 Emissions	(tonnes of CO2/		
	(tonnes of	Yr.)	(Tonnes of CO2/	
	CO2/ Yr.)		Yr.)	
Flat 1	0.4	0.3	0.2	50.00%
Flat 2	0.35	0.28	0.19	45.71%
Flat 3	0.3	0.22	0.14	53.00%
Flat 4	0.31	0.22	0.12	61.29%
Flat 5	0.3	0.25	0.15	50.00%
Flat 6	0.3	0.25	0.15	50.00%
Flat 7	0.37	0.29	0.19	48.64%
Flat 8	0.4	0.3	0.2	50.00%
Flat 9	0.35	0.28	0.19	45.71%
Flat 10	0.3	0.22	0.14	53.33%
Flat 11	0.25	0.22	0.12	52.00%
Flat 12	0.3	0.25	0.15	50.00%
Flat 13	0.3	0.25	0.15	50.00%
Flat 14	0.37	0.29	0.19	48.64%
Flat 15	0.44	0.32	0.22	50%
Flat 16	0.3	0.23	0.14	53.33%
Flat 17	0.25	0.22	0.12	52.00%
Flat 18	0.3	0.25	0.15	50.00%
Flat 19	0.28	0.22	0.15	46.43%



Flat 20	0.47	0.32	0.23	51.06%
Flat 21	0.44	0.33	0.23	47.72%
Flat 22	0.36	0.29	0.23	36.11%
Flat 23	0.35	0.23	0.14	60.00%
Flat 24	0.49	0.32	0.23	53.06%
Flat 25	0.46	0.31	0.22	52.17%
Total	8.74	6.66	4.34	50.34%









2) Introduction

- a) Asaps, UK has been instructed by the client to prepare an Energy renewable statement or a Carbon Reduction Statement to support the planning application for the development at 1A, Brighton Road, South Croydon, CR2 6EA.
- b) This report must be read in conjunction with the application forms, certificates, detailed plans, and other supporting documents submitted to the Local Authority as part of the application.
- c) The application is for Construction of a four storey building with 22 Flats with commercial space on ground floor level.
- d) The objectives of this Carbon Reduction Statement are to outline the possible measures that can be incorporated into the development during detailed design, to make an appraisal of the carbon dioxide emissions of the proposed development, assess the potential fabric and building services efficiencies to reduce the carbon dioxide emission and to suggest the most appropriate means by which the development can contribute towards the aspiration of policy relating to reducing carbon dioxide emissions and energy consumption.
- e) The Assessment shall be carried out following the principles set out in the "Energy Hierarchy." These principles can be summarised as follows:
 - Be Lean use less energy
 - Be Clean supply energy efficiently
 - Be Green use renewable energy
- f) To demonstrate the carbon dioxide emissions, it is proposed to use the Standard Assessment Procedure (SAP) for the calculations to obtain initial baseline carbon dioxide emissions figures for the dwellings.
- g) Further calculations will be used to demonstrate the potential carbon dioxide emission savings from the initial calculations by enhancements to the building fabric, plant and controls BE LEAN. The carbon dioxide emission saving by the use of renewable energy shall be assessed through the outputs from the SAP calculations BE GREEN. The suitability of supplying energy, both heat, and power, through the use of a combined heat and power system shall be assessed BE CLEAN.



3) Policy Context

The Strategy will demonstrate measures taken by the Applicant to comply with:

- a) London borough of Croydon, which require all developments to ensure compliance with the applicable energy and sustainability standards stipulated in the National Planning Policy Framework, London Plan, Local Planning Authority and associated documents issued by the Mayor of London.
- b) The Great London Authority, through the London Plan, March 2021, will require developments to contribute towards London's ambitious target to become zero-carbon by 2050 by increasing energy efficiency, including through the use of smart technologies, and utilizing low carbon energy sources.
- c) The London Plan, March 2021, Policy SI 2 Minimising greenhouse gas emissions, expects major development proposals to be net zero-carbon. This means reducing greenhouse gas emissions in operation and minimizing both annual and peak energy demand in accordance with the energy hierarchy:
 - Be Lean use less energy and manage demand during operation
 - Be Clean exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly
 - Be Green maximise opportunities for renewable energy by producing, storing and using renewable energy on-site.
- d) The Policy SI 2 sets a minimum on-site reduction of at least 35 per cent beyond Building Regulations for all developments and major developments should aim for zero carbon. Residential development should achieve 10 per cent, and non-residential development should achieve 15 per cent through energy efficiency measures.
- e) Local Planning Condition if any as per Planning application.
- f) The way in which the Applicant meets the energy standard and CO2 reduction target at 1A, Brighton Road, South Croydon, CR2 6EA will be explained in this Strategy as follows:
 - i) The Baseline: The Development's baseline energy demand, the Target Emission Rate (TER): This will be calculated to establish the minimum on-site standard for compliance with AD L 2022.
 - ii) Be Lean: The Development's Dwelling Emission Rate (DER) will be calculated to explain how the Applicant's design specification has led to a reduced energy demand and improved fabric-energy efficiency. The better the design of the building fabric in terms of, for example, insulation, air tightness and orientation to maximise solar gain, the



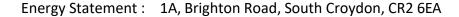


less energy required to heat the dwelling and so the better the fabric energy efficiency.

- iii) Be Clean: The potential to provide energy to the development in an efficient way, by either connecting to a District Heat Network (DHN) or installing on-site Combined Heat and Power (CHP), will be assessed and viability concluded.
- iv) Be Green: Low-carbon and renewable energy technologies will be assessed for their suitability and viability in relation to the Development. Solutions will be put forward for the development and the resulting CO2 emission savings presented.
- g) The Energy and Carbon Reduction Statement follows the principles set out in the Energy Hierarchy and is broken down to provide the following details:
 - Estimated site-wide regulated carbon dioxide emissions and reductions (broken down for the domestic and non-domestic elements), expressed in tonnes per annum, after each stage of the energy hierarchy
 - ii) A clear commitment to regulated carbon dioxide emissions savings compared to a Part L 2022 of the Building Regulations compliant development through energy demand reduction measures alone
 - iii) Clear evidence that the risk of overheating has been mitigated through passive design
 - iv) Evidence of investigation into existing or planned district heating networks that the development could be connected to, including relevant correspondence with local heat network operators
 - v) Commitment to a site heat network served by a single energy center linking all apartments and non-domestic building uses, if appropriate for the development

vi)

- vii) Where applicable, investigations of the feasibility of installing CHP in the proposed development (if connection can't be made to an area wide network) before considering renewables
- viii) An initial feasibility test for renewable energy technologies and, where appropriate, commitment to further reduce carbon dioxide emissions through the use of onsite renewable energy generation.
- h) Developments are expected to achieve carbon reductions beyond Approved Document L from energy efficiency measures alone to reduce energy demand as far as possible.
- i) This is a refurbishment and extension project and therefore the carbon reductions beyond Approved Document L will be limited due to the reuse of the existing structure.





- j) Under The London Plan Policy SI 3 Energy Infrastructure, the Mayor expects developments to investigate the use of heat networks, particularly for large scale developments. Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system. Where no heat network is not in existence yet, the development should be designed to allow for the cost-effective connection at a later date. The heat network should achieve good practice design and specification standards.
- k) Policy SI 4 Managing Heat Risk, requires developments to minimise adverse impacts of the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure. Developments should demonstrate the potential for internal overheating and reliance on air conditioning systems can be minimised in accordance with the following cooling hierarchy:
 - i) reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation and the provision of green infrastructure.
 - ii) minimise internal heat generation through energy efficient design.
 - iii) manage the heat within the building through exposed internal thermal mass and high ceilings.
 - iv) provide passive ventilation.
 - v) provide mechanical ventilation.
 - vi) provide active cooling systems.

4) Energy Assessment

Falcon Energy has used SAP 10 methodology to calculate energy demand for proposed dwelling.

a) Baseline Energy Demand

- i) In order to measure the effectiveness of demand-reduction measures, it is first necessary to calculate the baseline energy demand and this has been done using SAP 10 methodology. This can also be referred to as the Target Emission Rate (TER.)
- ii) The resulting AD L 2013, TER for 1A, Brighton Road, South Croydon, CR2 6EA has been calculated using Part L1 A and L1 B, model designs which have been applied to the Applicant's Development details. The TER, or baseline energy demand, represents the maximum CO2 emissions that are permitted for the Development in order to comply with AD L 2022. For New Build cottages it is calculated by multiplying floor area with the TER of Be Green stage of the assessment to get the total CO2 Emissions.



b) The Development Baseline

i) The resulting TER, representing the total maximum CO2 emissions permitted for the Development has been calculated as Shown in the Table Below. To ensure compliance with AD L 2013, CO2 emissions should not exceed this figure.

Table 3 Baseline Emission Rate

Dwelling	Baseline Emissions (Tonnes CO ₂ /yr.)
Flat 1	0.4
Flat 2	0.35
Flat 3	0.3
Flat 4	0.31
Flat 5	0.3
Flat 6	0.3
Flat 7	0.37
Flat 8	0.4
Flat 9	0.35
Flat 10	0.3
Flat 11	0.25
Flat 12	0.3
Flat 13	0.3
Flat 14	0.37
Flat 15	0.44
Flat 16	0.3



Flat 17	0.25
Flat 18	0.3
Flat 19	0.28
Flat 20	0.47
Flat 21	0.44
Flat 22	0.36
Flat 23	0.35
Flat 24	0.49
Flat 25	0.46
Total Baseline Emissions (Tco2/yr.)	8.74

c) Be Lean – Reduced Energy Demand

- i) The residential development at the proposed site, achieves a high quality, sustainable design by integrating the following design measures to reduce energy demand:
 - Energy-efficient building fabric and insulation to all heat loss floors, walls and roofs.
 - High-efficiency double-glazed windows throughout.
 - Quality of build will be confirmed by achieving good air-tightness results throughout.
 - Efficient-building services including high-efficiency heating systems.
 - Low-energy lighting throughout the building.

d) Reduced Energy Demand

- i) The Applicant's design specification and intended demand-reduction measures for the Development have been modelled using the same SAP 2022 methodology as before. This allows us to assess the effectiveness of Be Lean measures as a percentage reduction in CO2 emissions over the Baseline.
- ii) The total calculated CO2 emissions for proposed dwelling is <u>4340Kg/CO2 per annum</u>, which is a reduction of 50.34 % or 4400 Kg/CO2 per annum over the Baseline, refer



Energy Statement: 1A, Brighton Road, South Croydon, CR2 6EA to Appendix for SAP Results and Table 5 for the Be Lean design specification.



Table 4 Be lean Emission Rate

Dwelling	Be Lean Emissions (Tonnes CO ₂ /yr.)
Flat 1	0.3
Flat 2	0.28
Flat 3	0.22
Flat 4	0.22
Flat 5	0.25
Flat 6	0.25
Flat 7	0.29
Flat 8	0.3
Flat 9	0.28
Flat 10	0.22
Flat 11	0.22
Flat 12	0.25
Flat 13	0.25
Flat 14	0.29
Flat 15	0.32
Flat 16	0.23
Flat 17	0.22
Flat 18	0.25
Flat 19	0.22
Flat 20	0.32



Flat 21	0.33
Flat 22	0.29
Flat 23	0.23
Flat 24	0.32
Flat 25	0.31
Total Emissions (Tco2/yr.)	6.66

Table 5 Be Lean design specification for 1A, Brighton Road, South Croydon, CR2 6EA

Elements	Baseline Specification	Be Lean
U Value (W/m2.K)	(Part L1 A 2022)	Specifications
External Walls	0.26	0.12
Roofs	0.16	0.12
Ground Floor	0.18	0.12
Glazing	1.6	0.9
Doors	1.6	1
Space Heating	Brand Name: Grant	Brand Name: Grant
	Model Name: AERONA3	Model Name: AERONA3
	Model Qualifier: HPID13R32	Model Qualifier: HPID13R32
Renewables		
Thermal Mass	Default	Default

e) Be Clean – Supply Energy Efficiently

- i) Steps have been taken by the Applicant to reduce the energy demand of the Development as far as is feasible.
- ii) The next step in the energy hierarchy is to consider how the remaining energy demand can be met and whether there is the potential for this to be done through the



Energy Statement: 1A, Brighton Road, South Croydon, CR2 6EA mechanism of establishing and/or linking up with existing or planned decentralized energy systems.

iii) To ensure compliance with the Greater London Authority's energy hierarchy, the potential to supply energy efficiently to the Development at 1A, Brighton Road, South



Croydon, CR2 6EA and further reduce regulated CO2 emissions through Be Clean measures, is evaluated.

i) District Heating System

- (1) District Heat Networks (DHN), also referred to as either district energy systems or district heating schemes, produce steam, hot water or chilled water at a central energy centre. The steam or water is distributed in pre-insulated pipework, to individual buildings for space heating, domestic hot water and air conditioning. As a result, individual buildings served by a DHN do not require their own boilers or chillers.
- (2) The London Heat Map is an online tool that can help identify opportunities for the use of decentralised energy networks and systems for use in projects. Using the Heat Map, there appears to be no district heating systems available or even proposed in the area, so it would not be feasible to install plant for future connection to such a network at this time.

ii) Combine Heat And Power

(1) Combined Heat and Power (CHP)

It is a relatively simple technology comprising of an engine (usually gas fired, but can be oil or biomass fired) which fires a generator producing on-site electricity. This process also generates heat as a by-product which can then be used to provide space heating and hot water. CHP systems can be small scale, used in single buildings, or large scale and used in a community or district heating network. As electricity is produced on site, distribution losses in comparison to the national grid are minimal and the heat by-product is captured instead of being wasted. As a result, CHP provides an efficient, low carbon electricity and heat generation solution.

The following extracts from the GLA guidance on preparing energy assessments (March 2016) detail situations where CHP is unlikely to be a viable solution:

- Small-medium residential development At this scale it is generally not economic to install CHP in residential led, mixed use developments (and where CHP is installed it tends to have lower electrical efficiencies).
- Non-domestic developments with a simultaneous demand for heat and power for less than 5,000 homes per annum. examples of such developments may include offices and schools.

(2) Installation Consideration

- The sizing of a CHP system is critical to its efficiency and operation. An oversized system will require a large buffer tank to absorb excess heat and will often have to turn off. This is not good for long term operation.
- Systems should therefore be undersized and meet base heating demand (usually hot water demand) to ensure continuous operation.



- Large scale CHP systems will require sufficient plant room to accommodate the engine and buffer vessel.
- Large systems suitable for developments of 500 or more units, although can be viable on smaller schemes.
- Systems perform well where there is a consistent demand for heat.
- Export of electricity can sometimes require an upgrade to a local substation.
- Flue design important.
- Design needs to be bespoke to the needs of the development.

(3) Approximate upfront costs (TBC by supplier)

 Costs vary dependant on the size of the system. Small 24 kWt/1 kWe systems may start at £15,000 with larger systems costing substantially more.

(4) Advantages

• There are significant CO2 reductions for large-scale development (multiple apartment blocks) where there is a consistent requirement for heat.

(5) Disadvantages

- Not financially viable on smaller developments.
- Plant room space required.
- Will not perform well where there is inconsistent demand for heat.
- Up-front and ongoing costs are higher than commercial gas boilers

(6) Conclusion

- As the provision of onsite CHP is not considered viable for the Development, and as district heating networks are not currently available in this area, the Applicant should consider alternative options for providing heating in the building.
- This will be covered in the following Be Green section.
- There is no reduction to be shown via the Be Clean method.

f) Be Green - Low-Carbon and Renewable Energy

- i) The next step in the Energy Hierarchy is to reduce the carbon dioxide emissions by the use of renewable technologies BE GREEN.
- ii) A review of the potential renewable technologies has been undertaken to identify any potential low or zero carbon technologies which could be incorporated at a later date. The following renewable energy resources have been assessed for availability and appropriateness in relation to the site location, building occupancy and design.
 - Biomass Heating
 - Biomass CHP



- Heat Pumps
- Solar Photovoltaics
- Domestic Solar Hot Water Systems
- Wind Power
- iii) A preliminary assessment has been carried out for each renewable energy technology and for those appearing viable a further detailed appraisal has been undertaken.
- iv) The preliminary study considered the site location and the type of building in the development and surroundings and produced a shortlist of renewable energy technologies that will be the subject of a further feasibility study.
- v) Table 6 below provides a summary of the assessment.

Table 6 Renewables Toolkit Assessment

S.NO	Energy System	Description	Comment
1	Bio Mass Heating	Solid, liquid or gaseous fuels derived from plant material can provide boiler heat for space and water heating. Biomass can be burnt directly to provide heat in buildings. Wood from forests, urban tree pruning, farmed coppices or farm and factory waste, is the most common fuel and is used commercially in the form of wood chips or pellets, although traditional logs are also used. Other forms of Biomass can be used, e.g. bio-diesel.	Wood pellet or wood chip fired or dual bio-diesel/gas-fired boilers could be considered. As this development consists of a new building, it offers the opportunity to accommodate such a system. The flues would have to be discharged to atmosphere above roof level and concerns raised by Environmental Health regarding the pollutants and particles, which would have to be addressed. Care needs to be taken with the design of the flue to ensure particle discharge is not a concern to residents. The fuel storage silo/tank would have to be located external to the building, which is not available on this site. A suitable local fuel supplier is required to supply the site.
		Feasible	No
2	Bio Mass CHP	CHP as above, but with biomass as the fuel.	Whilst the Biomass CHP system may overcome the issue of the reduction in carbon dioxide emissions via true renewable sources, however, the lack of a year-round base load is still a problem and therefore Biomass CHP is not feasible for this development.
		Feasible	No



3	Ground/Air Source Heat Pumps heating	The ground collector can be installed, either as a loop of pipe, in the piles or using a borehole and compressor offer efficient heating of space in winter, as the temperature of the ground below 2m remain constant throughout the year. For Air source External condensing unit can be located adjacent to the dwelling in the discreet location.	Ground and air source heat pumps are most efficient when supplying heat continuously and in areas where a mains gas supply is not available. In dwellings, GSHP and ASHP are capable of supplying the majority of the total space heating and pre heat for the hot water. This site does appear to have external areas of sufficient size for the installation of ground loops for the collection of heat. It is considered that the use of ASHP to offset the heat losses of the dwelling would be economical at this stage due to the size of the dwellings. A suitable location for the outdoor units to ensure noise and draughts do not cause a nuisance to the building occupants or their neighbors is present
		Feasible	Yes
4	Solar Photovoltaics (PV)	Building Integrated Photovoltaics (BIPV) or Roof mounted collectors provide noiseless, low maintenance, carbon free electricity.	There appears to be areas of roof that could be utilitised to install PV panels onto the scheme. These could be integrated into the roof finishes or mounted on frames on the roof and orientated towards the south for optimal performance. Careful consideration must be given to the chosen roof finish to ensure compatibility.
		Feasible	Yes
5	Solar Thermal Hot Water	Solar collectors for low temperature hot water systems require direct isolation so the chosen location, tilt, orientation are critical	This solution could be utilised to generate hot water using the energy from the sun. There are the installation of solar thermal collectors and careful consideration must be given to the chosen roof finish to ensure compatibility.
		Feasible	*Yes (If no P.V panels are Installed)
6	Wind Power	Most Small Wind Turbines can be mounted on the buildings but larger machines require foundation at ground level and suitable site location	It could be viable to install some form of wind turbines on this site, however due to surrounding buildings and the visual impact it is not considered to be the most sensitive system of providing energy via renewable resources in this location.
		Feasible	No



vi) From the above it has been established that there are three potential ways of providing energy via renewable sources appropriate for inclusion in this scheme, these being the use of Air source heat pumps, solar photovoltaics and domestic solar hot water or a combination of these.

(1) Solar Photovoltaics

- (a) Roof mounted PV panels should ideally face south-east to south-west at an elevation of about 10°. However, in the UK even if installed flat on a roof, they receive 90% of the energy of an optimum system.
- (b) As can be seen from Table 7 below, the incorporation of photovoltaic system, with total output of 0.5 KW, the development could reduce the carbon dioxide emissions by a further 23.76 % and when combined with the fabric energy efficiency measures from in Table 4 above, a potential total reduction of 41.70% could be achieved.

(2) Domestic Solar Hot Water System

- (a) Approximately 2-4m2 of solar thermal collectors could provide the hot water requirements of a typical dwelling. These could be used to feed twin coil hot water cylinders positioned within the dwelling, allowing the water to be heated by the sun when possible whilst retaining the backup of the main heating system when required.
- (b) Although often not unattractive, and possible to integrate into the building or roof cladding system domestic solar thermal collectors are still considered likely to have visual implications, therefore careful sighting of the panels is required. Therefore, only PV panels are considered.



Table 7 Be Lean Emission Rate

Dwelling	Be Green Emissions (Tonnes CO ₂ /yr.)
Flat 1	0.2
Flat 2	0.19
Flat 3	0.14
Flat 4	0.12
Flat 5	0.15
Flat 6	0.15
Flat 7	0.19
Flat 8	0.2
Flat 9	0.19
Flat 10	0.14
Flat 11	0.12
Flat 12	0.15
Flat 13	0.15
Flat 14	0.19
Flat 15	0.22
Flat 16	0.14
Flat 17	0.12
Flat 18	0.15
Flat 19	0.15
Flat 20	0.23



Flat 21	0.23
Flat 22	0.23
Flat 23	0.14
Flat 24	0.23
Flat 25	0.22
Total Emissions (Tco2/yr.)	4.34

Table 8 Dwelling Emission Reductions

For Flats												
Strategy	Total Dwelling CO2 Emissions combined for Units in kgCo2/year	Percentage Reduction from Baseline										
Baseline	8740											
Be Lean	6660	23.79%										
Be Green (Photovoltaic PV)	4340	50.34%										

5) Annual Carbon Dioxide Emission Reduction

- a) Based on the initial SAP calculations for the dwellings, it has been calculated that the baseline carbon dioxide emissions figure is **8740kgC02/year**.
- a) In accordance with the Planning Policies set out by London borough of Croydon and the London Plan, this report has demonstrated a carbon dioxide emissions improvement
 23.79% by fabric and energy efficiencies.
- b) In addition, a further reduction in carbon dioxide emissions is possible by the use of renewable technologies in the form of solar photovoltaic panels. This would result in a total reduction of **50.34** %.
- c) A number of options have been considered and the potential carbon dioxide reductions calculated using the SAP calculations and a summary of the results is provided in Table 8 above.
- d) For the purpose of planning and based on the figures provided by initial SAP calculations, this report has demonstrated that it is feasible, with the improvement of the building fabric, energy efficient heating and controls systems, carbon dioxide emissions reduction in excess of 50.34%, could be achieved. This complies with the requirements of the



Energy Statement: 1A, Brighton Road, South Croydon, CR2 6EA planning policies set out by the London Plan and Local Planning Authority.





6) Overheating

- a) It is important to consider the internal comfort conditions for the occupants of the dwellings. At design stage, this can be met through the use of the "cooling hierarchy", as set out in the London Plan. The cooling hierarchy, in Policy SI 4, seeks to reduce any potential overheating and also the need to cool a building through active cooling measures. Air conditioning systems are a very resource intensive form of active cooling, increasing carbon dioxide emissions, and also emitting large amounts of heat into the surrounding area. By incorporating the cooling hierarchy into the design process buildings will be better equipped to manage their cooling needs and to adapt to the changing climate they will experience over their lifetime.
- b) The development shall reduce the potential for overheating and reliance on air conditioning systems and demonstrate this in accordance with the following cooling hierarchy:
 - i) Minimise internal heat generation through energy efficient design reduce the amount of heat entering a building in summer through orientation, shading, albedo, fenestration, insulation and green roofs and walls
 - ii) manage the heat within the building through exposed internal thermal mass and high ceilings
 - iii) passive ventilation
 - iv) mechanical ventilation
 - v) active cooling systems (ensuring they are the lowest carbon options).
- c) During the initial design, the initial SAP Assessment was carried out for the dwelling to help assess the energy demand and carbon emissions of the development. The SAP Assessment includes an overheating assessment in line with the requirements of the Building Regulations.
- d) Based on this SAP Assessment, the dwelling has no significant risk of solar overheating. This is acceptable under the requirements of the Building Regulations. The internal heat generation has been minimised through energy efficient design. All of the luminaires shall be low energy which will also remove an internal heat generating load.
- e) The heat entering the building in summer is reduced through the optimisation of glazing area, the use of shading via building form and other protruding edges, together with the inclusion of very high-performance facade materials and improved air tightness. The use of a solar control glazing, which has a coating applied to lower the G Value of the glass,





can be applied. This acts in the same way that the low e coating lowers the U Value which helps reduce heat losses through the windows.

- f) The dwelling could have a mechanical ventilation system installed, which provides filtered fresh air to the dwelling. This is tempered by the crossover heat exchanger, which recovers waste heat from the extract air from the dwelling. The ventilation systems shall be controlled locally by the occupants.
- g) Low energy lamps shall be used in the luminaires to reduce heat gain. These lamps do not emit heat like traditional GLS lamps.
- h) It is also possible to include passive ventilation within the cores and staircase by utilizing the smoke vents. The smoke vents are linked to thermostats and can be opened if the temperature exceeds an upper limit, thus providing passive and natural ventilation to these areas to remove any potential heat build-up.

8) Carbon Offsets

- a) Carbon offset funds provide a source of funds for carbon reduction projects across the cities and have a role in funding emission reductions from existing buildings where achieving carbon savings can be more challenging. Currently, the GLA's recommended price for offsetting carbon vary from £60 per tonne to £90 per tonne depending upon the region. The recommended GLA carbon offset price will be reviewed regularly.
- b) Carbon emissions left to offset after Be Green stage for all 25 flats combined are around 4.34 tonnes of CO2. Therefore, total Cost to offset the Carbon Emission for the period of 30 years for all 25 Flats (the assumed lifetime of the development's services). Is calculated as follows:

 $4.46 \times £60 \times 30 = £7,812.$





9) Conclusion

- a) The London borough of Croydon and the London Plan 2021 Policy S I 2 requires new residential developments to minimise and exhibit the highest standards of sustainable design and construction. The reduction in carbon dioxide emissions target has been set as 35%. The development should achieve a minimum of 10% Target Emission Rate, in building and services efficiencies only, as defined by the Building Regulations 2022. In this Project, the Target Emissions Rate has been set by calculating the emissions for the proposed dwellings if they were constructed using the existing fabric and services.
- b) The Application is for the redevelopment of at 1A, Brighton Road, South Croydon, CR2 6EA, Construction of a Four Storey building with 25 Flats & commercial space on ground floor level. It is proposed that in order to meet the requirements of policy this development will adopt a high standard of design with regard to energy efficiency principles. It has been estimated that the proposed development will achieve a reduction of at least 23.79% in the carbon dioxide emissions through fabric and services efficiencies. A further reduction of 34.83% by use on-site renewable energy generation could be achieved. This results in a total reduction of 50.34%. It is envisaged during detailed construction design; these figures can be improved. It is envisaged that during detailed design, the reduction in carbon dioxide emissions can be improved.
- c) This report has assessed the risk of overheating and the development has been identified as having no significant risk.
- d) This Energy and Carbon Reduction statement demonstrates that the proposed development incorporates low and zero carbon technologies. It is for these reasons it is considered that this application should be viewed favorably by the London borough of Croydon, or Local planning authority, to whom it may concern.

U-Value Calculation Report



U-Value 2.2.1 Page 1 of 1



Property Reference	Flat	01			Iss						ed on Date	13/0	13/04/2024		
Assessment Reference	Flat	1 Be Gree	en				Prop	Type I	Ref						
Property															
SAP Rating				88 B		DER		3.17	,		TER	4	13.17		
Environmental				97 A		% DER	< TER	0.17					75.93		
CO ₂ Emissions (t/year)				0.2		DFEE		34.2	7		TFEE		34.57		
Compliance Check				See BR	REL		E < TFEI).89		
% DPER < TPER				53.36		DPER		32.7	·1		TPER		70.14		
Assessor Details	Mr. Circu	: b.4 :									A 2 2 2 2 2 2 4	ID I	4050 0004		
Client	IMIT. GIOVA	anni Mauri	ZI								Assessor	טו	M052-0001		
SUMMARY FOR INPL	IT DATA F	DR: Now	Ruild (A	s Ruilf	-)										
) DAIAT	ort. Hen	Balla (A		• /										
Orientation				West											
Property Tenture				ND											
Transaction Type				5											
Terrain Type				Urban											
1.0 Property Type					mi-Detached										
Position of Flat				Mid-floo	or flat										
Which Floor				1											
2.0 Number of Storeys				1											
3.0 Date Built				2023											
3.0 Property Age Band				L											
4.0 Sheltered Sides				2											
5.0 Sunlight/Shade				Average	e or unknown	l									
6.0 Thermal Mass Parame	eter			Enter TMP value											
Thermal Mass				250.00							kJ/m²K				
7.0 Electricity Tariff				Standa	rd										
Smart electricity meter	fitted			Yes											
Smart gas meter fitted				Yes											
7.0 Measurements															
					Basemer Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 6th Store 7th Store	nt: or: y: y: y: y: y: y:	0.00 n 27.30 r 0.00 n 0.00 n 0.00 n 0.00 n 0.00 n 0.00 n	1 m 1 1 1 1 1	r In	ternal F 0.00 75.00 0.00 0.00 0.00 0.00 0.00 0.0	O m²	Averaç	ge Storey Heig 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m		
8.0 Living Area				27.00							m²				
9.0 External Walls Description	Туре	Constru	ıction				Карра		Nett Area		Shelter	Openir	ngs Area Calculati		
External Wall	Cavity Wall				os, AAC block,	(W/m²K) 0.12	(kJ/m²K) 60.00	Area(m²) 65.00	(m²) 32.60	Res 0.00	None	32.40	Type D Enter Gross Ar		
Corridor Wall	Cavity Wall	Cavity v	vity, any outsio vall : plasterbo vity, any outsio	oard on dab	s, AAC block,	0.12	60.00	17.00	17.00	0.70	Stairwell Acce	ess 0.00	Enter Gross Ar		
9.1 Party Walls			,, <u>,</u> ,												
Description	Туре		Construc	tion					U-Value			Shelter	Shelter		
Party Wall 1	Filled Ca Edge Se	avity with ealing	Plasterboa sides, AA0		abs mounted cavity	on cemen	t render	on both	(W/m²K) 0.00	(kJ/m²l 45.00		Res 0.00	None		
10.1 Party Ceilings Description		(Constructi	on									appa Area (n /m²K)		
												(KJ			

SAP 10 Online 2.13.11 Page 1 of 4



11.1 Party Floors Description		Storey Index	Cor	nstruction						Kappa (kJ/m²K)	Area (m²)
Party Floor 1		Lowest occupied		cast concrete plank flo	or (screed laid or	n rubber), c	arpeted			30.00	75.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings	Wallarararar	macu		Thiple glazed			7 111 7 11100	0.00	77000	0.70	0.00
Name North Windows/Door East Windows/Door	Opening Ty Glazinf Wind Glazinf Wind	lows/Door		Location External Wall External Wall		Orient No Ea	rth	Area (10.8 21.6	0		tch 0 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging				Calculate Bridges							
17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between d E16 Corner (normal) E18 Party wall between d	lwellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 11.00 11.00 21.00 28.07 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Imported Yes Yes Yes Yes Yes Yes
Y-value				0.12				W/m²K			
18.0 Pressure Testing				Yes							
Designed AP ₅₀				5.00				m³/(h.m	²) @ 50 Pa	a	
Property Tested?				Yes							
Test Method				Blower Door							
As Built AP₅₀				4.00				m³/(h.m	²) @ 50 Pa	a 	
19.0 Mechanical Ventilation Mechanical Ventilation											
Mechanical Ventila		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System	1			No							
22.0 Lighting											
No Fixed Lighting				No							
				Name Lighting 1	75.00		wer 40	Capa 300	ocity 00		ount 12
24.0 Main Heating 1				Database							
Percentage of Heat				100.00				%			
Database Ref. No.				102735							
Fuel Type				Electricity							
SAP Code				0							
In Winter				265.89							
In Summer				170.85				$\bar{\Box}$			
Model Name				AERONA3				$\bar{\Box}$			
Manufacturer				Grant Engineering (U	K) Ltd						
System Type				Heat Pump							
Controls SAP Code				2207				Ī			
Delayed Start Stat				No				Ħ			
HETAS approved Systen	n			No				Ħ			
Oil Pump Inside				No				Ħ			
•								_			

SAP 10 Online 2.13.11 Page 2 of 4



		a cricigy
FLCasa	0.00	1
FI Case	0.00]
Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None]
26.0 Heat Networks	None	
Heat Source Fuel Type Heating L		ctrical Fuel Factor Efficiency type
	Heat Power Ratio	
Heat source 1 None Heat source 2 None		
Heat source 3 None Heat source 4 None		
Heat source 5 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	
Summer Immersion	No	
Cold Water Source	From mains]
Bath Count	2]
Supplementary Immersion	No]
Immersion Only Heating Hot Water	Yes]
28.3 Waste Water Heat Recovery System		1
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes]
Independent Time Control	Yes]
Insulation Type	Measured Loss]
Cylinder Volume	200.00]] ,
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework] Kiriinaay
In Airing Cupboard	No]
		J 1
31.0 Thermal Store	None	
32.0 Photovoltaic Unit		1
	One Dwelling	
Export Capable Meter?	One Dwelling Yes	

SAP 10 Online 2.13.11 Page 3 of 4



Diverter				Yes						
Battery Capaci	ty [kWh]			10.00						
PV Cells kWp Orientat		Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over: Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75		South	30°	None Or Little	No	No	1.00		Kelelelice	
34.0 Small-scale I	Hydro			None						
Electricity Gene	erated			0.00						
Apportioned				0.00				kWh/Ye	ear	
Connected to o	lwelling's ele	ectricity meter		Yes						
Electricity Gene	eration			Annual						
Jan	Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oc	t Nov	Dec

Recommendations Lower cost measures None

Further measures to achieve even higher standards None

SAP 10 Online 2.13.11 Page 4 of 4



Property Reference		Flat 02								Issı	ued on Date	13/0	4/2024
Assessment Reference	ce	Flat 2 Be Gre	en				Prop	Type I	Ref				
Property													
SAP Rating				89 B		DER		2.79)		TER	1	2.17
Environmental				98 A		% DER	< TER					7	7.07
CO ₂ Emissions (t/year	r)			0.19		DFEE		26.4	11		TFEE	3	1.13
Compliance Check		See BR	EL	% DFE	E < TFEI	E				1	5.17		
% DPER < TPER				55.41		DPER		28.8	35		TPER	6	4.70
Assessor Details	Mr.	Giovanni Mau	rizi								Assessor	ID N	1052-0001
Client													
SUMMARY FOR INF	PUT DAT	A FOR: Ne	w Build (A	As Built)								
Orientation				South									
Property Tenture		ND											
Transaction Type				5									
Terrain Type				Urban									
1.0 Property Type					mi-Detached								
Position of Flat				Mid-floo									
Which Floor				1									
2.0 Number of Storeys				1									
3.0 Date Built				2023									
3.0 Property Age Band				L									
4.0 Sheltered Sides				3									
5.0 Sunlight/Shade				Average	or unknown								
6.0 Thermal Mass Parar	neter			Enter TI	MP value								
Thermal Mass				250.00							kJ/m²K		
7.0 Electricity Tariff				Standar	d								
Smart electricity mete	er fitted			Yes									
Smart gas meter fitte				Yes									
7.0 Measurements													
					Basement Ground floor 1st Storey 2nd Storey 3rd Storey 4th Storey 5th Storey 7th Storey		0.00 n 24.00 r 0.00 n 0.00 n 0.00 n 0.00 n 0.00 n 0.00 n	n m n n n n n	r In	0.0 78.9 0.0 0.0 0.0 0.0 0.0	Floor Area 10 m ² 50 m ² 10 m ²	Averaç	0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
8.0 Living Area				27.00							m²		
9.0 External Walls	T		m.a41c			11.37-2	Ve	0	Nott A	Oh - P	OL "	0	Aug - 0 :
Description External Wall	Type Cavity W		ruction wall : plasterbo	oard on dah	s AAC block	U-Value (W/m²K) 0.12	Kappa (kJ/m²K) 60.00		Nett Area (m²) 17.56	Res 0.00	Shelter None	Openin 19.44	gs Area Calculat Type Enter Gross A
Corridor Wall	Cavity W	filled c	avity, any outsi wall : plasterbo	ide structure		0.12	60.00	8.00	8.00	0.70	Stairwell Acce		Enter Gross A
Staircase wall	Cavity W	filled c all Cavity	avity, any outsi wall : plasterbo avity, any outsi	ide structure oard on dab	s, AAC block,	0.12	60.00	27.00	27.00	2.50	Corridor 3 Stairwell Stairw		Enter Gross A
0.1 Party Walls		illied C	with, any outst	on uotule	•								
Description	Тур	ре	Construc	tion					U-Value (W/m ² K)			Shelter Res	Shelter
Party Wall 1		ed Cavity with ge Sealing	Plasterboa sides, AA		bs mounted o cavity	n cemen	t render	on both		45.0		0.00	None
10.1 Party Ceilings Description		-	Constructi	ion									nppa Area (n /m²K)

SAP 10 Online 2.13.11 Page 1 of 4



Party Ceiling 1		Precas	st concrete plank floor (scre	eed laid on rubber), carpeted				30.00	78.50
11.1 Party Floors										
Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²
Party Floor 1		Lowest occupied	Precast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	78.50
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	0.90
13.0 Openings Name East Windows/Door NorthWindows/Door	Opening Ty Glazinf Wind Glazinf Wind	dows/Door	Location External Wall External Wall		Orient Eas Nor	st	Area (15.1 4.32	2	(tch 0 0
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging 17.1 List of Bridges Bridge Type E1 Steel lintel with perfora E3 Sill E4 Jamb E7 Party floor between dw E16 Corner (normal) E18 Party wall between dw	ellings (in block		Calculate Bridges Source Type Gov Approved Scheme	Length 8.60 8.60 15.52 21.53 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Imported Yes Yes Yes Yes Yes Yes
Y-value			0.11				W/m²K			
18.0 Pressure Testing			Yes							
Designed AP ₅₀			5.00				m³/(h.m	²) @ 50 Pa	I	
Property Tested?			Yes							
Test Method			Blower Door							
As Built AP ₅₀			4.00				m³/(h.m ²	²) @ 50 Pa	I	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilatio		ent	No							
20.0 Fans, Open Fireplaces, 21.0 Fixed Cooling System	riues		No							
			INO							
22.0 Lighting No Fixed Lighting			No				٦			
<u> </u>			Name Lighting 1	Efficacy 75.00		wer 10	Capa 300	city 00		ount 8
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			263.65							
In Summer			170.48							
Model Name			AERONA3							
Manufacturer			Grant Engineering (L	JK) Ltd						
System Type			Heat Pump							
Controls SAP Code			2207							
Delayed Start Stat			No							

SAP 10 Online 2.13.11 Page 2 of 4



Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U	se Efficiency Percentage Of Heat Heat Elec Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating		ı
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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	200.00	L
Loss	1.65	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?	Yes	
Connected To Dwelling	Yes	
Diverter	Yes	



Battery Capacity [k	Wh]		10.00						
PV Cells kW	p Orientation Elevat				Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer	
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	F	lat 03							Issu	ed on Date	1:	3/04/202	24
Assessment Reference		lat 3 Be Gre	en			Pr	ор Туре	Ref				570 HZ02	
Property													
SAP Rating				88 B	DEF		3.5	56		TER		16.12	
Environmental				98 A	-	ER < TER						77.92	
CO ₂ Emissions (t/year)				0.14	DFE			.50		TFEE		36.48	
Compliance Check				See BREL	-	FEE < TF						10.93	
% DPER < TPER				56.26	DPE	:R	37	.82		TPER			
Assessor Details	Mr. Gi	iovanni Mau	rizi							Assessor	r ID	M052-	0001
Client													
SUMMARY FOR INPL	JT DATA	FOR: Nev	w Build (A	As Built)									
Orientation				West									
Property Tenture				ND									
Transaction Type				5									
Terrain Type				Urban									
1.0 Property Type				Flat, Semi-Detach	ed								
Position of Flat				Mid-floor flat									
Which Floor				1									
2.0 Number of Storeys				1									
3.0 Date Built				2023									
3.0 Property Age Band				L									
4.0 Sheltered Sides				2									
5.0 Sunlight/Shade				Average or unknown	wn								
6.0 Thermal Mass Parame	eter			Enter TMP value									
Thermal Mass				250.00						kJ/m²K			
7.0 Electricity Tariff				Standard									
-	fitted			Yes									
Smart electricity meter	iiilea			Yes									
Smart gas meter fitted				res									
7.0 Measurements				Basem Ground fl 1st Sto 2nd Sto 3rd Sto 4th Sto 5th Sto 7th Sto	ent: oor: rey: rey: rey: rey: rey:	eat Loss 0.00 22.3 0.00 0.00 0.00 0.00 0.00 0.00	0 m 0 m 0 m 0 m 0 m 0 m 0 m	er lı	nternal F 0.00 47.5 0.00 0.00 0.00 0.00 0.00 0.00	6 m² 1 m² 1 m² 1 m² 1 m² 1 m²	Aver	0.00 3.00 0.00 0.00 0.00 0.00 0.00 0.00	0 m 0 m 0 m 0 m 0 m 0 m
8.0 Living Area				32.00						m²			
9.0 External Walls Description	Туре	Const	ruction		U-Va	ılue Kappa	Grace	Nett Area	Shaltar	Shelter	One	ninge A	ea Calculatio
External Wall	Cavity Wall			oard on dabs, AAC block	(W/m	n²K) (kJ/m²l	(Area(m	1²) (m²)	Res 0.00	None		-	Type ter Gross Are
Corridor Wall	Cavity Wall	filled c Cavity	avity, any outsi	de structure oard on dabs, AAC block					0.70	Stairwell Acc	ess 0.		ter Gross Are
9.1 Party Walls Description Party Wall 1			Construc		ed on cen	nent rende	er on bot	(W/m²K	e Kappa () (kJ/m²l 45.00	a Area () (m²)	Shelte Res 0.00	r (Shelter None
10.1 Party Ceilings	Euge	. осашіў	Siucs, AA	o blocks, cavily									
Description			Constructi	on								Kappa kJ/m²K)	Area (m
Party Ceiling 1			Precast cor	ncrete plank floor (s	creed lai	d on rubbe	er), carpe	eted			ν.	30.00	47.56



11.1 Party Floors Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²
Party Floor 1		Lowest occupied	Precast concrete plank t	floor (screed laid or	n rubber), ca	arpeted			30.00	47.56
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings										
Name East Windows/Door NorthWindows/Door Opening	Opening Ty Glazinf Wind Glazinf Wind Glazinf Wind	dows/Door dows/Door	Location External Wall External Wall External Wall		Orient a Eas Nor We	st th	Area 6.4 6.7 4.3	8 2		tch 0 0 0
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging			Calculate Bridges							
17.1 List of Bridges										
Bridge Type E1 Steel lintel with perfora E3 Sill E4 Jamb E7 Party floor between dw E16 Corner (normal) E18 Party wall between dw	vellings (in block		Source Type Gov Approved Scheme	Length 4.30 4.30 7.76 10.57 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value			0.06				W/m²K			
18.0 Pressure Testing			Yes				7			
Designed AP ₅₀			5.00				m³/(h.m	²) @ 50 P	'a	
Property Tested?			Yes				Ī `	, -		
Test Method			Blower Door							
As Built AP ₅₀			4.00				m³/(h.m	²) @ 50 P	'a	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation	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 Lighting 1	Efficacy 75.00		wer 0	 Capa 30			ount 7
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			261.35							
In Summer			170.29							
Model Name			AERONA3							
Manufacturer			Grant Engineering	(UK) Ltd						
System Type			Heat Pump							
Controls SAP Code			2207							
Delayed Start Stat			No							
HETAS approved System			No							
Oil Pump Inside			No							



FLCoop	0.00	7
FI Case	0.00	_ _
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	_
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None]
26.0 Heat Networks	None]
Heat Source Fuel Type Heating U		ectrical Fuel Factor Efficiency type
	Heat Power Ratio	
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None		
Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	٦
SAP Code	901	<u>-</u>
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 Installations System Waste Water Heat Recovery Storage System	No	_ _
Solar Panel	No	_ _
Water use <= 125 litres/person/day	Yes	
Summer Immersion	No	
Cold Water Source	From mains	_ _
Bath Count	1	
Supplementary Immersion	No	
•		_ _
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss]
Cylinder Volume	200.00	L
Loss	1.65	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?	Yes	1
Connected To Dwelling	Yes	า๋
Commond to Difforming		_



Diverter			Yes						
Battery Capacity [kWh]			0.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over: Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Kelelelice	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's ele	ectricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oc	t Nov	Dec

Recommendations Lower cost measures None

Further measures to achieve even higher standards None



Property Reference	Flat 04							Issue	d on Date	13/	04/2024
Assessment Reference		Be Green			Prop	Туре	Ref				
Property											
SAP Rating			91 B	DER		2.80	<u> </u>		TER		13.30
Environmental			98 A	% DER	< TER	2.00			1210		78.95
CO ₂ Emissions (t/year)			0.12	DFEE		23.3	M		TFEE		26.50
Compliance Check			See BREL		E < TFEE		, -				11.92
% DPER < TPER			59.32	DPER		28.9)5		TPER		71.16
Assessor Details Client	Mr. Giovani	ni Maurizi							Assessor	וט	M052-0001
	DATA FOR	D. Now Build /	A o Built)								
SUMMARY FOR INPUT	DAIAFOR	k. New Bulla (
Orientation			North								
Property Tenture			ND								
Transaction Type			5								
Terrain Type			Urban								
1.0 Property Type			Flat, Semi-Detache	d							
Position of Flat			Mid-floor flat								
Which Floor			1								
2.0 Number of Storeys			1								
3.0 Date Built			2023								
3.0 Property Age Band			L								
4.0 Sheltered Sides			3								
5.0 Sunlight/Shade			Average or unknow	n							
6.0 Thermal Mass Paramete	er		Enter TMP value								
Thermal Mass			250.00						kJ/m²K		
7.0 Electricity Tariff			Standard								
Smart electricity meter fitt	ed		Yes								
Smart gas meter fitted			Yes								
7.0 Measurements											
			Baseme Ground flo 1st Stor 2nd Stor 3rd Stor 4th Stor 5th Stor 7th Stor	ent: or: ey: ey: ey: ey: ey: ey:	0.00 m 11.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1	r Int	ternal FI 0.00 52.00 0.00 0.00 0.00 0.00 0.00 0.0	m² m² m² m² m² m² m²	Avera	ge Storey Hei 0.00 m 3.00 m 0.00 m
8.0 Living Area			25.00						m²		
External Wall C	ype cavity Wall	filled cavity, any outs		0.12	(kJ/m²K) A 60.00	Area(m²) 21.21	7.96	Res 0.00	Shelter None	13.2	
Corridor Wall C	avity Wall	Cavity wall : plasters filled cavity, any outs	poard on dabs, AAC block, side structure	0.12	60.00	10.11	10.11	0.70	Stairwell According 3		0 Enter Gross
9.1 Party Walls Description Party Wall 1	Type Filled Cavi		pard on dabs mounted	l on cemen	t render c	on both	U-Value (W/m²K) 0.00			Shelter Res 0.00	Shelter None
	Edge Seal	ing sides, AA	C blocks, cavity								
10.1 Party Ceilings Description		Construct	tion								appa Area
Party Ceiling 1		Precast co	ncrete plank floor (sc	reed laid or	n rubber),	carpet	ed				J/m²K) 80.00 48.0



Part Comparing Types Clazing	11.1 Party Floors Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²)
Description Description Description Description Property Propert	Party Floor 1		Lowest		floor (screed laid or	n rubber), c	arpeted				48.00
Manufacture Mindow Type glazed Manufacture Mindow Type glazed Manufacture Mindow Type glazed Manufacture Mindow Type glazed Mindows Type glazed Type glaze		Data Source	Туре	Glazing				G-value			U Value
13.0 Cyclestration	Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap		0.68			(W/m²K) 0.90
Name Opening Type Clarating Clara	13.0 Openings										
14.0 Conservatory	Name	Opening Ty	pe								
16.0 Draught Lobby		Glazini vvino	dows/Door			vve	SI	13.2			0
17.0 Thermal Bridging Calculate Bridges T7.1 List of Bridges	•										
17.0 Thermal Bridging 17.1 List of Bridges 17.1 Li	-										
17.1 List of Bridges Source Type Source Type Existed intel with perforated steel base plate E3 Sill Source Type E3 Sill Source Type Gov Approved Scheme 5.30 0.50 0.50 0.50 Yet Source Type Source	16.0 Draught Lobby			Yes							
El Sicel lintel with perforated steel base plate ES Sill ES James Approved Scheme ES James Sill ES James Approved Scheme ES James Sill ES James Approved Scheme ES James Ap				Calculate Bridges							
18.0 Pressure Testing	E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between d E16 Corner (normal)	wellings (in block		Gov Approved Scheme Gov Approved Scheme Gov Approved Scheme Gov Approved Scheme Gov Approved Scheme	5.30 5.30 10.00 10.44 6.00	0.50 0.04 0.05 0.07 0.09	0.50 0.04 0.05 0.07 0.09	Reference:	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Designed AP-w	Y-value			0.16				W/m²K			
Designed AP-w	18 0 Pressure Testing			Yes							
Property Tested? Yes	_							 	²) @ 50 P	а	
Test Method As Built AP₁∞ 19.0 Mechanical Ventilation Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No No No No No No Name Lighting No Fixed Lighting Percentage of Heat Database Percentage of Heat 100.00 Puly Type SAP Code In Winter 1258.76 In Summer Model Name AERONA3 Manufacturer System Type Centrols SAP Code Controls SAP Code Contro	-) @ 00 i	u .	
As Built AP-ss	•							╡			
19.0 Mechanical Ventilation								 	²) @ 50 P	а	
Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Capacity Count No Fixed Lighting No Capacity Count Lighting 1 Database Percentage of Heat 100.00 Moles Access to the proof of the									7 6 00 .		
21.0 Fixed Cooling System	Mechanical Ventilation		ent	No							
No Name Efficacy Power Capacity Count 75.00 Main Heating 1 Database Percentage of Heat 100.00 % SAP Code 10 Winter 100.275	20.0 Fans, Open Fireplaces	s, Flues									
No	21.0 Fixed Cooling System	l		No							
Name Lighting 1 Efficacy 75.00 Power 40 Capacity 3000 Count 7 24.0 Main Heating 1 Database ————————————————————————————————————	22.0 Lighting										
Lighting 1 75.00° 40 3000° 7 24.0 Main Heating 1 Percentage of Heat 100.00 % Database Ref. No. 102735 % Fuel Type Electricity SAP Code 0 In Winter 258.76	No Fixed Lighting										
Percentage of Heat 100.00 % Database Ref. No. 102735 () Fuel Type Electricity () SAP Code () () In Winter 258.76 () In Summer 170.27 () Model Name AERONA3 () Manufacturer Grant Engineering (UK) Ltd () System Type Heat Pump () Controls SAP Code 2207 () Delayed Start Stat () () HETAS approved System () () Oil Pump Inside () ()											
Database Ref. No. 102735 Fuel Type Electricity SAP Code 0 In Winter 258.76 In Summer 170.27 Model Name AERONA3 Manufacturer Grant Engineering (UK) Ltd System Type Heat Pump Controls SAP Code 2207 Delayed Start Stat No HETAS approved System No Oil Pump Inside No	24.0 Main Heating 1			Database							
Fuel Type Electricity SAP Code 0 In Winter 258.76 In Summer 170.27 Model Name AERONA3 Manufacturer Grant Engineering (UK) Ltd System Type Heat Pump Controls SAP Code 2207 Delayed Start Stat No HETAS approved System No Oil Pump Inside No	Percentage of Heat			100.00				%			
SAP Code 0 In Winter 258.76 In Summer 170.27 Model Name AERONA3 Manufacturer Grant Engineering (UK) Ltd System Type Heat Pump Controls SAP Code 2207 Delayed Start Stat No HETAS approved System No Oil Pump Inside No	Database Ref. No.			102735							
In Winter 258.76 In Summer 170.27 Model Name AERONA3 Manufacturer Grant Engineering (UK) Ltd System Type Heat Pump Controls SAP Code 2207 Delayed Start Stat No HETAS approved System No Oil Pump Inside No	Fuel Type			Electricity							
In Summer 170.27 Model Name AERONA3 Manufacturer Grant Engineering (UK) Ltd System Type Heat Pump Controls SAP Code 2207 Delayed Start Stat No HETAS approved System No Oil Pump Inside No	SAP Code			0							
Model Name AERONA3 Manufacturer Grant Engineering (UK) Ltd Heat Pump Controls SAP Code 2207 Delayed Start Stat No HETAS approved System Oil Pump Inside	In Winter			258.76							
Manufacturer System Type Heat Pump Controls SAP Code Delayed Start Stat No HETAS approved System Oil Pump Inside Grant Engineering (UK) Ltd Heat Pump 2207 No No	In Summer			170.27							
System Type Controls SAP Code 2207 Delayed Start Stat No HETAS approved System Oil Pump Inside Heat Pump No No	Model Name			AERONA3							
System Type Controls SAP Code 2207 Delayed Start Stat No HETAS approved System Oil Pump Inside Heat Pump No No	Manufacturer			Grant Engineering	(UK) Ltd						
Controls SAP Code 2207 Delayed Start Stat No HETAS approved System No Oil Pump Inside No	System Type							Ī			
Delayed Start Stat No HETAS approved System No Oil Pump Inside No	•							Ī			
HETAS approved System No No	Delayed Start Stat							Ħ			
Oil Pump Inside		n						Ħ			
								Ħ			
	FI Case			0.00				Ħ			



Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators	<u></u>
Flow Temperature	Enter value]
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi	1
Combi keep hot type	None	1
Combines processes	TABLE	<u> </u>
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating U	Ise Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	1
SAP Code	901]]
		J 7
Flue Gas Heat Recovery System	No	J 7
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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	1	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes]
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	1
Cylinder Volume	200.00] L
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework	j
In Airing Cupboard	No	j
31.0 Thermal Store	None]
32.0 Photovoltaic Unit	One Dwelling]
Export Capable Meter?	Yes	1
Connected To Dwelling	Yes	<u>.</u> 1
Diverter	Yes]
Divolto	100	



Battery Capacity [k	Wh]		10.00						
PV Cells kW	p Orientation Elevat				Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer	
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	Flat	05								Issu	ed on Date	13/0	04/2024
Assessment Reference		5 Be Gree	n				Pror	Type F	Ref	1000		10/0	7-7/202-
Property	Tiat	o Be Green					,	.,,,,,,					
SAP Rating				90 B		DER		2.93	-		TER		12.83
Environmental				98 A		% DER	< TER						77.16
CO ₂ Emissions (t/year)				0.15		DFEE		26.8	5		TFEE		28.96
Compliance Check				See BRI	EL _		E < TFEE	_					7.30
% DPER < TPER				55.81		DPER		30.2	:5		TPER	(88.44
Assessor Details	Mr. Giova	anni Mauriz	zi								Assessor	ID N	M052-0001
Client													
SUMMARY FOR INP	UT DATA FO	OR: New	Build (A	s Built))								
Orientation				East									
Property Tenture				ND									
Transaction Type				5									
Terrain Type				Urban									
1.0 Property Type				Flat, Ser	ni-Detached								
Position of Flat				Mid-floor	flat								
Which Floor				1									
2.0 Number of Storeys				1									
3.0 Date Built				2023									
3.0 Property Age Band				L									
4.0 Sheltered Sides				3									
5.0 Sunlight/Shade				Average	or unknown								
6.0 Thermal Mass Param	eter			Enter TN	/IP value								
Thermal Mass				250.00							kJ/m²K		
7.0 Electricity Tariff				Standard									
Smart electricity meter	fitted			Yes									
Smart gas meter fitted				Yes									
7.0 Measurements													
				•	Basemer Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 6th Store 7th Store	at: or: y: y: y: y: y: y:	0.00 m 18.06 r 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n n i i i i	r In	ternal F 0.00 62.00 0.00 0.00 0.00 0.00 0.00	0 m² 0 m² 0 m² 0 m² 0 m² 0 m² 0 m²	Averaç	ge Storey Heigh 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
8.0 Living Area				17.30	7.11 0.010	,	0.0011			0.00	m²		0.00 111
9.0 External Walls Description	Туре	Constru	ction			U-Value			Nett Area		Shelter	Openir	ngs Area Calculatio
External Wall	Cavity Wall		all : plasterbo		s, AAC block,	(W/m²K) 0.12	(kJ/m²K) 60.00	Area(m²) 27.09	(m²) 7.34	Res 0.00	None	19.7	Type 5 Enter Gross Are
Corridor Wall	Cavity Wall	Cavity wa	ity, any outsic all : plasterbo ity, any outsic	ard on dabs	s, AAC block,	0.12	60.00	27.09	27.09	0.70	Stairwell Acce Corridor 3	ss 0.00	Enter Gross Are
9.1 Party Walls		04 047	,,,	04014/0							22/1140/10		
Description	Туре		Construct	tion					U-Value			Shelter	Shelter
Party Wall 1	Filled Ca Edge Se		Plasterboa sides, AAC		os mounted cavity	on cemen	t render	on both	(W/m²K) 0.00	(kJ/m²l 45.00		Res 0.00	None
10.1 Party Ceilings Description		c	onstruction	on									appa Area (m
Party Ceiling 1	Precast concrete plank floor (screed laid on rubber), carpeted 30.00 62.0												



11.1 Party Floors Description		Storey Index	Con	struction						Kappa (kJ/m²K)	
Party Floor 1		Lowest occupied		ast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	62.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	F <u>r</u> ame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings											
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		Location External Wall		Orient We		Area (19.7			tch 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 7.90 7.90 15.00 18.06 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value				0.13				W/m²K			
18.0 Pressure Testing				Yes							
Designed AP ₅₀				5.00				m³/(h.m	²) @ 50 P	а	
Property Tested?				Yes				i	, 0		
Test Method				Blower Door				Ħ			
As Built AP50				4.00				m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilat		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System				No							
22.0 Lighting No Fixed Lighting				No Name	Efficacy	Po	wer	Сара	ıcity	Co	ount
				Lighting 1	75.00		10	300	00		10
24.0 Main Heating 1				Database				\exists			
Percentage of Heat				100.00				%			
Database Ref. No.				102735				_			
Fuel Type				Electricity				╣			
SAP Code				0				╛			
In Winter				263.79				_			
In Summer				170.33				_			
Model Name				AERONA3				_			
Manufacturer				Grant Engineering (U	JK) Ltd			_			
System Type				Heat Pump							
Controls SAP Code				2207							
Delayed Start Stat				No							
HETAS approved System	า			No							
Oil Pump Inside				No							
FI Case				0.00							



Flue Type	None or Unknown							
Fan Assisted Flue	No	1						
Is MHS Pumped	Pump in heated space	1						
Heating Pump Age	2013 or later	1						
Heat Emitter	Radiators]						
Flow Temperature	Enter value	1						
Flow Temperature Value	45.00	1						
Boiler Interlock	No	1						
Combi boiler type	No Combi]						
Combi keep hot type	None]]						
——————————————————————————————————————	None							
25.0 Main Heating 2	None							
26.0 Heat Networks	None]						
Heat Source Fuel Type Heating L	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type						
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None								
28.0 Water Heating Water Heating	Main Heating 1	1						
SAP Code	901]						
Flue Gas Heat Recovery System	No]]						
Waste Water Heat Recovery Instantaneous System 1	No	J 7						
		J 7						
Waste Water Heat Recovery Instantaneous System 2	No]						
Waste Water Heat Recovery Storage System	No	<u></u>						
Solar Panel	No]						
Water use <= 125 litres/person/day	Yes	_						
Summer Immersion	No							
Cold Water Source	From mains							
Bath Count	2							
Supplementary Immersion	No							
Immersion Only Heating Hot Water	Yes							
28.3 Waste Water Heat Recovery System								
29.0 Hot Water Cylinder	Hot Water Cylinder]						
Cylinder Stat	Yes]						
Cylinder In Heated Space	Yes]						
Independent Time Control	Yes]						
Insulation Type	Measured Loss]						
Cylinder Volume	200.00] L						
Loss	1.65	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?	Yes	j						
Connected To Dwelling	Yes	1						
Diverter	Yes]						
••.	L	_						



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	F	Flat 06								Issue	ed on Date	1:	3/04/20	24
Assessment Reference		Flat 6 Be Gr	een				Prop	Туре	Ref					
Property														
SAP Rating				90 B		DER		2.93	1		TER		12.83	
Environmental				98 A		% DER	< TFR	2.90	,		· Lix		77.16	
CO ₂ Emissions (t/year)				0.15		DFEE	· 1210	26.8	25		TFEE		28.96	
Compliance Check				See BF	DEI		E < TFEE						7.30	
% DPER < TPER				55.81	(LL	DPER		30.2	25		TPER		68.44	
												15		
Assessor Details	Mr. G	iovanni Mau	ırizi								Assesso	r ID	M052	-0001
Client SUMMARY FOR INPL	IT DATA	FOR: No	w Build //	اد Ruil	+ \									
	JI DAIA	FOR. NE	w Bulla (A		.,									
Orientation				East										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Se	emi-Detached									
Position of Flat				Mid-floo	or flat									
Which Floor				1										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				3										
5.0 Sunlight/Shade				Average	e or unknown	l								
6.0 Thermal Mass Parame	eter			Enter T	MP value									
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standa	rd									
Smart electricity meter	fitted			Yes										
Smart gas meter fitted	iittou			Yes										
				100										
7.0 Measurements					Basemer Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 6th Store 7th Store	nt: or: y: y: y: y: y: y:	0.00 m 18.06 r 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n n i i i i	r In	ternal FI) m ² m ² m ² m ² m ² m ² m ²	Aver	0.0 3.0 0.0 0.0 0.0 0.0 0.0	orey Heigl 0 m 0 m 0 m 0 m 0 m 0 m 0 m 0 m
8.0 Living Area				17.30							m²			
9.0 External Walls Description	Туре		truction			U-Value (W/m²K)	Kappa (kJ/m²K)		Nett Area (m²)	Shelter Res	Shelter	Ope	nings A	rea Calculati Type
External Wall	Cavity Wall	filled	/ wall : plasterb cavity, any outsi	ide structure	е	0.12	60.00	27.09	7.34	0.00	None			nter Gross Ar
Corridor Wall	Cavity Wall	Cavity	/ wall : plasterb cavity, any outsi	oard on dat	os, AAC block,	0.12	60.00	27.09	27.09	0.70	Stairwell Acc Corridor 3		00 E	inter Gross Ar
9.1 Party Walls	Trans		Constru	tion					II Value	Von-	A=00	Chalt-		Chaltar
Description Party Wall 1		e d Cavity with e Sealing	Construct Plasterbo sides, AA	ard on da	abs mounted cavity	on cemen	t render (on both	(W/m ² K)	Kappa (kJ/m²k 45.00		Shelte Res 0.00	1	Shelter None
10.1 Party Ceilings Description			Construct	ion									Kappa	Area (n
·					ank floor (ac-	and laid a	rubbar\	corne	tod				kJ/m²k	() ·
Party Ceiling 1			riecasi co	ncrete pla	ank floor (scre	ecu iaiu or	rupper)	, carpe	ıeu				30.00	62.00



11.1 Party Floors Description		Storey Index	Con	struction						Kappa (kJ/m²K)	
Party Floor 1		Lowest occupied		ast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	62.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	F <u>r</u> ame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings											
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		Location External Wall		Orient We		Area (19.7			tch 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 7.90 7.90 15.00 18.06 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value				0.13				W/m²K			
18.0 Pressure Testing				Yes							
Designed AP ₅₀				5.00				m³/(h.m	²) @ 50 P	а	
Property Tested?				Yes				i	, 0		
Test Method				Blower Door				Ħ			
As Built AP50				4.00				m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilat		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System				No							
22.0 Lighting No Fixed Lighting				No Name	Efficacy	Po	wer	Сара	ıcity	Co	ount
				Lighting 1	75.00		10	300	00		10
24.0 Main Heating 1				Database				\exists			
Percentage of Heat				100.00				%			
Database Ref. No.				102735				_			
Fuel Type				Electricity				╣			
SAP Code				0				╛			
In Winter				263.79				_			
In Summer				170.33				_			
Model Name				AERONA3				_			
Manufacturer				Grant Engineering (U	JK) Ltd			_			
System Type				Heat Pump							
Controls SAP Code				2207							
Delayed Start Stat				No							
HETAS approved System	า			No							
Oil Pump Inside				No							
FI Case				0.00							



Flue Type	None or Unknown							
Fan Assisted Flue	No	1						
Is MHS Pumped	Pump in heated space	1						
Heating Pump Age	2013 or later	1						
Heat Emitter	Radiators]						
Flow Temperature	Enter value	1						
Flow Temperature Value	45.00	1						
Boiler Interlock	No	1						
Combi boiler type	No Combi]						
Combi keep hot type	None]]						
——————————————————————————————————————	None							
25.0 Main Heating 2	None							
26.0 Heat Networks	None]						
Heat Source Fuel Type Heating L	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type						
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None								
28.0 Water Heating Water Heating	Main Heating 1	1						
SAP Code	901]						
Flue Gas Heat Recovery System	No]]						
Waste Water Heat Recovery Instantaneous System 1	No	J 7						
		J 7						
Waste Water Heat Recovery Instantaneous System 2	No]						
Waste Water Heat Recovery Storage System	No	<u></u>						
Solar Panel	No]						
Water use <= 125 litres/person/day	Yes	_						
Summer Immersion	No							
Cold Water Source	From mains							
Bath Count	2							
Supplementary Immersion	No							
Immersion Only Heating Hot Water	Yes							
28.3 Waste Water Heat Recovery System								
29.0 Hot Water Cylinder	Hot Water Cylinder]						
Cylinder Stat	Yes]						
Cylinder In Heated Space	Yes]						
Independent Time Control	Yes]						
Insulation Type	Measured Loss]						
Cylinder Volume	200.00] L						
Loss	1.65	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?	Yes	j						
Connected To Dwelling	Yes	1						
Diverter	Yes]						
••.	L	_						



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference		Flat 07								Issue	d on Date	13	3/04/20	24
Assessment Reference		Flat 7 Be Gre	en				Prop	Type I	Ref					
Property														
SAP Rating				89 B		DER		2.93			TER		12.32	
Environmental				98 A		% DER	< TER						76.22	
CO ₂ Emissions (t/year)				0.19		DFEE		30.3	1		TFEE		31.65	
Compliance Check				See BRE	EL	% DFE	E < TFEE						4.23	
% DPER < TPER				53.86		DPER		30.2	4		TPER		65.54	
Assessor Details	Mr. G	Giovanni Maui	rizi								Assessor	ID	M052	-0001
Client														
SUMMARY FOR INPL	JT DATA	A FOR: Nev	v Build (A	s Built)										
Orientation				South										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Sen	ni-Detached									
Position of Flat				Mid-floor	flat									
Which Floor				1										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				2										
5.0 Sunlight/Shade				Average	or unknown									
6.0 Thermal Mass Parame	eter			Enter TM	1P value									
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standard	i									
Smart electricity meter	fitted			Yes										
Smart gas meter fitted				Yes										
7.0 Measurements														
				Ć	Basemen Ground floo 1st Storey 2nd Storey 3rd Storey 4th Storey 5th Storey 7th Storey		0.00 m 24.22 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1	r in	0.00 77.00 0.00 0.00 0.00 0.00 0.00 0.0	m² m² m² m² m² m² m²	Aver	0.0 3.0 0.0 0.0 0.0 0.0 0.0	orey Heigh 0 m 0 m 0 m 0 m 0 m 0 m 0 m 0 m 0 m 0 m
8.0 Living Area				26.00							m²			
9.0 External Walls Description	Туре	Consti	ruction			U-Value			Nett Area		Shelter	Oper	nings A	rea Calculatio
External Wall	Cavity Wal		wall : plasterbo		, AAC block,	(W/m²K) 0.12	(kJ/m²K) A 60.00	68.76	(m²) 39.14	Res 0.00	None	29	.62 E	Type nter Gross Are
Corridor Wall	Cavity Wal	I Cavity	wall : plasterboavity, any outsiderboavity, any outside	oard on dabs	, AAC block,	0.12	60.00	3.90	3.90	0.70	Stairwell Acc Corridor 3		00 E	nter Gross Are
9.1 Party Walls Description	Тур	e	Construc	tion						Kappa (kJ/m²K		Shelter Res	r	Shelter
Party Wall 1		d Cavity with e Sealing	Plasterboa sides, AA0		os mounted o cavity	n cemen	t render o	n both		45.00	53.34	0.00		None
10.1 Party Ceilings Description			Constructi	on									Kappa kJ/m²K	
Party Ceiling 1			Precast cor	ncrete plar	nk floor (scre	ed laid or	n rubber),	carpet	ed			(1	30.00	79.00



11.1 Party Floors Description Party Floor 1		Storey Index Lowest occupied	Construction Precast concrete pl	ank floor (sc	reed laid or	ı rubber), c	arpeted			Kappa (kJ/m²K) 30.00	Area (m² 79.00
12.0 Opening Types Description	Data Source	Туре	Glazing			Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple gla	azed			Air Filled	0.68	Wood	0.70	0.90
13.0 Openings Name West Windows/Door East Windows/Door	Opening Ty Glazinf Wind Glazinf Wind	dows/Door	Location External Wall External Wall			Orient We Eas	st	Area (22.1 7.5	i2		tch 0 0
14.0 Conservatory			None								
15.0 Draught Proofing			100					%			
16.0 Draught Lobby			Yes								
17.0 Thermal Bridging 17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal)			Calculate Bridge Source Type Gov Approved Sche	eme eme eme eme	Length 8.85 8.85 20.00 24.22 6.00	Psi 0.50 0.04 0.05 0.07 0.09	Adjusted 0.50 0.04 0.05 0.07 0.09	Reference	:		Imported Yes Yes Yes Yes Yes
E18 Party wall between o	dwellings		Gov Approved Sche		6.00	0.06	0.06				Yes
Y-value			0.12					W/m²K			
18.0 Pressure Testing Designed AP ₅₀			Yes 5.00					m³/(h.m	i²) @ 50 P:	a	
Property Tested?			Yes								
Test Method			Blower Door								
As Built AP ₅₀			4.00					m³/(h.m	ı²) @ 50 P	a	
19.0 Mechanical Ventilation	1							<u> </u>			
Mechanical Ventilation											
Mechanical Ventilat	tion System Pres	ent	No								
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System			No								
22.0 Lighting											
No Fixed Lighting			No								
			Name Lighting 1		icacy 5.00		wer 10	Capa 300			ount 12
24.0 Main Heating 1			Database								
Percentage of Heat			100.00					%			
Database Ref. No.			102735					Ħ			
Fuel Type			Electricity					Ħ			
SAP Code			0					Ħ			
In Winter			264.32					₹			
In Summer			170.70					₹			
Model Name			AERONA3					Ħ			
Manufacturer			Grant Enginee	rina (UK) I ta	 ქ			Ħ			
System Type			Heat Pump	3 (-11) -10				Ħ			
Controls SAP Code			2207					Ħ			
Delayed Start Stat			No					Ħ			
-								╡			
HETAS approved System	n		No								



		4 chergy
FLCasa	0.00	1
FI Case	0.00]
Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U		ctrical Fuel Factor Efficiency type
	Heat Power Ratio	
Heat source 1 None Heat source 2 None		
Heat source 3 None Heat source 4 None		
Heat source 5 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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No]
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		1
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	200.00]
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework	Neverthady
In Airing Cupboard	No]
		<u> </u>
31.0 Thermal Store	None	
32.0 Photovoltaic Unit	On a Divisilling]
oz.or notovoltale ome	One Dwelling	
Export Capable Meter?	Yes	



Diverter				Yes						
Battery Capaci	ty [kWh]			10.00						
PV Cells	kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over: Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75		South	30°	None Or Little	No	No	1.00		Kelelelice	
34.0 Small-scale I	Hydro			None						
Electricity Gene	erated			0.00						
Apportioned				0.00				kWh/Ye	ear	
Connected to o	lwelling's ele	ectricity meter		Yes						
Electricity Gene	eration			Annual						
Jan	Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oc	t Nov	Dec

Recommendations Lower cost measures None

Further measures to achieve even higher standards None



Property Reference	Flat (088								Issu	ed on Date	13	3/04/202	.4
Assessment Reference	Flat 8	Be Gree	en				Prop	Type I	Ref					
Property														
SAP Rating				88 B		DER		3.17	,		TER		13.17	
Environmental				97 A		% DER	< TFR	3.17					75.93	
CO ₂ Emissions (t/year)				0.2		DFEE		34.2	7		TFEE		34.57	
Compliance Check				See BF	DEI		E < TFEE		. 1				0.89	
% DPER < TPER				53.36	VLL	DPER		32.7	'1		TPER		70.14	
70 D. L.				00.00				02.7						
Assessor Details	Mr. Giova	nni Maur	izi								Assessor	ID	M052-	0001
Client			.											
SUMMARY FOR INPU	I DAIA FC	R: Nev	/ Build (A	As Built	t)									
Orientation				West										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Se	emi-Detached									
Position of Flat				Mid-floo	or flat									
Which Floor				2										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				2										
5.0 Sunlight/Shade				Average	e or unknowr									
6.0 Thermal Mass Paramet	er			Enter T	MP value									
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standa	rd									
Smart electricity meter fit	tted			Yes										
Smart gas meter fitted				Yes										
7.0 Measurements														
					Basemer Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 7th Store	nt: or: y: y: y: y: y: y:	Loss Pe 0.00 m 27.30 n 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n 	r In	ternal F 0.00 75.00 0.00 0.00 0.00 0.00 0.00 0.0	0 m² 0 m² 0 m² 0 m² 0 m² 0 m²	Aver	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	m m m m m m
8.0 Living Area				27.00							m²			
9.0 External Walls Description	Туре	Constr	uction			U-Value (W/m²K)	Kappa (kJ/m²K)		Nett Area	Shelter Res	Shelter	Oper	nings Are	ea Calculatio
External Wall	Cavity Wall		vall : plasterbo		os, AAC block, e	0.12	60.00	65.00	32.60	0.00	None	32	.40 En	ter Gross Are
Corridor Wall	Cavity Wall	Cavity v		oard on dab	os, AAC block,	0.12	60.00	17.00	17.00	0.70	Stairwell Acce Corridor 3	ess 0.	00 En	ter Gross Are
9.1 Party Walls Description	Туре		Construc	tion					U-Value			Shelter	. ;	Shelter
Party Wall 1	Filled Ca Edge Se		Plasterbo sides, AA		abs mounted , cavity	on cemen	t render o	on both	(W/m²K) 0.00	(kJ/m²l 45.00		Res 0.00		None
10.1 Party Ceilings Description			Constructi	ion									Kappa (J/m²K)	Area (m
Party Ceiling 1			Precast co	ncrete pla	ank floor (scr	ed laid or	n rubber),	carpet	ed				30.00	75.00



11.1 Party Floors Description		Storey Index	Cor	nstruction						Kappa (kJ/m²K)	Area (m²)
Party Floor 1		Lowest occupied		cast concrete plank flo	or (screed laid or	n rubber), c	arpeted			30.00	75.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings	Wallarararar	macu		Thiple glazed			711 1 11100	0.00	**************************************	0.70	0.00
Name North Windows/Door East Windows/Door	Opening Ty Glazinf Wind Glazinf Wind	lows/Door		Location External Wall External Wall		Orient No Ea	rth	Area (10.8 21.6	30		tch 0 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging				Calculate Bridges							
17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between d E16 Corner (normal) E18 Party wall between d	lwellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 11.00 11.00 21.00 28.07 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Imported Yes Yes Yes Yes Yes Yes
Y-value				0.12				W/m²K			
18.0 Pressure Testing				Yes							
Designed AP ₅₀				5.00				m³/(h.m	²) @ 50 Pa	a	
Property Tested?				Yes							
Test Method				Blower Door							
As Built AP50				4.00				m³/(h.m	²) @ 50 Pa	a 	
19.0 Mechanical Ventilation Mechanical Ventilation											
Mechanical Ventila		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System	1			No							
22.0 Lighting											
No Fixed Lighting				No							
				Name Lighting 1	75.00		wer 40	Capa 300	ocity 00		ount 12
24.0 Main Heating 1				Database							
Percentage of Heat				100.00				%			
Database Ref. No.				102735							
Fuel Type				Electricity							
SAP Code				0							
In Winter				265.89							
In Summer				170.85							
Model Name				AERONA3				$\bar{\Box}$			
Manufacturer				Grant Engineering (U	K) Ltd			$\bar{\Box}$			
System Type				Heat Pump							
Controls SAP Code				2207				Ī			
Delayed Start Stat				No				Ħ			
HETAS approved Systen	n			No				Ħ			
Oil Pump Inside				No				Ħ			
•								_			



		4 chergy
FLCasa	0.00	1
FI Case	0.00]
Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U		ctrical Fuel Factor Efficiency type
	Heat Power Ratio	
Heat source 1 None Heat source 2 None		
Heat source 3 None Heat source 4 None		
Heat source 5 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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No]
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		1
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	200.00]
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework	Neverthady
In Airing Cupboard	No]
		<u> </u>
31.0 Thermal Store	None	
32.0 Photovoltaic Unit	On a Divisilling]
oz.or notovoltale ome	One Dwelling	
Export Capable Meter?	Yes	



Diverter				Yes						
Battery Capaci	ty [kWh]			10.00						
PV Cells	kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over: Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75		South	30°	None Or Little	No	No	1.00		Kelelelice	
34.0 Small-scale I	Hydro			None						
Electricity Gene	erated			0.00						
Apportioned				0.00				kWh/Ye	ear	
Connected to o	lwelling's ele	ectricity meter		Yes						
Electricity Gene	eration			Annual						
Jan	Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oc	t Nov	Dec

Recommendations Lower cost measures None

Further measures to achieve even higher standards None



Property Reference		Flat 09								Issı	ued on Date	13/0	4/2024
Assessment Reference	ce	Flat 9 Be Gre	een				Prop	Type I	Ref				
Property													
SAP Rating				89 B		DER		2.79)		TER	1	2.17
Environmental				98 A		% DER	< TER					7	7.07
CO ₂ Emissions (t/year	r)			0.19		DFEE		26.4	11		TFEE	3	1.13
Compliance Check				See BR	EL	% DFE	E < TFEI	E				1	5.17
% DPER < TPER				55.41		DPER		28.8	35		TPER	6	4.70
Assessor Details	Mr.	Giovanni Mau	rizi								Assessor	ID N	/I052-0001
Client													
SUMMARY FOR INF	PUT DAT	A FOR: Ne	w Build (A	As Built)								
Orientation				South									
Property Tenture				ND									
Transaction Type				5									
Terrain Type				Urban									
1.0 Property Type					mi-Detached								
Position of Flat				Mid-floo									
Which Floor				2									
2.0 Number of Storeys				1									
3.0 Date Built				2023									
3.0 Property Age Band				L									
4.0 Sheltered Sides				3									
5.0 Sunlight/Shade					or unknown								
6.0 Thermal Mass Parar	neter				MP value								
Thermal Mass				250.00							kJ/m²K		
7.0 Electricity Tariff				Standar	d								
Smart electricity mete	er fitted			Yes									
Smart gas meter fitte				Yes									
7.0 Measurements													
					Basement Ground floor 1st Storey 2nd Storey 3rd Storey 4th Storey 5th Storey 7th Storey		0.00 n 24.00 r 0.00 n 0.00 n 0.00 n 0.00 n 0.00 n 0.00 n	n m n n n n n	r In	0.0 78.9 0.0 0.0 0.0 0.0 0.0	Floor Area 10 m ² 50 m ² 10 m ²	Averaç	0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
8.0 Living Area				27.00							m²		
9.0 External Walls	T					11.37-2	Ve	0	Nott A	Oh - P	OL **	0	Aug - 0 :
Description External Wall	Type Cavity W		ruction wall : plasterbo	oard on dah	s AAC block	U-Value (W/m²K) 0.12	Kappa (kJ/m²K) 60.00		Nett Area (m²) 17.56	Res 0.00	Shelter None	Openin 19.44	gs Area Calculat Type Enter Gross A
Corridor Wall	Cavity W	filled	avity, any outsi wall : plasterb	ide structure		0.12	60.00	8.00	8.00	0.70	Stairwell Acce		Enter Gross A
Staircase wall	Cavity W	filled of all Cavity	avity, any outsi wall : plasterboavity, any outsi	ide structure oard on dab	s, AAC block,	0.12	60.00	27.00	27.00	2.50	Corridor 3 Stairwell Stairw		Enter Gross A
9.1 Party Walls		med	, any outsi	5.1401416									
Description	Туј	pe	Construc	tion					U-Value (W/m ² K)			Shelter Res	Shelter
Party Wall 1		led Cavity with ge Sealing	Plasterbo sides, AA		bs mounted o cavity	n cemen	t render	on both		45.0		0.00	None
10.1 Party Ceilings Description			Constructi	ion									nppa Area (n /m²K)



	Precas	st concrete plank floor (scre	ed laid on rubber), carpeted				30.00	78.50
	Storey	Construction						Kappa	Area (m²
	Lowest occupied	Precast concrete plank flo	or (screed laid or	rubber), c	arpeted			30.00	78.50
Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value (W/m²K)
Manufacturer	Window	Triple glazed		Gap	Air Filled	0.68	Wood	0.70	0.90
Glazinf Wind	lows/Door	Location External Wall External Wall		Eas	st	15.1	2	(t ch)
		None							
		100				%			
		Yes				ī			
·		Calculate Bridges Source Type Gov Approved Scheme	Length 8.60 8.60 15.52 21.53 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Imported Yes Yes Yes Yes Yes Yes
		0.11				W/m²K			
		Yes							
		5.00				m³/(h.m²	e) @ 50 Pa		
		Yes							
		Blower Door							
		4.00				m³/(h.m²	e) @ 50 Pa		
	ent	No							
Flues		NI-							
		INO							
		No							
		Name Lighting 1	75.00			Capa 300	city 0		unt 8
		Database							
		100.00				%			
		102735							
		Electricity							
		0							
						\neg			
		263.65							
		263.65 170.48							
		170.48	K) Ltd						
		170.48 AERONA3	K) Ltd						
		170.48 AERONA3 Grant Engineering (U	IK) Ltd						
		170.48 AERONA3 Grant Engineering (U Heat Pump	IK) Ltd						
,	Manufacturer Opening Ty Glazinf Wind Glazinf Wind ted steel base p rellings (in block wellings	Storey Index Lowest occupied Data Source Type Manufacturer Window Opening Type Glazinf Windows/Door Glazinf Windows/Door ted steel base plate rellings (in blocks of flats) wellings	Storey Index Lowest occupied Data Source Type Glazing Manufacturer Window Triple glazed Opening Type Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door Claculate Bridges Calculate Bridges Source Type Gov Approved Scheme Gov Appr	Storey Index Lowest occupied Data Source Type Glazing Manufacturer Window Triple glazed Dening Type Glazinf Windows/Door External Wall None 100 Yes Calculate Bridges Source Type Length Gov Approved Scheme 8.60 Gov Approved Scheme 91.5.22 Gov Approved Scheme 6.00 Files No Files No No No No Efficacy Lighting 1 75.00 Database 100.00 102735 Electricity	Index Lowest occupied Data Source Type Glazing Gap Manufacturer Window Triple glazed Opening Type Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door External Wall East Sternal Wall East Sternal Wall External Wall East Sternal Wall East Sternal Wall External Wa	Storey Index Lowest Occupied Data Source Type Glazing Triple glazed Gap Air Filling Manufacturer Window Opening Type Glazinf Windows/Door Glazinf Windows/Door Glazinf Windows/Door External Wall Esternal Wall External Wall Ex	Storey Index Lowest Precast concrete plank floor (screed laid on rubber), carpeted Data Source Type	Storey Index Lowest	Storey Index Lowest of Fame Index Index



Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U	se Efficiency Percentage Of Heat Heat Elec Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating		ı
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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	200.00	L
Loss	1.65	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?	Yes	
Connected To Dwelling	Yes	
Diverter	Yes	



Battery Capacity [k	Wh]		10.00						
PV Cells kW	Orientation Elevat		Overshading	FGHRS	MCS Certificate	Overshading Factor		g MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	Flat	10								Issue	ed on Date	1	3/04/2	024
Assessment Reference		10 Be Gree	n				Prop	Туре	Ref					
Property														
SAP Rating				88 B		DER		3.56	3		TER		16.1	2
Environmental				98 A		% DER	< TFR	3.30	,		TEIX		77.9	
CO ₂ Emissions (t/year)				0.14		DFEE	* TEIX	32.5	50		TFEE		36.4	
Compliance Check				See BR			E < TFEE)U				10.9	
% DPER < TPER				56.26		DPER	- 111 -	37.8	32		TPER		86.4	
70 DI EK TI EK				30.20				37.0)Z				00.4	J
Assessor Details	Mr. Giova	anni Maurizi									Assesso	r ID	M05	2-0001
Client		-												
SUMMARY FOR INPL	JT DATA FO	OR: New I	Build (A	s Built)									
Orientation				West										
Property Tenture			[ND										
Transaction Type			[5										
Terrain Type			[Urban										
1.0 Property Type			[Flat, Se	mi-Detached									
Position of Flat			[Mid-floo	r flat									
Which Floor			[2										
2.0 Number of Storeys			[1										
3.0 Date Built			[2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				2										
5.0 Sunlight/Shade			Ī	Average	or unknown									
6.0 Thermal Mass Parame	ter		Ī	Enter TI	MP value									
Thermal Mass			j	250.00							kJ/m²K			
7.0 Electricity Tariff				Standar	d									
Smart electricity meter	fitted		ı.	Yes	<u> </u>									
Smart gas meter fitted	illeu			Yes										
			L	103										
7.0 Measurements					Basemen Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 6th Store 7th Store	t: r: y: y: y: y: y: y:	0.00 m 22.30 r 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n n i i i	r In	0.00 47.56 0.00 0.00 0.00 0.00 0.00 0.00	6 m² m² m² m² m² m² m²	Ave	0. 3. 0. 0. 0. 0.	otorey Heig 00 m 00 m 00 m 00 m 00 m 00 m 00 m 00
8.0 Living Area			[32.00							m²			
9.0 External Walls Description External Wall	Type Cavity Wall	Construct		ard on dab	s, AAC block,	U-Value (W/m²K) 0.12	Kappa (kJ/m²K) 60.00		Nett Area) (m²) 37.48	Shelter Res 0.00	Shelter		-	Area Calculati Type Enter Gross Ar
Corridor Wall	Cavity Wall	filled cavity Cavity wal	y, any outside I : plasterboa	e structure ard on dab	s, AAC block,	0.12	60.00	12.00	12.00	0.70	Stairwell Acc	ess (Enter Gross Ar
9.1 Party Walls		illed cavit	y, any outsid	e structure							Corridor 3			
Description	Type		Construct		h = m==:		•	b - !!	(W/m ² K)	Kappa (kJ/m²h	() (m²)	Shelte	er	Shelter
Party Wall 1	Filled Ca Edge Se		lasterboa ides, AAC		bs mounted of cavity	on cemen	ı render (on both	0.00	45.00	25.00	0.00		None
10.1 Party Ceilings Description		Co	onstructio	on									Kapp	
Party Ceiling 1		Pr	ecast con	crete pla	nk floor (scre	ed laid or	rubber)	, carpe	ted			(kJ/m² 30.00	



11.1 Party Floors Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²
Party Floor 1		Lowest occupied	Precast concrete plank t	floor (screed laid or	n rubber), ca	arpeted			30.00	47.56
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings										
Name East Windows/Door NorthWindows/Door Opening	Opening Ty Glazinf Wind Glazinf Wind Glazinf Wind	dows/Door dows/Door	Location External Wall External Wall External Wall		Orient a Eas Nor We	st th	Area 6.4 6.7 4.3	8 2		tch 0 0 0
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging			Calculate Bridges							
17.1 List of Bridges										
Bridge Type E1 Steel lintel with perfora E3 Sill E4 Jamb E7 Party floor between dw E16 Corner (normal) E18 Party wall between dw	vellings (in block		Source Type Gov Approved Scheme	Length 4.30 4.30 7.76 10.57 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value			0.06				W/m²K			
18.0 Pressure Testing			Yes				7			
Designed AP ₅₀			5.00				m³/(h.m	²) @ 50 P	'a	
Property Tested?			Yes				Ī `	, -		
Test Method			Blower Door							
As Built AP ₅₀			4.00				m³/(h.m	²) @ 50 P	'a	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation	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 Lighting 1	Efficacy 75.00		wer 0	 Capa 30			ount 7
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			261.35							
In Summer			170.29							
Model Name			AERONA3							
Manufacturer			Grant Engineering	(UK) Ltd						
System Type			Heat Pump							
Controls SAP Code			2207							
Delayed Start Stat			No							
HETAS approved System			No							
Oil Pump Inside			No							



FLCoop	0.00	7
FI Case	0.00	_ _
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	_
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None]
26.0 Heat Networks	None]
Heat Source Fuel Type Heating U		ectrical Fuel Factor Efficiency type
	Heat Power Ratio	
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None		
Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	٦
SAP Code	901	<u>-</u>
Flue Gas Heat Recovery System	No	<u></u>
Waste Water Heat Recovery Instantaneous System 1	No	_ _
Waste Water Heat Recovery Instantaneous System 2	No	_ _
Waste Water Heat Recovery Installations System Waste Water Heat Recovery Storage System	No	_ _
Solar Panel	No	_ _
Water use <= 125 litres/person/day	Yes	
Summer Immersion	No	
Cold Water Source	From mains	_ _
Bath Count	1	
Supplementary Immersion	No	
•		_ _
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss]
Cylinder Volume	200.00	L
Loss	1.65	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?	Yes	1
Connected To Dwelling	Yes	า๋
Commond to Difforming		_



Diverter			Yes						
Battery Capacity [kWh]			0.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		recicione	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwelling's elec-	ricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oc	t Nov	Dec

Recommendations Lower cost measures None

Further measures to achieve even higher standards None



Property Reference	Flat 11								Issu	ed on Date	13/	/04/2024	
Assessment Reference	Flat 11 Be Gre	een				Prop	Type	Ref					
Property													
SAP Rating			91 B		DER		2.80)		TER		13.30	
Environmental			98 A		% DER	< TER	2.00	,				78.95	
CO ₂ Emissions (t/year)			0.12		DFEE		23.3	84		TFEE		26.50	
Compliance Check			See BREL			< TFEE		, -				11.92	
% DPER < TPER			59.32		DPER		28.9	95		TPER		71.16	
			100.02				20.0						
	r. Giovanni Maur	izi								Assessor	ID	M052-0001	
Client													
SUMMARY FOR INPUT DA	MA FOR: Nev	/ Build (A	As Built)										
Orientation			North										
Property Tenture			ND										
Transaction Type			5										
Terrain Type			Urban										
1.0 Property Type			Flat, Semi-De	etached									
Position of Flat			Mid-floor flat										
Which Floor			2										
2.0 Number of Storeys			1										
3.0 Date Built			2023										
3.0 Property Age Band			L										
4.0 Sheltered Sides			3										
5.0 Sunlight/Shade			Average or u	nknown									
6.0 Thermal Mass Parameter			Enter TMP va	alue									
Thermal Mass			250.00							kJ/m²K			
7.0 Electricity Tariff			Standard										
Smart electricity meter fitted			Yes										
Smart gas meter fitted			Yes										
7.0 Measurements			103										
7.0 measurements			Grou 1s 2n 3r 4t 5t 6t	asement und floor st Storey d Storey d Storey h Storey h Storey h Storey		0.00 m 11.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1 n 1 1 1 1	r In	0.00 52.00 0.00 0.00 0.00 0.00 0.00 0.00	0 m² 0 m² 0 m² 0 m² 0 m² 0 m² 0 m²	Avera	0.00 m 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	leigh
8.0 Living Area			25.00							m²			
9.0 External Walls Description Type	Constr	uction			U-Value			Nett Area		Shelter	Openi	ings Area Cald	
External Wall Cavity			oard on dabs, AAC	C block,	(W/m²K) 0.12	(kJ/m²K) 60.00	Area(m²) 21.21	(m²) 7.96	Res 0.00	None	13.2	Typ 25 Enter Gro	
Corridor Wall Cavity	Wall Cavity v	vity, any outsi vall : plasterbo vity, any outsi	oard on dabs, AAC	C block,	0.12	60.00	10.11	10.11	0.70	Stairwell Acco		0 Enter Gro	ss Are
9.1 Party Walls													
Description T	уре	Construc	tion					U-Value			Shelter	Shelte	ər
	illed Cavity with		ard on dabs me C blocks, cavit		n cement	t render o	on both	(W/m²K) 0.00	45.00		Res 0.00	None)
10.1 Party Ceilings Description		Constructi	on										ea (m
								ted			(K	J/m²K)	



11.1 Party Floors Description		Storey Index	Con	struction						Kappa (kJ/m²K)	
Party Floor 1		Lowest occupied		ast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	48.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	F <u>r</u> ame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings											
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		Location External Wall		Orient We		Area (13.2			tch 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 5.30 5.30 10.00 10.44 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference			Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value				0.16				W/m²K			
18.0 Pressure Testing				Yes				7			
Designed AP₅₀				5.00				m³/(h.m	²) @ 50 P	а	
Property Tested?				Yes					, @		
Test Method				Blower Door				=			
As Built AP ₅₀				4.00				m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System				No							
22.0 Lighting No Fixed Lighting				No Name	Efficacy	Po	wer	Сара	ıcity	Co	ount
				Lighting 1	75.00	4	10	300	00		7
24.0 Main Heating 1				Database				_			
Percentage of Heat				100.00				%			
Database Ref. No.				102735							
Fuel Type				Electricity							
SAP Code				0							
In Winter				258.76				_			
In Summer				170.27							
Model Name				AERONA3							
Manufacturer				Grant Engineering (L	JK) Ltd						
System Type				Heat Pump				╛			
Controls SAP Code				2207				╛			
Delayed Start Stat				No							
HETAS approved System	า			No							
Oil Pump Inside				No							
FI Case				0.00							



Flue Type	None or Unknown]							
Fan Assisted Flue	No]							
Is MHS Pumped	Pump in heated space	1							
Heating Pump Age	2013 or later	1							
Heat Emitter	Radiators]							
Flow Temperature	Enter value]							
Flow Temperature Value	45.00	1							
Boiler Interlock	No	1							
Combi boiler type	No Combi	1							
Combi keep hot type	None	1							
Combines processes									
25.0 Main Heating 2	None								
26.0 Heat Networks	None]							
Heat Source Fuel Type Heating U	Ise Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type							
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None									
28.0 Water Heating Water Heating	Main Heating 1	1							
SAP Code	901]]							
		J 7							
Flue Gas Heat Recovery System	No] 7							
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								
Summer Immersion	No								
Cold Water Source	From mains								
Bath Count	1								
Supplementary Immersion	No								
Immersion Only Heating Hot Water	Yes]							
28.3 Waste Water Heat Recovery System									
29.0 Hot Water Cylinder	Hot Water Cylinder]							
Cylinder Stat	Yes								
Cylinder In Heated Space	Yes								
Independent Time Control	Yes								
Insulation Type	Measured Loss	1							
Cylinder Volume	200.00] L							
Loss	1.65	kWh/day							
Pipes insulation	Fully insulated primary pipework	j							
In Airing Cupboard	No	j							
31.0 Thermal Store	None]							
32.0 Photovoltaic Unit	One Dwelling]							
Export Capable Meter?	Yes	1							
Connected To Dwelling	Yes	<u>.</u> 1							
Diverter	Yes]							
Divolto	100								



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference		Flat 12								Issue	ed on Date	13	/04/202	24
Assessment Reference	е	Flat 12 Be	Green				Prop	Туре	Ref					
Property														
SAP Rating				90 B		DER		2.93	3		TER		12.83	
Environmental				98 A		% DER	< TER	2.00	,				77.16	
CO ₂ Emissions (t/year)				0.15		DFEE		26.8	35		TFEE		28.96	
Compliance Check				See BRE	-		< TFEE						7.30	
% DPER < TPER				55.81		DPER		30.2	25		TPER		68.44	
A Data ila											A	· ID		
Assessor Details Client	Mr.	Giovanni M	aurizi								Assessor	רוט	M052-	0001
		A FOR: N	low Build //	\o Built\										
SUMMARY FOR INP	UI DAI	A FUR. I	iew Bulla (A											
Orientation				East										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Sen	ni-Detached									
Position of Flat				Mid-floor	flat									
Which Floor				2										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				3										
5.0 Sunlight/Shade				Average	or unknown									
6.0 Thermal Mass Param	eter			Enter TM	1P value									
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standard	1									
Smart electricity meter	fitted			Yes	4									
Smart gas meter fitted				Yes										
				103										
7.0 Measurements				(Basement Ground floor 1st Storey 2nd Storey 3rd Storey 4th Storey 5th Storey 7th Storey	t: r: r: r: r: r: r:	0.00 m 18.06 n 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1 n 1 1 1 1	r In	ternal FI 0.00 62.00 0.00 0.00 0.00 0.00 0.00 0.0) m ² m ² m ² m ² m ² m ² m ²	Avera	9.00 3.00 0.00 0.00 0.00 0.00 0.00 0.00) m) m) m) m) m) m
8.0 Living Area				17.30							m²			
9.0 External Walls Description	Туре		nstruction				Kappa (kJ/m²K)	Area(m²)		Res	Shelter		-	ea Calculati
External Wall Corridor Wall	Cavity W	fille	vity wall : plasterb d cavity, any outsi vity wall : plasterb	ide structure		0.12 0.12	60.00	27.09 27.09	7.34 27.09	0.00	None Stairwell Acc	19. ess 0.0		ter Gross Ar
Comuol Wall	Cavity W		d cavity, any outsi		, AAO DIOCK,	U. 1Z	00.00	21.09	۷۱.۱۵	0.70	Corridor 3		o Er	IGI GIUSS AF
9.1 Party Walls			_								_			
Description Party Wall 1		pe ed Cavity w ge Sealing			os mounted c	n cement	render o	on both	(W/m ² K)	Kappa (kJ/m²k 45.00		Shelter Res 0.00	, ;	Shelter None
10.1 Party Ceilings			Construct	ion									Carr-	A== /
Description			Construct									(k	(appa J/m²K)	
Party Ceiling 1			Precast co	ncrete plar	nk floor (scre	ed laid on	rubber),	, carpe	ted				30.00	62.00



11.1 Party Floors Description		Storey Index	Con	struction						Kappa (kJ/m²K)	
Party Floor 1		Lowest occupied		ast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	62.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	F <u>r</u> ame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings											
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		Location External Wall		Orient We		Area (19.7			tch 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 7.90 7.90 15.00 18.06 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value				0.13				W/m²K			
18.0 Pressure Testing				Yes							
Designed AP ₅₀				5.00				m³/(h.m	²) @ 50 P	а	
Property Tested?				Yes				i	, 0		
Test Method				Blower Door				Ħ			
As Built AP ₅₀				4.00				m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilat		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System				No							
22.0 Lighting No Fixed Lighting				No Name	Efficacy	Po	wer	Сара	ıcity	Co	ount
				Lighting 1	75.00		10	300	00		10
24.0 Main Heating 1				Database				\exists			
Percentage of Heat				100.00				%			
Database Ref. No.				102735				_			
Fuel Type				Electricity				╣			
SAP Code				0				╛			
In Winter				263.79				_			
In Summer				170.33				_			
Model Name				AERONA3				_			
Manufacturer				Grant Engineering (U	JK) Ltd			_			
System Type				Heat Pump							
Controls SAP Code				2207							
Delayed Start Stat				No							
HETAS approved System	า			No							
Oil Pump Inside				No							
FI Case				0.00							



Flue Type	None or Unknown	
Fan Assisted Flue	No	1
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators]
Flow Temperature	Enter value	1
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi]
Combi keep hot type	None]]
——————————————————————————————————————	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating L	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	1
SAP Code	901]
Flue Gas Heat Recovery System	No]]
Waste Water Heat Recovery Instantaneous System 1	No	J 7
		J 7
Waste Water Heat Recovery Instantaneous System 2	No]
Waste Water Heat Recovery Storage System	No	<u></u>
Solar Panel	No]
Water use <= 125 litres/person/day	Yes	_
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes]
Independent Time Control	Yes]
Insulation Type	Measured Loss]
Cylinder Volume	200.00] L
Loss	1.65	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?	Yes	j
Connected To Dwelling	Yes	1
Diverter	Yes]
••.	L	_



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	Flat	: 13								Issue	ed on Date	1	3/04/2	024
Assessment Reference		13 Be Gre	en en				Prop	Туре	Ref	loout	on Bato		3/04/2	024
Property	ı ıaı	10 De Oit	5011				1.00	1) 0						
SAP Rating				90 B		DER		2.93	1		TER		12.8	3
Environmental				98 A	_	% DER	< TER						77.1	
CO ₂ Emissions (t/year)				0.15	_	DFEE		26.8	5		TFEE		28.9	6
Compliance Check				See BREL	4	% DFEE	< TFEE	_					7.30	
% DPER < TPER				55.81		DPER		30.2	:5		TPER		68.4	4
Assessor Details	Mr. Giova	anni Maur	izi								Assesso	r ID	M05	2-0001
Client														
SUMMARY FOR INPL	JT DATA F	OR: Nev	/ Build (<i>F</i>	As Built)										
Orientation				East										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Semi-Detac	hed									
Position of Flat				Mid-floor flat										
Which Floor				2										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				3										
5.0 Sunlight/Shade				Average or unkn	own									
6.0 Thermal Mass Parame	eter			Enter TMP value										
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standard										
Smart electricity meter	fitted			Yes										
Smart gas meter fitted				Yes										
7.0 Measurements				Base Ground 1st St 2nd St 3rd St 4th St 5th St 6th St	floor torey torey torey torey torey	: : : : :	0.00 m 18.06 n 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1	r In	0.00 62.00 0.00 0.00 0.00 0.00 0.00 0.00) m ² m ² m ² m ² m ² m ² m ²	Ave	0. 3. 0. 0. 0. 0.	Storey Heigh 00 m 00 m 00 m 00 m 00 m 00 m 00 m 00
8.0 Living Area				17.30							m²			
9.0 External Walls Description	Туре	Constr	uction			U-Value (W/m²K)	Kappa (kJ/m²K)		Nett Area	Shelter Res	Shelter	Оре	enings	Area Calculatio
External Wall	Cavity Wall	filled ca	vity, any outsi			0.12	60.00	27.09	7.34	0.00	None	1	9.75	Enter Gross Are
Corridor Wall	Cavity Wall	Cavity v		oard on dabs, AAC bloc	ck,	0.12	60.00	27.09	27.09	0.70	Stairwell Acc Corridor 3		0.00	Enter Gross Are
9.1 Party Walls Description Party Wall 1		avity with		ard on dabs moun	ted or	n cement	render o	on both	(W/m ² K	Kappa (kJ/m²h 45.00		Shelte Res 0.00		Shelter None
10.1 Party Ceilings	Edge Se	ealing	sides, AA	C blocks, cavity										
Description			Constructi	ion									Kapp (kJ/m²	
Party Ceiling 1			Precast cor	ncrete plank floor ((scree	ed laid on	rubber),	carpe	ed				30.00	



11.1 Party Floors Description		Storey Index	Con	struction						Kappa (kJ/m²K)	
Party Floor 1		Lowest occupied		ast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	62.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	F <u>r</u> ame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings											
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		Location External Wall		Orient We		Area (19.7			tch 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 7.90 7.90 15.00 18.06 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value				0.13				W/m²K			
18.0 Pressure Testing				Yes							
Designed AP ₅₀				5.00				m³/(h.m	²) @ 50 P	а	
Property Tested?				Yes				i	, 0		
Test Method				Blower Door				Ħ			
As Built AP ₅₀				4.00				m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilat		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System				No							
22.0 Lighting No Fixed Lighting				No Name	Efficacy	Po	wer	Сара	ıcity	Co	ount
				Lighting 1	75.00		10	300	00		10
24.0 Main Heating 1				Database				\exists			
Percentage of Heat				100.00				%			
Database Ref. No.				102735				_			
Fuel Type				Electricity				╣			
SAP Code				0				╛			
In Winter				263.79				_			
In Summer				170.33				_			
Model Name				AERONA3				_			
Manufacturer				Grant Engineering (U	JK) Ltd			_			
System Type				Heat Pump							
Controls SAP Code				2207							
Delayed Start Stat				No							
HETAS approved System	า			No							
Oil Pump Inside				No							
FI Case				0.00							



Flue Type	None or Unknown	
Fan Assisted Flue	No	1
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators]
Flow Temperature	Enter value	1
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi]
Combi keep hot type	None]]
——————————————————————————————————————	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating L	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	1
SAP Code	901]
Flue Gas Heat Recovery System	No]]
Waste Water Heat Recovery Instantaneous System 1	No	J 7
		J 7
Waste Water Heat Recovery Instantaneous System 2	No]
Waste Water Heat Recovery Storage System	No	<u></u>
Solar Panel	No]
Water use <= 125 litres/person/day	Yes	_
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes]
Independent Time Control	Yes]
Insulation Type	Measured Loss]
Cylinder Volume	200.00] L
Loss	1.65	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?	Yes	j
Connected To Dwelling	Yes	1
Diverter	Yes]
••.	L	_



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	Flat 14							Issue	ed on Date	13	3/04/2)24
Assessment Reference	Flat 14	Be Green			Prop	Туре	Ref					
Property												
SAP Rating			89 B	DER		2.93)		TER		12.3)
Environmental			98 A	% DER	∠ TED	2.90)		TEIX		76.2	
CO ₂ Emissions (t/year)			0.19	DFEE	· ILK	20.0	14		TFEE			
Compliance Check					E < TFEE	30.3	31		IFEE		31.6)
% DPER < TPER			See BREL	DPER	- \		24		TPER		4.23	1
% DPER < IPER			53.86	DPER		30.2	24		IPER		65.5	}
Assessor Details	Mr. Giovann	i Maurizi							Assessor	· ID	M05	2-0001
Client												
SUMMARY FOR INPU	T DATA FOR	: New Build (As Built)									
Orientation			South									
Property Tenture			ND									
Transaction Type			5									
Terrain Type			Urban									
1.0 Property Type			Flat, Semi-Detached	d E								
Position of Flat			Mid-floor flat									
Which Floor			2									
2.0 Number of Storeys			1									
3.0 Date Built			2023									
3.0 Property Age Band			L									
4.0 Sheltered Sides			2									
5.0 Sunlight/Shade			Average or unknow	n								
5.0 Thermal Mass Paramet	er		Enter TMP value									
Thermal Mass			250.00						kJ/m²K			
7.0 Electricity Tariff			Standard									
Smart electricity meter fi	tted		Yes									
Smart gas meter fitted			Yes									
7.0 Measurements			Baseme Ground flo 1st Store 2nd Store 3rd Store 4th Store 5th Store 7th Store	nt: or: ey: ey: ey: ey: ey:	0.00 m 24.22 n 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1 n 1 1 1 1	r In	ternal F 0.00 77.00 0.00 0.00 0.00 0.00 0.00 0.) m² m² m² m² m² m²	Aver	0.0 3.0 0.0 0.0 0.0 0.0	torey Heig 00 m 00 m 00 m 00 m 00 m 00 m 00 m 00
8.0 Living Area			26.00						m²			
9.0 External Walls		_		_		_						
	Type	Construction Covity wall : plaster	poord on dobo AAC blast		Kappa (kJ/m²K)	Area(m²)		Res	Shelter		_	Area Calculat Type
	Cavity Wall Cavity Wall	filled cavity, any outs	poard on dabs, AAC block, side structure poard on dabs, AAC block,	0.12 0.12	60.00	68.76 3.90	39.14 3.90	0.00	None Stairwell Acc			Enter Gross A Enter Gross A
		filled cavity, any outs						-	Corridor 3			
9.1 Party Walls	Ture	C	ation				II Valor-	V	A	Ch-I4-	_	Chaltan
Description Party Wall 1	Type Filled Cavit Edge Seali		ction pard on dabs mounted AC blocks, cavity	on cemen	t render o	on both	U-Value (W/m²K) 0.00		() (m²)	Shelte Res 0.00	Γ	Shelter None
10.1 Party Ceilings Description		Construc	tion								Карра	
Party Ceiling 1		Precast co	oncrete plank floor (scr	eed laid or	ı rubber).	carpe	ted			(1	kJ/m²l 30.00	



11.1 Party Floors Description Party Floor 1		Storey Index Lowest occupied	Construction Precast concrete pl	ank floor (sc	reed laid or	ı rubber), c	arpeted			Kappa (kJ/m²K) 30.00	Area (m² 79.00
12.0 Opening Types Description	Data Source	Туре	Glazing			Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple gla	azed			Air Filled	0.68	Wood	0.70	0.90
13.0 Openings Name West Windows/Door East Windows/Door	Opening Ty Glazinf Wind Glazinf Wind	dows/Door	Location External Wall External Wall			Orient We Eas	st	Area (22.1 7.5	i2		tch 0 0
14.0 Conservatory			None								
15.0 Draught Proofing			100					%			
16.0 Draught Lobby			Yes								
17.0 Thermal Bridging 17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal)			Calculate Bridge Source Type Gov Approved Sche	eme eme eme eme	Length 8.85 8.85 20.00 24.22 6.00	Psi 0.50 0.04 0.05 0.07 0.09	Adjusted 0.50 0.04 0.05 0.07 0.09	Reference	:		Imported Yes Yes Yes Yes Yes
E18 Party wall between o	dwellings		Gov Approved Sche		6.00	0.06	0.06				Yes
Y-value			0.12					W/m²K			
18.0 Pressure Testing Designed AP ₅₀			Yes 5.00					m³/(h.m	i²) @ 50 P:	a	
Property Tested?			Yes								
Test Method			Blower Door								
As Built AP ₅₀			4.00					m³/(h.m	ı²) @ 50 P	a	
19.0 Mechanical Ventilation	1							<u> </u>			
Mechanical Ventilation											
Mechanical Ventilat	tion System Pres	ent	No								
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System			No								
22.0 Lighting											
No Fixed Lighting			No								
			Name Lighting 1		icacy 5.00		wer 10	Capa 300			ount 12
24.0 Main Heating 1			Database								
Percentage of Heat			100.00					%			
Database Ref. No.			102735					Ħ			
Fuel Type			Electricity					Ħ			
SAP Code			0					Ħ			
In Winter			264.32					₹			
In Summer			170.70					₹			
Model Name			AERONA3					Ħ			
Manufacturer			Grant Enginee	rina (UK) I ta	 ქ			Ħ			
System Type			Heat Pump	3 (-11) -10				Ħ			
Controls SAP Code			2207					Ħ			
Delayed Start Stat			No					Ħ			
-								╡			
HETAS approved System	n		No								



		4 chergy
FLCasa	0.00	1
FI Case	0.00]
Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U		ctrical Fuel Factor Efficiency type
	Heat Power Ratio	
Heat source 1 None Heat source 2 None		
Heat source 3 None Heat source 4 None		
Heat source 5 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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No]
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		1
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	200.00]
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework	Neverthady
In Airing Cupboard	No]
		<u> </u>
31.0 Thermal Store	None	
32.0 Photovoltaic Unit	On a Divisilling]
oz.or notovoltale ome	One Dwelling	
Export Capable Meter?	Yes	



Diverter				Yes						
Battery Capaci	ty [kWh]			10.00						
PV Cells	kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over: Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75		South	30°	None Or Little	No	No	1.00		Kelelelice	
34.0 Small-scale I	Hydro			None						
Electricity Gene	erated			0.00						
Apportioned				0.00				kWh/Ye	ear	
Connected to o	lwelling's ele	ectricity meter		Yes						
Electricity Gene	eration			Annual						
Jan	Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oc	t Nov	Dec

Recommendations Lower cost measures None

Further measures to achieve even higher standards None



Property Reference	Flat 15							Issu	ed on Date	13/0	04/2024
Assessment Reference	Flat 15	Be Green			Prop	Type F	Ref				
Property											
SAP Rating			89 B	DER		2.64			TER	1	1.17
Environmental			98 A	% DER	< TER					7	76.37
CO ₂ Emissions (t/year)			0.22	DFEE		26.9	0		TFEE	3	31.99
Compliance Check			See BREL	% DFE	E < TFEE					1	5.93
% DPER < TPER			54.01	DPER		27.2	2		TPER	5	59.18
Assessor Details	Mr. Giovann	i Maurizi							Assessor	ID I	И052-0001
Client											
SUMMARY FOR INP	JT DATA FOR	: New Buil	d (As Built)								
Prientation			West								
Property Tenture			ND					$\overline{}$			
ransaction Type			5					=			
errain Type			Urban					=			
.0 Property Type			Flat, Semi-Detache	d				=			
Position of Flat			Mid-floor flat	<u> </u>							
Which Floor			3								
.0 Number of Storeys			1								
Number of Storeys			·	2023							
3.0 Property Age Band			1					==			
			3								
I.0 Sheltered Sides				· · · · · · · · · · · · · · · · · · ·							
i.0 Sunlight/Shade i.0 Thermal Mass Param			Average or unknow Enter TMP value	11							
Thermal Mass	eter		250.00						kJ/m²K		
7.0 Electricity Tariff			Standard								
Smart electricity meter	titted		Yes								
Smart gas meter fitted			Yes								
7.0 Measurements			Baseme Ground flo 1st Stor 2nd Stor 3rd Stor 4th Stor 5th Stor 7th Stor	ent: or: ey: ey: ey: ey: ey: ey: ey: ey:	0.00 m 40.00 n 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n m i i i i	r Int	0.00 99.6 0.00 0.00 0.00 0.00	Floor Area) m² 0 m²) m²	Averaç	ge Storey Heig 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
3.0 Living Area			28.50						m²		
0.0 External Walls	Tuno	Construction		11.16-1	Va	Cras -	Nott A :	Chelt	Ob - 14 -	0	una Aves Ostant
Description External Wall	Type Cavity Wall	Construction Cavity wall : pla	sterboard on dabs, AAC block,	U-Value (W/m²K) 0.12	Kappa (kJ/m²K) 4 60.00		Nett Area (m²) 22.08	Res 0.00	Shelter None	Openin 25.92	ngs Area Calculat Type 2 Enter Gross A
Corridor Wall	Cavity Wall	filled cavity, any	outside structure sterboard on dabs, AAC block,	0.12	60.00	18.00	18.00	0.70	Stairwell Acc		
Staircase wall	Cavity Wall	filled cavity, any Cavity wall : pla	outside structure sterboard on dabs, AAC block, outside structure	0.12	60.00	27.00	27.00		Corridor 3 Stairwell Stairv		
.1 Party Walls											
Description	Туре	Cons	struction				U-Value (W/m²K)			Shelter Res	Shelter
Party Wall 1	Filled Cavit Edge Seali		erboard on dabs mounted , AAC blocks, cavity	l on cement	t render o	on both		45.00		0.00	None
0.0 External Roofs	<u> </u>		-								



External Roof 1	External Plane Roof	Plasterbo	pard, insulated at ceiling level	0.12	9.00 1	(m 2.20 12.2		0.00	Enter Gros	s 0.00
10.1 Party Ceilings Description		Const	ruction						Kappa (kJ/m²K)	Area (m²)
Party Ceiling 1		Preca	st concrete plank floor (screed la	aid on rubbei	r), carpeted				30.00	87.40
11.1 Party Floors										
Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²)
Party Floor 1		Lowest occupied	Precast concrete plank floor (s	screed laid o	n rubber), c	arpeted			30.00	99.60
12.0 Opening Types										
Description	Data Source	Type	Glazing		Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple glazed			Air Filled	0.68	Wood	0.70	0.90
13.0 Openings										
Name EastWindows/Door	Opening Ty Glazinf Wind		Location External Wall		Orient Ea		Area 21.6			tch 0
Opening	Glazinf Wind		External Wall		Nor		4.3			0
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging 17.1 List of Bridges			Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between d E16 Corner (normal) E18 Party wall between d	wellings (in block		Source Type Gov Approved Scheme	Length 7.90 7.90 15.00 18.06 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference	:		Imported Yes Yes Yes Yes Yes Yes
Y-value			0.07				W/m²K			
18.0 Pressure Testing			Yes							
Designed AP ₅₀			5.00				m³/(h.m	n²) @ 50 F	Pa	
Property Tested?			Yes							
Test Method			Blower Door							
As Built AP ₅₀			4.00				m³/(h.m	n²) @ 50 F	Pa	
19.0 Mechanical Ventilation	1									
Mechanical Ventilation							_			
Mechanical Ventilat	tion System Pres	ent	No							
20.0 Fans, Open Fireplaces	s, Flues									
21.0 Fixed Cooling System			No							
22.0 Lighting										
No Fixed Lighting				fficacy 75.00		wer 10	 Cap a 30	acity 00		ount 10
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735				Ħ			
Fuel Type			Electricity				Ī			
SAP Code			0				Ī			
In Winter			268.60				i			
· · · · · ·							╡			
In Summer			171.10							
In Summer Model Name			171.10 AERONA3							



		ı
System Type	Heat Pump	
Controls SAP Code	2207	
Delayed Start Stat	No	
HETAS approved System	No	
Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U	lse Efficiency Percentage Of Heat Heat Elec	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None	Ratio	
28.0 Water Heating		
		1
Water Heating	Main Heating 1	
SAP Code	901	
SAP Code Flue Gas Heat Recovery System	901 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2	901 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System	901 No No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel	901 No No No No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day	901 No No No No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion	901 No No No No No No No No No N	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source	901 No No No No Yes No From mains	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count	901 No No No No No No From mains 2	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion	901 No No No No No No From mains 2	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water	901 No No No No No No From mains 2	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water	901 No No No No No Yes No From mains 2 No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder	901 No No No No No Yes No From mains 2 No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat	901 No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space	901 No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control	901 No No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type	901 No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes Yes Measured Loss	L kWh/day
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume	901 No No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes Yes Measured Loss 200.00	1



31.0 Thermal Store			None						
32.0 Photovoltaic Unit			One Dwelling						
Export Capable Meter?			Yes						
Connected To Dwelling			Yes						
Diverter			Yes						
Battery Capacity [kWh]			10.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over Facto	shading or	MCS Certificate	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's ele	ectricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	t Nov	Dec

Recommendations

Lower cost measures
None
Further measures to achieve even higher standards
None



Property Reference	Flat 16								Issu	ed on Date	13/	13/04/2024		
Assessment Reference	Flat 16	Be Green				Prop	Type I	Ref						
Property														
SAP Rating			89 B		DER		3.67			TER		17.08		
Environmental			98 A		% DER <	< TER						78.51		
CO ₂ Emissions (t/year)			0.14		DFEE		35.9	8		TFEE		39.00		
Compliance Check			See BREL		% DFEE	< TFEE						7.74		
% DPER < TPER			58.72		DPER		37.8	5		TPER		91.68		
Assessor Details	Mr. Giovani	ni Maurizi								Assesso	r ID	M052-0001		
Client														
SUMMARY FOR INPL	JT DATA FOR	R: New B	uild (As Built)											
Orientation			West											
			ND											
Property Tenture			5											
Fransaction Type Ferrain Type			Urban											
lerrain Type I.0 Property Type			Flat, Semi-De	atached										
Position of Flat			Mid-floor flat	Jacrieu										
Which Floor			3											
			1						==					
2.0 Number of Storeys 3.0 Date Built			2023											
3.0 Date Built 3.0 Property Age Band		1												
			2											
1.0 Sheltered Sides				nknoven										
5.0 Sunlight/Shade 6.0 Thermal Mass Paramo			Average or un											
Thermal Mass	eter		250.00	alue						kJ/m²K				
7.0 Electricity Tariff			Standard											
Smart electricity meter	fitted		Yes						=					
Smart gas meter fitted	iiiou		Yes						=					
7.0 Measurements														
			Grou 1s 2n 3rd 4ti 5ti 6ti	asement: and floor: at Storey: d Storey: d Storey: h Storey: h Storey: h Storey: h Storey:		0.00 m 21.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n m i i i i	r Int	0.0 46.0 0.0 0.0 0.0 0.0 0.0	Floor Area 0 m² 00 m² 00 m² 0 m² 0 m² 0 m² 0 m² 0	Avera	ge Storey Heig 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m		
3.0 Living Area			33.00							m²				
9.0 External Walls Description	Туре	Constructi	on		U-Value	Карра	Gross	Nett Area	Shelter	Shelter	Open	ings Area Calculat		
External Wall	Cavity Wall		: plasterboard on dabs, AAC	(kJ/m²K) . 60.00		(m²) 38.88	Res 0.00	None	15.1	Type		
Corridor Wall	Cavity Wall	filled cavity, Cavity wall	any outside structure : plasterboard on dabs, AAC		0.12	60.00	3.90	3.90	0.70	Stairwell Ac	cess 0.0			
External Wall 3	Cavity Wall	Cavity wall	any outside structure : plasterboard on dabs, AAC any outside structure	block,	0.12	60.00	6.60	6.60	2.50	Corridor Stairwell Stair		0 Enter Gross A		
0.1 Party Walls														
Description	Туре	C	onstruction					U-Value (W/m²K)	(kJ/m²	K) (m²)	Shelter Res	Shelter		
Party Wall 1	Filled Cavi Edge Seal		asterboard on dabs modes, AAC blocks, cavity		cement	render (on both	0.00	45.0	24.00	0.00	None		
0.0 External Roofs														



External Roof 1	External Plane Roof	Plasterbo	ard, insulated at ceiling level	0.12	9.00 2	(m ²		0.00	Enter Gros Area	s 0.00
10.1 Party Ceilings Description		Const	ruction						Kappa (kJ/m²K)	Area (m²)
Party Ceiling 1		Precas	st concrete plank floor (screed	d laid on rubber	r), carpeted				30.00	44.00
11.1 Party Floors										
Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²)
Party Floor 1		Lowest occupied	Precast concrete plank floor	r (screed laid o	n rubber), c	arpeted			`30.00 ′	46.00
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling Type	G-value	Frame	Frame Factor	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap	Air Filled	0.68	Type Wood	0.70	0.90
13.0 Openings Name West Windows/Door East Windows/Door Opening	Opening Ty Glazinf Wind Glazinf Wind Glazinf Wind	dows/Door dows/Door	Location External Wall External Wall External Wall		Orientation North East West		4.3 6.4	Area (m²) 4.32 6.48 4.32		tch 0 0
14.0 Conservatory			None				7			
15.0 Draught Proofing			100				- %			
16.0 Draught Lobby			Yes				i			
							<u>-</u>			
17.0 Thermal Bridging 17.1 List of Bridges			Calculate Bridges							
Bridge Type E1 Steel lintel with perfo E3 Sill E4 Jamb E7 Party floor between c E16 Corner (normal) E18 Party wall between	dwellings (in block		Source Type Gov Approved Scheme	Length 8.85 8.85 20.00 24.22 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value			0.13				W/m²K			
18.0 Pressure Testing			Yes							
Designed AP ₅₀			5.00				m³/(h.m	²) @ 50 l	Pa	
Property Tested?			Yes							
Test Method			Blower Door							
As Built AP50			4.00				m³/(h.m	²) @ 50 l	Pa	
19.0 Mechanical Ventilation Mechanical Ventilation										
Mechanical Ventila	ition System Pres	ent	No							
20.0 Fans, Open Fireplace	s, Flues									
21.0 Fixed Cooling System	1		No							
22.0 Lighting										
No Fixed Lighting			No							
			Name Lighting 1	75.00		wer 10	Capa 300			ount 12
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			261.71							
In Summer			170.30							
Model Name			AERONA3							
Manufacturer			Grant Engineering (UK) Ltd						



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System Type	Heat Pump	
Controls SAP Code	2207	
Delayed Start Stat	No	
HETAS approved System	No	
Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U	lse Efficiency Percentage Of Heat Heat Elec	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None	Ratio	
28.0 Water Heating		
		1
Water Heating	Main Heating 1	
SAP Code	901	
SAP Code Flue Gas Heat Recovery System	901 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2	901 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System	901 No No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel	901 No No No No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day	901 No No No No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion	901 No No No No No No No No No N	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source	901 No No No No Yes No From mains	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count	901 No No No No No No From mains 2	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion	901 No No No No No No From mains 2	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water	901 No No No No No No From mains 2	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water	901 No No No No No Yes No From mains 2 No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder	901 No No No No No Yes No From mains 2 No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat	901 No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space	901 No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control	901 No No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type	901 No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes Yes Measured Loss	L kWh/day
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume	901 No No No No No No Yes No From mains 2 No Yes Hot Water Cylinder Yes Yes Yes Measured Loss 200.00	1



31.0 Thermal Store			None						
32.0 Photovoltaic Unit			One Dwelling						
Export Capable Meter?			Yes						
Connected To Dwelling			Yes						
Diverter			Yes						
Battery Capacity [kWh]			10.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over Facto	shading or	MCS Certificate	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's ele	ectricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	t Nov	Dec

Recommendations

Lower cost measures
None
Further measures to achieve even higher standards
None



Property Reference	Flat 17							Issue	ed on Date	13/0)4/2024
Assessment Reference	Flat 17 Be Gr	een			Prop	Type F	Ref				
Property											
SAP Rating			91 B	DER		2.80			TER	1	3.30
Environmental			98 A	% DER	< TFR	2.00			TER		78.95
CO ₂ Emissions (t/year)			0.12	DFEE		23.3	<u> </u>		TFEE		26.50
Compliance Check			See BREL		E < TFEE		<u>'</u>				1.92
% DPER < TPER			59.32	DPER		28.9	5		TPER		71.16
			00.02	·		20.0					
	Mr. Giovanni Mau	rizi							Assessor	ID N	И052-0001
Client											
SUMMARY FOR INPUT	DATA FOR: Nev	w Build (A	s Built)								
Orientation			North								
Property Tenture			ND								
Transaction Type			5								
Terrain Type			Urban								
1.0 Property Type			Flat, Semi-Detache	d							
Position of Flat			Mid-floor flat								
Which Floor			3								
2.0 Number of Storeys			1								
3.0 Date Built			2023								
3.0 Property Age Band			L								
4.0 Sheltered Sides			3								
5.0 Sunlight/Shade			Average or unknow	n .							
6.0 Thermal Mass Parameter			Enter TMP value								
Thermal Mass			250.00						kJ/m²K		
7.0 Electricity Tariff			Standard					$\overline{}$			
Smart electricity meter fitted	ı		Yes								
Smart gas meter fitted	•		Yes					=			
			103								
7.0 Measurements			Baseme Ground flo 1st Sto	ent: oor:	0.00 m 11.00 m 0.00 m	า	r Int	0.00 52.00 0.00) m²	Averaç	ge Storey Heigh 0.00 m 3.00 m 0.00 m
			2nd Sto	ey:	0.00 m 0.00 m			0.00	m²		0.00 m 0.00 m
			3rd Stor	ey:	0.00 m			0.00	m²		0.00 m
			5th Stor 6th Stor	ey:	0.00 m 0.00 m			0.00 0.00	m²		0.00 m 0.00 m
			7th Stor	ey:	0.00 m			0.00	m²		0.00 m
8.0 Living Area			25.00						m²		
9.0 External Walls Description Typ	e Const	ruction		U-Value (W/m²K)	Kappa (kJ/m²K) A		Nett Area	Shelter Res	Shelter	Openin	igs Area Calculation
	filled c	avity, any outsi		0.12	60.00	21.21	7.96	0.00	None	13.25	5 Enter Gross Are
Corridor Wall Cav		wall : plasterbo avity, any outsi	oard on dabs, AAC block, de structure	0.12	60.00	10.11	10.11	0.70	Stairwell Acce Corridor 3	ss 0.00	Enter Gross Are
9.1 Party Walls											
Description	Туре	Construc	tion				U-Value (W/m²K)			Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing		ard on dabs mounted C blocks, cavity	d on cemen	t render o			45.00		0.00	None
10.1 Party Ceilings Description		Constructi	on								appa Area (m /m²K)
										(NJ	/ III IX/



11.1 Party Floors Description		Storey Index	Con	struction						Kappa (kJ/m²K)	
Party Floor 1		Lowest occupied		ast concrete plank flo	oor (screed laid or	n rubber), c	arpeted			30.00	48.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazing	Filling	G-value	F <u>r</u> ame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings											
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		Location External Wall		Orient We		Area (13.2			tch 0
14.0 Conservatory				None							
15.0 Draught Proofing				100				%			
16.0 Draught Lobby				Yes							
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov	Approved Scheme	Length 5.30 5.30 10.00 10.44 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference			Yes Yes Yes Yes Yes Yes Yes Yes Yes
Y-value				0.16				W/m²K			
18.0 Pressure Testing				Yes				7			
Designed AP₅₀				5.00				m³/(h.m	²) @ 50 P	а	
Property Tested?				Yes				7	, @		
Test Method				Blower Door				=			
As Built AP ₅₀				4.00				m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation		ent		No							
20.0 Fans, Open Fireplaces	s, Flues										
21.0 Fixed Cooling System				No							
22.0 Lighting No Fixed Lighting				No Name	Efficacy	Po	wer	Сара	ıcity	Co	ount
				Lighting 1	75.00	4	10	300	00		7
24.0 Main Heating 1				Database				_			
Percentage of Heat				100.00				%			
Database Ref. No.				102735							
Fuel Type				Electricity							
SAP Code				0							
In Winter				258.76				_			
In Summer				170.27							
Model Name				AERONA3							
Manufacturer				Grant Engineering (L	JK) Ltd						
System Type				Heat Pump				╛			
Controls SAP Code				2207				╛			
Delayed Start Stat				No							
HETAS approved System	า			No							
Oil Pump Inside				No							
FI Case				0.00							



Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators]
Flow Temperature	Enter value]
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi	1
Combi keep hot type	None	1
Combines processes	TABLE	<u> </u>
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating U	Ise Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	1
SAP Code	901]]
		J 7
Flue Gas Heat Recovery System	No] 7
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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	1	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes]
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	1
Cylinder Volume	200.00] L
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework	j
In Airing Cupboard	No	j
31.0 Thermal Store	None]
32.0 Photovoltaic Unit	One Dwelling]
Export Capable Meter?	Yes	1
Connected To Dwelling	Yes	<u>.</u> 1
Diverter	Yes]
Divolto	100	



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	Fla	t 18								Issue	ed on Date	13	3/04/2024	
Assessment Reference	Fla	it 18 Be Gr	een				Prop	Type F	Ref					
Property														
SAP Rating				90 B		DER		2.93			TER		12.83	
Environmental				98 A		% DER	< TER	2.90					77.16	
CO ₂ Emissions (t/year)				0.15		DFEE		26.8	5		TFEE		28.96	
Compliance Check				See BR	2FI		E < TFEE						7.30	
% DPER < TPER				55.81		DPER		30.2	5		TPER		68.44	
Assessor Details	Mr. Gio	vanni Maur	izi								Assessor	ID	M052-000)1
Client	T DATA 5	OD. Nov	- Devilet (N - D - 114										
SUMMARY FOR INPU	II DAIA F	·OR: Nev	v Bulla (A)									
Orientation				East										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Se	mi-Detached									
Position of Flat				Mid-floo	or flat									
Which Floor				3										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				3										
5.0 Sunlight/Shade				Average	e or unknown	l								
6.0 Thermal Mass Parame	ter			Enter TI	MP value									
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standar	rd									
Smart electricity meter f	itted			Yes										
Smart gas meter fitted				Yes										
7.0 Measurements														
To measurements					Basemer Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 6th Store 7th Store	nt: or: y: y: y: y: y: y:	0.00 m 18.06 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n n i i i	r Int	0.00 62.00 0.00 0.00 0.00 0.00 0.00 0.00) m ² m ² m ² m ² m ² m ² m ²	Aver	age Storey 0.00 m 3.00 m 0.00 m	
8.0 Living Area				17.30							m²			
9.0 External Walls Description	Туре	Constr	uction			U-Value			Nett Area		Shelter	Oper	nings Area C	
External Wall	Cavity Wall		wall : plasterbo		os, AAC block,	(W/m²K) 0.12	(kJ/m²K) A	27.09	(m²) 7.34	Res 0.00	None	19.		Type Gross Are
Corridor Wall	Cavity Wall	Cavity		oard on dab	s, AAC block,	0.12	60.00	27.09	27.09	0.70	Stairwell Acco		00 Enter	Gross Are
9.1 Party Walls												<u> </u>		
Description Party Wall 1	Type Filled (Edge S	Cavity with Sealing	Plasterbo sides, AA	ard on da	abs mounted cavity	on cemen	t render o		U-Value (W/m ² K) 0.00		() (m²)	Shelter Res 0.00		elter one
10.1 Party Ceilings Description			Constructi	<u> </u>										Area (m
Party Ceiling 1			Precast co	ncrete pla	ank floor (scre	eed laid or	n rubber),	carpet	ed				3 0.00	62.00



11.1 Party Floors Description		Storey Index	Const	ruction							Kappa (kJ/m²K)	Area (m²)
Party Floor 1		Lowest occupied		st concrete plank flo	oor (screed la	aid or	rubber), o	arpeted			30.00	62.00
12.0 Opening Types Description	Data Source	Туре		Glazing			Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed			Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings												
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		ocation xternal Wall			Orient We		Area (19.7			tch 0
14.0 Conservatory			N	one								
15.0 Draught Proofing			-	00					- %			
16.0 Draught Lobby			-	es								
17.0 Thermal Bridging			С	alculate Bridges								
17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov A Gov A Gov A Gov A Gov A	e Type pproved Scheme pproved Scheme pproved Scheme pproved Scheme pproved Scheme pproved Scheme	7. 7. 15 18 6.	90 90 .00 .06 00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Imported Yes Yes Yes Yes Yes Yes
Y-value			0	.13					W/m²K			
18.0 Pressure Testing			Y	es								
Designed AP50			5.	.00					m³/(h.m	²) @ 50 Pa	a	
Property Tested?			Y	es					<u> </u>	, -		
Test Method			В	lower Door					Ħ			
As Built AP ₅₀			4.	.00					m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation	tion System Pres	ent	N	0								
20.0 Fans, Open Fireplaces	s, Flues											
21.0 Fixed Cooling System			N	0								
22.0 Lighting No Fixed Lighting			N	Name	Efficacy			ower	Сара			ount
				Lighting 1	75.00			40	300	00	1	10
24.0 Main Heating 1				atabase								
Percentage of Heat				00.00					<u></u> %			
Database Ref. No.			-	02735					_			
Fuel Type				lectricity					_			
SAP Code			0						\exists			
In Winter				63.79					_			
In Summer				70.33					_			
Model Name				ERONA3					_			
Manufacturer				rant Engineering (L	JK) Ltd				_			
System Type				eat Pump					\dashv			
Controls SAP Code				207					_			
Delayed Start Stat			N						\dashv			
HETAS approved System	n		N						_			
Oil Pump Inside			N						_			
FI Case			0	00								



Flue Type	None or Unknown	
Fan Assisted Flue	No	1
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators]
Flow Temperature	Enter value	1
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi]
Combi keep hot type	None]]
——————————————————————————————————————	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating L	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	1
SAP Code	901]
Flue Gas Heat Recovery System	No]]
Waste Water Heat Recovery Instantaneous System 1	No	J 7
		J 7
Waste Water Heat Recovery Instantaneous System 2	No]
Waste Water Heat Recovery Storage System	No	<u></u>
Solar Panel	No]
Water use <= 125 litres/person/day	Yes	_
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes]
Independent Time Control	Yes]
Insulation Type	Measured Loss]
Cylinder Volume	200.00] L
Loss	1.65	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?	Yes	j
Connected To Dwelling	Yes	1
Diverter	Yes]
••.	L	_



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	_	Flat 19								Issue	ed on Date	1	3/04/2	024
Assessment Reference		Flat 19 Be Gr	een				Prop	Type	Ref					
Property														
SAP Rating				90 B		DER		2.93	3		TER		12.8	3
Environmental				98 A		% DER	< TER						77.1	6
CO ₂ Emissions (t/year)				0.15		DFEE		26.8	35		TFEE		28.9	6
Compliance Check				See BR	EL	% DFE	E < TFEE						7.30	
% DPER < TPER				55.81		DPER		30.2	25		TPER		68.4	4
Assessor Details	Mr. G	iovanni Mau	rizi								Assessor	· ID	M05	2-0001
Client														
SUMMARY FOR INPL	JT DATA	FOR: Nev	w Build (A	s Built)									
Orientation				East										
Property Tenture				ND										
Transaction Type				5										
Terrain Type				Urban										
1.0 Property Type				Flat, Se	mi-Detached									
Position of Flat				Mid-floo	r flat									
Which Floor				3										
2.0 Number of Storeys				1										
3.0 Date Built				2023										
3.0 Property Age Band				L										
4.0 Sheltered Sides				3										
5.0 Sunlight/Shade				Average	or unknown									
6.0 Thermal Mass Parame	eter			Enter TI	MP value									
Thermal Mass				250.00							kJ/m²K			
7.0 Electricity Tariff				Standar	d									
Smart electricity meter	fitted			Yes										
Smart gas meter fitted				Yes										
7.0 Measurements														
					Basemen Ground floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 7th Store	t: r: y: y: y: y: y:	0.00 m 18.06 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1	r In	0.00 62.00 0.00 0.00 0.00 0.00 0.00 0.00) m² m² m² m² m² m² m² m²	Ave	0. 3. 0. 0. 0. 0.	torey Heigh 00 m 00 m 00 m 00 m 00 m 00 m 00 m 00 m 00 m
8.0 Living Area				17.30							m²			
9.0 External Walls Description	Туре	Const	ruction			U-Value			Nett Area		Shelter	Оре	nings	Area Calculatio
External Wall	Cavity Wal		wall : plasterbo			(W/m²K) 0.12	(kJ/m²K) A	27.09	(m²) 7.34	Res 0.00	None	1	9.75	Type Enter Gross Are
Corridor Wall	Cavity Wal	I Cavity	wall : plasterbo avity, any outsi	oard on dab	s, AAC block,	0.12	60.00	27.09	27.09	0.70	Stairwell Acc Corridor 3		.00	Enter Gross Are
9.1 Party Walls Description	Туре)	Construc	tion						e Kappa) (kJ/m²k		Shelte Res	er	Shelter
Party Wall 1		d Cavity with e Sealing	Plasterboa sides, AA0		bs mounted o	on cemen	t render o	n both		45.00		0.00		None
10.1 Party Ceilings Description			Constructi	on									Kapp kJ/m²	
Party Ceiling 1			Precast cor	ncrete pla	nk floor (scre	ed laid or	n rubber),	carpet	ed			(30.00	



11.1 Party Floors Description		Storey Index	Const	ruction							Kappa (kJ/m²K)	Area (m²)
Party Floor 1		Lowest occupied		st concrete plank flo	oor (screed la	aid or	rubber), o	arpeted			30.00	62.00
12.0 Opening Types Description	Data Source	Туре		Glazing			Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed			Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings												
Name West Windows/Door	Opening Ty Glazinf Wind	rpe dows/Door		ocation xternal Wall			Orient We		Area (19.7			tch 0
14.0 Conservatory			N	one								
15.0 Draught Proofing			-	00					- %			
16.0 Draught Lobby			-	es								
17.0 Thermal Bridging			С	alculate Bridges								
17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov A Gov A Gov A Gov A Gov A	e Type pproved Scheme pproved Scheme pproved Scheme pproved Scheme pproved Scheme pproved Scheme	7. 7. 15 18 6.	90 90 .00 .06 00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Imported Yes Yes Yes Yes Yes Yes
Y-value			0	.13					W/m²K			
18.0 Pressure Testing			Y	es								
Designed AP50			5.	.00					m³/(h.m	²) @ 50 Pa	a	
Property Tested?			Y	es					<u> </u>	, -		
Test Method			В	lower Door					Ħ			
As Built AP ₅₀			4.	.00					m³/(h.m	²) @ 50 P	а	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation	tion System Pres	ent	N	0								
20.0 Fans, Open Fireplaces	s, Flues											
21.0 Fixed Cooling System			N	0								
22.0 Lighting No Fixed Lighting			N	Name	Efficacy			ower	Сара			ount
				Lighting 1	75.00			40	300	00	1	10
24.0 Main Heating 1				atabase								
Percentage of Heat				00.00					<u></u> %			
Database Ref. No.			-	02735					_			
Fuel Type				lectricity					_			
SAP Code			0						\exists			
In Winter				63.79					_			
In Summer				70.33					_			
Model Name				ERONA3					_			
Manufacturer				rant Engineering (L	JK) Ltd				_			
System Type				eat Pump					\dashv			
Controls SAP Code				207					_			
Delayed Start Stat			N						\dashv			
HETAS approved System	n		N						_			
Oil Pump Inside			N						_			
FI Case			0	00								



Flue Type	None or Unknown	
Fan Assisted Flue	No	1
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators]
Flow Temperature	Enter value	1
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi]
Combi keep hot type	None]]
——————————————————————————————————————	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating L	Jse Efficiency Percentage Of Heat Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None		
28.0 Water Heating Water Heating	Main Heating 1	1
SAP Code	901]
Flue Gas Heat Recovery System	No]]
Waste Water Heat Recovery Instantaneous System 1	No	J 7
		J 7
Waste Water Heat Recovery Instantaneous System 2	No]
Waste Water Heat Recovery Storage System	No	<u></u>
Solar Panel	No]
Water use <= 125 litres/person/day	Yes	_
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes]
Independent Time Control	Yes]
Insulation Type	Measured Loss]
Cylinder Volume	200.00] L
Loss	1.65	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?	Yes	j
Connected To Dwelling	Yes	1
Diverter	Yes]
••.	L	_



Battery Capacity [k	Wh]		10.00						
PV Cells kW	o Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydr	o		None						
Electricity Generate	ed		0.00						
Apportioned			0.00				kWh/Ye	ar	
Connected to dwell	ing's electricity meter		Yes						
Electricity Generation	on		Annual						
Jan F	eb Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec

Recommendations

Lower cost measures

Further measures to achieve even higher standards None



Property Reference	Flat 20							Issue	d on Date	13/0	4/2024
Assessment Reference	Flat 20	Be Green			Pro	р Туре	Ref				
Property											
SAP Rating			88 B	DER		2.99)		TER	1	2.40
Environmental			97 A	% DER	< TER	2.98) 		TEIX		5.89
CO ₂ Emissions (t/year)			0.23	DFEE	· · ILK	34.4	10		TFEE		5.00
Compliance Check					E < TFE		+0		11		
% DPER < TPER			See BREL 53.28	DPER	E V IFE	30.7	77		TPER		.55
% DPER < IPER			53.28	DPER		30.1	7		IPEK	6	5.87
Assessor Details	Mr. Giovann	ni Maurizi							Assesso	r ID N	1052-0001
Client											
SUMMARY FOR INP	UT DATA FOR	R: New Build	(As Built)								
Orientation			South								
Property Tenture			ND								
Transaction Type			5								
Terrain Type			Urban								
1.0 Property Type			Flat, Semi-Detach	ied							
Position of Flat			Mid-floor flat								
Which Floor			3								
2.0 Number of Storeys			1								
3.0 Date Built			2023								
3.0 Property Age Band			L								
4.0 Sheltered Sides			1								
5.0 Sunlight/Shade			Average or unkno	wn							
6.0 Thermal Mass Param	eter		Enter TMP value								
Thermal Mass			250.00						kJ/m²K		
7 O Electricity Toviff			Standard								
7.0 Electricity Tariff	£4										
Smart electricity meter	TITLEC		Yes								
Smart gas meter fitted			Yes								
7.0 Measurements				Heat	Loss Po	erimete	r Int	ternal Fl	oor Area	Averag	e Storey Heig
			Basen Ground f		0.00 r 35.60			0.00 90.50			0.00 m 3.00 m
			1st Sto 2nd Sto		0.00 r 0.00 r	n		0.00	m²		0.00 m 0.00 m
			3rd Sto	orey:	0.00 r	n		0.00	m²		0.00 m
			4th Sto 5th Sto		0.00 r 0.00 r			0.00			0.00 m 0.00 m
			6th Ste	orey:	0.00 r	n		0.00	m²		0.00 m
			7th Sto	orey:	0.00 r	n ———		0.00	m-		0.00 m
8.0 Living Area			29.60						m²		
9.0 External Walls Description	Туре	Construction		U-Value	Карра	Grass	Nett Area	Shelte-	Shelter	Onani-	gs Area Calculat
External Wall	Cavity Wall		rboard on dabs, AAC block	(W/m ² K)				Res 0.00	None	43.20	Type
Corridor Wall	Cavity Wall	filled cavity, any ou	itside structure rboard on dabs, AAC block		60.00	3.75	3.75	0.70	Stairwell Ac Corridor	cess 0.00	Enter Gross A
9.1 Party Walls Description	Туре	Constr	uction				U-Value	Kappa	Area	Shelter	Shelter
Party Wall 1	Filled Cavi Edge Seali		ooard on dabs mount AC blocks, cavity	ed on cemer	it render	on both	(W/m ² K)			Res 0.00	None
10.0 External Roofs		· · ·	· · ·								
IO.O EXICITION INCOMS											



External Roof 1	External Plane Roof	Plasterbo	ard, insulated at ceiling level	0.12	9.00 1	9.00 19.0	00 None	0.00	Enter Gros	ss 0.00
10.1 Party Ceilings Description		Const	ruction						Kappa (kJ/m²K)	Area (m²)
Party Ceiling 1		Precas	st concrete plank floor (screed	laid on rubber), carpeted	i			30.00	71.50
11.1 Party Floors										
Description		Storey Index	Construction						Kappa (kJ/m²K	
Party Floor 1		Lowest occupied	Precast concrete plank floor	(screed laid or	rubber), o	carpeted			30.00	90.50
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	e Frame	U Value
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings			pie giazea			7				
Name	Opening Ty		Location		Orient		Area		Р	itch
West Windows/Door Opening	Glazinf Wind Glazinf Wind		External Wall External Wall		Ea No		10.8 25.9			0
Opening	Glazinf Win		External Wall		We		6.4			Ö
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging			Calculate Bridges							
17.1 List of Bridges			3							
Bridge Type E1 Steel lintel with perfor	rated steel base r	alate	Source Type Gov Approved Scheme	Length 5.30	Psi 0.50	Adjusted 0.50	Reference			Imported Yes
E3 Sill	rated steet base p	Jiato	Gov Approved Scheme	5.30	0.04	0.04				Yes
E4 Jamb E7 Party floor between d	lwellinas (in block	s of flats)	Gov Approved Scheme Gov Approved Scheme	10.00 10.44	0.05 0.07	0.05 0.07				Yes Yes
E16 Corner (normal) E18 Party wall between o	- ,	,	Gov Approved Scheme Gov Approved Scheme	6.00 6.00	0.09 0.06	0.09 0.06				Yes Yes
	uweiiiigs			0.00	0.00	0.00				165
Y-value			0.05				W/m²K			
18.0 Pressure Testing			Yes							
Designed AP₅₀			5.00				m³/(h.m	²) @ 50	Pa	
Property Tested?			Yes							
Test Method			Blower Door							
As Built AP ₅₀			4.00				m³/(h.m	²) @ 50	Pa	
19.0 Mechanical Ventilation	n									
Mechanical Ventilation							_			
Mechanical Ventila	tion System Pres	ent	No							
20.0 Fans, Open Fireplaces										
21.0 Fixed Cooling System	1		No							
22.0 Lighting							_			
No Fixed Lighting			No							
			Name I Lighting 1	Efficacy 75.00		ower 40	Capa 30		C	ount 7
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			269.82							
			171.34				i			
In Summer			17 1.34							
In Summer Model Name			AERONA3				Ħ			



		1
System Type	Heat Pump	
Controls SAP Code	2207	
Delayed Start Stat	No	
HETAS approved System	No	
Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U	se Efficiency Percentage Of Heat Heat Elec	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None	Ratio	
28.0 Water Heating		
Motor Heating		
Water Heating	Main Heating 1	
SAP Code	901	
SAP Code Flue Gas Heat Recovery System	901 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2	901 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2	901 No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System	901 No No No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel	901 No No No No No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day	901 No No No No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion	901 No No No No No No No No No N	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source	901 No No No No No No From mains	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count	901 No No No No No No From mains 1	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion	901 No No No No No No From mains 1 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water	901 No No No No No No From mains 1 No	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water	901 No No No No No No Yes No From mains 1 No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder	901 No No No No No No Yes No From mains 1 No Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat	901 No No No No No Yes No From mains 1 No Yes Hot Water Cylinder Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space	901 No No No No No No Yes No From mains 1 No Yes Hot Water Cylinder Yes Yes	
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control	901 No No No No No No Yes No From mains 1 No Yes Hot Water Cylinder Yes Yes Yes	L
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type	901 No No No No No No Yes No From mains 1 No Yes Hot Water Cylinder Yes Yes Yes Yes Measured Loss	L kWh/day
SAP Code Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume	901 No No No No No No Yes No From mains 1 No Yes Hot Water Cylinder Yes Yes Yes Measured Loss 200.00	



31.0 Thermal Store			None						
32.0 Photovoltaic Unit			One Dwelling						
Export Capable Meter?			Yes						
Connected To Dwelling			Yes						
Diverter			Yes						
Battery Capacity [kWh]			10.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Over Facto	shading or	MCS Certificate	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's ele	ectricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	t Nov	Dec

Recommendations

Lower cost measures
None
Further measures to achieve even higher standards
None



Property Reference	F	lat 21								Issu	ed on Date	13	3/04/2	024
Assessment Referen	ce F	lat 21 Be G	reen				Prop	Type	Ref					
Property														
SAP Rating				86 B		DER		3.66	3		TER		15.1	4
Environmental				97 A		% DER	< TER						75.8	
CO ₂ Emissions (t/yea	r)			0.23		DFEE		42.9	94		TFEE		43.2	
Compliance Check	<u> </u>			See BREI	L	% DFEI	E < TFEE						0.61	
% DPER < TPER				53.38		DPER		37.6	64		TPER		80.7	
Assessor Details	Mr. G	iovanni Mau	ırizi								Assessor	· ID	MOS	2-0001
Client	IVII. O	IOVAIIIII WAC	11121								710000001		IVIOO	2-0001
SUMMARY FOR INF	PUT DATA	FOR: Ne	w Build (A	\s Built)										
Orientation			(.	South										
Property Tenture				ND						=				
Froperty Tenture				5										
Terrain Type				Urban										
I.0 Property Type					i-Detached									
Position of Flat				Top-floor										
Which Floor				4	nat									
2.0 Number of Storeys				1										
3.0 Date Built				2023										
				2023										
3.0 Property Age Band				4						=				
4.0 Sheltered Sides				1										
5.0 Sunlight/Shade	4				or unknown									
6.0 Thermal Mass Parar Thermal Mass	meter			Enter TMI 250.00	P value						kJ/m²K			
7.0 Electricity Tariff				Standard										
Smart electricity mete				Yes										
Smart gas meter fitte	d			Yes										
7.0 Measurements					Basemen round floo 1st Store 2nd Store 3rd Store 4th Store 5th Store 6th Store 7th Store	t: r: y: y: y: y: y:	0.00 m 24.25 n 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n n i i i i	r In	ternal F 0.00 75.00 0.00 0.00 0.00 0.00 0.00 0.0) m² m² m² m² m² m²	Aver	0. 3. 0. 0. 0. 0.	Storey Heigi 00 m 00 m 00 m 00 m 00 m 00 m 00 m 00
8.0 Living Area				27.60							m²			
9.0 External Walls Description	Туре	Cons	truction			U-Value	Kappa		Nett Area		Shelter	Oper	nings	Area Calculati
External Wall	Cavity Wall		wall : plasterbo		AAC block,	(W/m²K) 0.12	(kJ/m²K) 60.00	Area(m²) 69.00	(m²) 32.28	Res 0.00	None	36	.72	Type Enter Gross Ar
External Wall 2	Cavity Wall	Cavity	wall : plasterbo cavity, any outsic	oard on dabs,	AAC block,	0.12	60.00	3.75	3.75	0.70	Stairwell Acc Corridor 3		00	Enter Gross Ar
0.1 Party Walls Description	Туре	.	Construc	tion					U-Value	Карра	a Area	Shelter	r	Shelter
Party Wall 1	Filled	d Cavity with Sealing	n Plasterboa		s mounted o	on cemen	t render o	on both	(W/m ² K)	(kJ/m²l 45.00	() (m²)	Res 0.00		None
10.0 External Roofs Description	Туре		onstruction	<u> </u>	-		-Value K //m²K)(k			Nett Area (m²)	Shelter SI Code F		alcula Typ	ationOpenin e



External Roof	External Flat Roof	Plasterbo	ard, ii	nsulated flat roof	0.12	9.00	75.00	75.0	00 None	e 0.00	Enter Gros	s 0.00
11.1 Party Floors Description		Storey Index	Con	struction							Kappa (kJ/m²K)	Area (m²
Party Floor 1		Lowest occupied	Pred	ast concrete plank flo	oor (screed laid o	n rubber)	, carpe	ted			30.00	75.00
12.0 Opening Types Description	Data Source	Туре		Glazing		Glazin		illing	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window		Triple glazed		Gap	٦ Air	ype Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings Name West Windows/Door North Windows/Door Opening	Opening Ty Glazinf Wind Glazinf Wind Glazinf Wind	lows/Door lows/Door		Location External Wall External Wall External Wall		N 1	e ntatio North East Vest	n	21 10	a (m²) .60 .80 32	(t ch 0 0 0
14.0 Conservatory				None								
15.0 Draught Proofing				100					%			
16.0 Draught Lobby				Yes								
17.0 Thermal Bridging				Calculate Bridges								
17.1 List of Bridges Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between de E14 Flat roof E16 Corner (normal) E18 Party wall between de	wellings (in block		Gov Gov Gov Gov Gov	rce Type Approved Scheme	Length 9.53 9.53 24.00 34.12 34.12 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.08 0.09	(justed).50).04).05).07).08).09).06	Referenc	e:		Imported Yes Yes Yes Yes Yes Yes Yes
Y-value	-			0.08					W/m²ł	<		
18.0 Pressure Testing				Yes					7			
Designed AP ₅₀				4.00					m³/(h.	m²) @ 50 F	Pa	
Property Tested?				Yes					Ŧ `			
Test Method				Blower Door					Ī			
As Built AP ₅₀				3.00					m³/(h.	m²) @ 50 F	Pa	
19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation		ent		No								
20.0 Fans, Open Fireplaces	s, Flues											
21.0 Fixed Cooling System				No								
22.0 Lighting No Fixed Lighting				No					7			
Tto I mod Lighting				Name Lighting 1	Efficacy 75.00		Power 40			oacity 000		ount 12
24.0 Main Heating 1				Database					7			
Percentage of Heat				100.00					%			
Database Ref. No.				102735					j			
Fuel Type				Electricity					j			
SAP Code				0								
In Winter				270.50								
In Summer				171.31								
Model Name				AERONA3								
Manufacturer				Grant Engineering (L	JK) Ltd							
System Type				Heat Pump								
Controls SAP Code				2207								
Delayed Start Stat				No					i			



Oil Pump Inside FI Case 0.00 Flue Type None or Unknown Fan Assisted Flue Is MHS Pumped Pump in heated space Heating Pump Age Heat Emitter Radiators Flow Temperature Flow Temperature Value Boiler Interlock Combi boiler type Combi keep hot type 26.0 Heat Networks None	LIETAO	N	1
FI Case File Type None or Unknown Is Mis Furnpod Is Mis Furnpod Healing Pump Age Pump in heated space Healing Pump Age Pump in heated space Plov Torriporature Plov Torriporature Plov Torriporature Value Plov Torriporature	HETAS approved System	No]
File Type Fan Assisted Flue Is MIS Pumped Party in teated space Heatling Pump Age Heat Entitler Flow Temperature Flow Temperature Flow Temperature Value Flow Temperature Value Flow Temperature]
Fan Assisted Flue Is MMS Pumpage Pump in Installed space Pump in Installed space Heat Flue Flue Flue Radiators Flow Temperature Value Boiler Interiock Combit Doller type Roombit Soler Interiock Roombit Radiators Roombit Roombit Soler Interiock No Combit Doller type Roombit Roombit Radiators Roombit Roomb]
Is MHS Pumped Heating Pump Age 2013 or later Heat Entirer Flow Temperature Flow Temperature Flow Temperature Flow Temperature Value Flow Temperature Flow Tempe]
Heat Emitter]
Rest Emitter Redidators Enter value	•		
Flow Temperature Value Flow Temperature Flow Temperature Value Flow Temperature Flow T			
Flow Temperature Value A5.00 No No No No No No No			
Boiler Intertock Combi boiler type No Combi Combi boiler type No Combi None 25.0 Main Heating 2 None Heat Source Fuel Type Heating Use Heat source 1 None Heat source 2 None Heat source 2 None Heat source 5 None Heat source 6 None Heat source 7 None Heat source 8 None Heat source 9 None Heat source 1 None Heat sour	·		
Combi keep hot type None 25.0 Main Heating 2 None Heat Source Fuel Type Heating Use Efficiency Percentage Of Heat Heat Power Ratio			
25.0 Main Heating 2 None Heat Source Fuel Type Heating Use Efficiency Percentage Of Heat He			
None			
None	Combi keep hot type	None	
Heat Source Fuel Type Heating Use Efficiency Percentage Of Heat Power Ratio Heat source 1 None Heat Source 2 None Heat Source 2 None Heat Source 3 None Heat Source 4 None Heat Source 5 None Heat Source 6 None Heat Source 6 None Heat Source 7 None Heat Source 7 None Heat Source 7 None Heat Source 8 None Heat Source 8 None Heat Source 8 None Heat Source 9 None 9 N	25.0 Main Heating 2	None	
Heat source 1 None Heat source 2 None Heat source 2 None Heat source 3 None Heat source 5 None Heat source 5 None Heat source 5 None Heat source 5 None Heat source 6 None Heat source 7 None Heat	26.0 Heat Networks	None	
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 Storage System No Solar Panel No Water use <= 125 litres/person/day Yes Summer Immersion No Cold Water Source From mains Bath Court 2 Supplementary Immersion No Immersion Only Heating Hot Water Yes 23.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Hot Water Cylinder Cylinder In Heated Space Yes Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume 20.00 Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework In Airing Cupboard No 31.0 Thermal Store None	Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None	Heat Power	ctrical Fuel Factor Efficiency type
Water Heating Main Heating 1 SAP Code 901 Flue Gas 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 Summer Immersion No Cold Water Source From mains Bath Count 2 Supplementary Immersion No Immersion Only Heating Hot Water Yes 23.3 Waste Water Heat Recovery System 23.0 Hot Water Cylinder Hot Water Cylinder Cylinder In Heated Space Yes Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume 20.0.00 Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework kWh/day 1n Airing Cupboard No No	28.0 Water Heating		
Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel No Solar Panel Water use <= 125 litres/person/day Yes Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 2 23.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation In Airing Cupboard No No No No No No Loss 1.0 Thermal Store No No No No No No No No No N	Water Heating	Main Heating 1	
Waste Water Heat Recovery Instantaneous System 1 No Waste Water Heat Recovery Storage System No Solar Panel No Water use <= 125 litres/person/day	SAP Code	901	
Waste Water Heat Recovery Storage System 2 Waste Water Heat Recovery Storage System No Solar Panel Water use <= 125 litres/person/day Yes Summer Immersion Cold Water Source From mains Bath Count Supplementary Immersion Immersion Only Heating Hot Water Yes 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume Loss Pipes insulation In Airing Cupboard No 31.0 Thermal Store No No No No No L No No L No No	Flue Gas Heat Recovery System	No	
Waste Water Heat Recovery Storage System No Solar Panel No Water use <= 125 litres/person/day	Waste Water Heat Recovery Instantaneous System 1	No	
Solar Panel Water use <= 125 litres/person/day Yes Summer Immersion No Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No No No No No No Solar Panel No No No No No No No No No No No	Waste Water Heat Recovery Instantaneous System 2	No	
Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No No No No No No No No No N	Waste Water Heat Recovery Storage System	No	
Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation In Airing Cupboard Noe	Solar Panel	No	
From mains	Water use <= 125 litres/person/day	Yes	
Bath Count Supplementary Immersion Immersion Only Heating Hot Water Yes 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No 31.0 Thermal Store No	Summer Immersion	No	
Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Fully insulated primary pipework In Airing Cupboard No No No No No No No No No N	Cold Water Source	From mains	
Immersion Only Heating Hot Water Yes 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Hot Water Cylinder Cylinder Stat Yes Cylinder In Heated Space Yes Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume 200.00 L Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework In Airing Cupboard None	Bath Count	2	
28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation Fully insulated primary pipework In Airing Cupboard No No 1.0 Thermal Store	Supplementary Immersion	No	
29.0 Hot Water Cylinder Cylinder Stat (Yes Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Figure insulation Pipes insulation In Airing Cupboard No Hot Water Cylinder Yes Wes L L kWh/day KWh/day Store None	Immersion Only Heating Hot Water	Yes	
Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No Yes Independent Time Control Yes Measured Loss L kWh/day Fully insulated primary pipework No	28.3 Waste Water Heat Recovery System		
Cylinder In Heated Space Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume Loss 1.65 kWh/day Pipes insulation In Airing Cupboard No No Yes Measured Loss L kWh/day Fully insulated primary pipework No	29.0 Hot Water Cylinder	Hot Water Cylinder	
Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation In Airing Cupboard No No No No No No No No	Cylinder Stat	Yes	
Insulation Type Cylinder Volume Loss Pipes insulation In Airing Cupboard Measured Loss L kWh/day Fully insulated primary pipework No No No	Cylinder In Heated Space	Yes	
Cylinder Volume Loss 1.65 kWh/day Pipes insulation In Airing Cupboard No No No No No No	Independent Time Control	Yes	
Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework In Airing Cupboard No No Noe	Insulation Type	Measured Loss	
Pipes insulation In Airing Cupboard No No None	Cylinder Volume	200.00] L
In Airing Cupboard No None	Loss	1.65	kWh/day
31.0 Thermal Store None	Pipes insulation	Fully insulated primary pipework	
	In Airing Cupboard	No	
32.0 Photovoltaic Unit One Dwelling	31.0 Thermal Store	None	
	32.0 Photovoltaic Unit	One Dwelling	



Export Capable Meter?			Yes						
Connected To Dwelling			Yes						
Diverter			Yes						
Battery Capacity [kWh]			10.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	shading r	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Reference	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's electric	city meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar .	Apr	May Jun	Jul	Aug	Sep	Oct	t Nov	Dec

Recommendations

Lower cost measures

None
Further measures to achieve even higher standards
None



Property Reference		Flat 22							Issue	d on Date	13/0	4/2024
Assessment Referen	ice	Flat 22 Be Gr	een			Prop	Type F	Ref				
Property												
SAP Rating				85 B	DER		4.10			TER	1	4.72
Environmental				97 A	% DER	< TER					7	2.15
CO ₂ Emissions (t/yea	ır)			0.23	DFEE		37.8	2		TFEE	3	8.36
Compliance Check				See BREL	% DFEE	< TFEE					1	.40
% DPER < TPER				45.83	DPER		42.5	8		TPER	7	8.60
Assessor Details	Mr. 0	Giovanni Mau	rizi							Assessor	ID N	1052-0001
Client												
SUMMARY FOR IN	PUT DATA	A FOR: Nev	w Build (A	As Built)								
Orientation				West								
Property Tenture				ND								
Transaction Type				5								
Terrain Type				Urban								
1.0 Property Type				Flat, Semi-Detached	<u> </u>							
Position of Flat				Top-floor flat								
Which Floor				4								
2.0 Number of Storeys				1								
3.0 Date Built				2023								
3.0 Property Age Band				1								
1.0 Sheltered Sides				3								
5.0 Sunlight/Shade				Average or unknow	1							
6.0 Thermal Mass Para Thermal Mass	meter			Enter TMP value 250.00					_F	kJ/m²K		
7.0 Electricity Tariff				Standard								
Smart electricity met	ar fitted			Yes								
Smart gas meter fitte				Yes								
				Tes								
7.0 Measurements				Baseme Ground flor 1st Store 2nd Store 3rd Store 4th Store 5th Store 7th Store	nt: or: ey: ey: ey: ey:	0.00 m 22.30 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1	r In	ternal Flor 0.00 (64.60 0.00 (0.00 (0.00 (0.00 (0.00 (m² m² m² m² m² m² m²	Averag	e Storey Heig 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
8.0 Living Area				24.60					r	m²		
9.0 External Walls Description External Wall	Type Cavity Wa		ruction wall : plasterbo	pard on dabs, AAC block,	U-Value (W/m²K) 0.12	Kappa (kJ/m²K) A 60.00		Nett Area (m²) 14.85	Shelter Res 0.00	Shelter None	Openin	gs Area Calculat Type Enter Gross A
Corridor Wall	Cavity Wa	filled c	avity, any outsi	de structure pard on dabs, AAC block,	0.12	60.00	14.40	14.40		Stairwell Acce Corridor 4	ess 0.00	Enter Gross A
0.1 Party Walls Description	Тур	e	Construc	tion					Kappa (kJ/m²K	Area) (m²)	Shelter Res	Shelter
Party Wall 1		ed Cavity with ge Sealing		ard on dabs mounted C blocks, cavity	on cement	render o			45.00	39.90	0.00	None
10.0 External Roofs Description	Туре	Co	onstruction	·		Value Ka //m²K)(kJ				Shelter Sh Code Fa		:ulationOpenii īype



External Roof	External Flat Roof	Plasterbo	ard, insulated flat roof	0.12	9.00 6	64.60 64.	60 None	0.00	Enter Gros	s 0.00
11.1 Party Floors Description Party Floor 1		Storey Index Lowest occupied	Construction Precast concrete plank flo	oor (screed laid o	n rubber), d	carpeted			Kappa (kJ/m²K) 30.00	Area (m² 64.60
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing	Filling	G-value	Frame	Frame	U Value
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Gap	Type Air Filled	0.68	Type Wood	Factor 0.70	(W/m²K) 0.90
13.0 Openings										
Name East Windows/Door North Windows/Door	Opening Ty Glazinf Wind Glazinf Wind	dows/Door	Location External Wall External Wall		Orien Ea No	ast	Area (15.1 2.1	2		t ch))
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging 17.1 List of Bridges			Calculate Bridges							
Bridge Type E1 Steel lintel with perfor E3 Sill E4 Jamb E7 Party floor between d E14 Flat roof E16 Corner (normal) E18 Party wall between d	wellings (in block		Source Type Gov Approved Scheme	Length 14.40 14.40 35.00 35.25 35.25 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.08 0.09 0.06	0.50 0.04 0.05 0.07 0.08 0.09 0.06	Reference	:		Yes
Y-value			0.14				W/m²K			
18.0 Pressure Testing			Yes							
Designed AP50			4.00				m³/(h.m	²) @ 50 l	Pa	
Property Tested?			Yes							
Test Method			Blower Door							
As Built AP ₅₀			4.00				m³/(h.m	²) @ 50 l	Pa	
19.0 Mechanical Ventilation	n									
Mechanical Ventilation	tion System Dres	ont	No							
Mechanical Ventila		eni	INO							
20.0 Fans, Open Fireplaces	·									
21.0 Fixed Cooling System	l		No							
22.0 Lighting			NI.				\neg			
No Fixed Lighting			No Name Lighting 1	Efficacy 75.00		ower 40	 Capa 30			unt 2
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			263.18							
In Summer			170.56							
Model Name			AERONA3							
Manufacturer			Grant Engineering (U	JK) Ltd						
System Type			Heat Pump							
Controls SAP Code			2207							
Delayed Start Stat			No							



Oil Pump Inside FI Case 0.00 Flue Type None or Unknown Fan Assisted Flue Is MHS Pumped Pump in heated space Heating Pump Age Heat Emitter Radiators Flow Temperature Flow Temperature Value Boiler Interlock Combi boiler type Combi keep hot type 26.0 Heat Networks None	LIETAO	N	1
FI Case File Type None or Unknown Is Mis Furnpod Is Mis Furnpod Healing Pump Age Pump in heated space Healing Pump Age Pump in heated space Plov Torriporature Plov Torriporature Plov Torriporature Value Plov Torriporature	HETAS approved System	No]
File Type Fan Assisted Flue Is MIS Pumped Party in teated space Heatling Pump Age Heat Entitler Flow Temperature Flow Temperature Flow Temperature Value Flow Temperature Value Flow Temperature]
Fan Assisted Flue Is MMS Pumpage Pump in Installed space Pump in Installed space Heat Flue Flue Flue Radiators Flow Temperature Value Boiler Interiock Combit Doller type Roombit Soler Interiock Roombit Radiators Roombit Roombit Soler Interiock No Combit Doller type Roombit Roombit Radiators Roombit Roomb]
Is MHS Pumped Heating Pump Age 2013 or later Heat Entirer Flow Temperature Flow Temperature Flow Temperature Flow Temperature Value Flow Temperature Flow Tempe]
Heat Emitter]
Rest Emitter Redidators Enter value	•		
Flow Temperature Value Flow Temperature Flow Temperature Value Flow Temperature Flow T			
Flow Temperature Value A5.00 No No No No No No No			
Boiler Intertock Combi boiler type No Combi Combi boiler type No Combi None 25.0 Main Heating 2 None Heat Source Fuel Type Heating Use Heat source 1 None Heat source 2 None Heat source 2 None Heat source 5 None Heat source 6 None Heat source 7 None Heat source 8 None Heat source 9 None Heat source 1 None Heat sour	·		
Combi keep hot type None 25.0 Main Heating 2 None Heat Source Fuel Type Heating Use Efficiency Percentage Of Heat Heat Power Ratio			
25.0 Main Heating 2 None Heat Source Fuel Type Heating Use Efficiency Percentage Of Heat He			
None			
None	Combi keep hot type	None	
Heat Source Fuel Type Heating Use Efficiency Percentage Of Heat Power Ratio Heat source 1 None Heat Source 2 None Heat Source 2 None Heat Source 3 None Heat Source 4 None Heat Source 5 None Heat Source 6 None Heat Source 6 None Heat Source 7 None Heat Source 7 None Heat Source 7 None Heat Source 8 None Heat Source 8 None Heat Source 8 None Heat Source 9 None 9 N	25.0 Main Heating 2	None	
Heat source 1 None Heat source 2 None Heat source 2 None Heat source 3 None Heat source 5 None Heat source 5 None Heat source 5 None Heat source 5 None Heat source 6 None Heat source 7 None Heat	26.0 Heat Networks	None	
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 Storage System No Solar Panel No Water use <= 125 litres/person/day Yes Summer Immersion No Cold Water Source From mains Bath Court 2 Supplementary Immersion No Immersion Only Heating Hot Water Yes 23.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Hot Water Cylinder Cylinder In Heated Space Yes Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume 20.00 Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework In Airing Cupboard No 31.0 Thermal Store None	Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None	Heat Power	ctrical Fuel Factor Efficiency type
Water Heating Main Heating 1 SAP Code 901 Flue Gas 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 Summer Immersion No Cold Water Source From mains Bath Count 2 Supplementary Immersion No Immersion Only Heating Hot Water Yes 23.3 Waste Water Heat Recovery System 23.0 Hot Water Cylinder Hot Water Cylinder Cylinder In Heated Space Yes Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume 20.0.00 Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework kWh/day 1n Airing Cupboard No No	28.0 Water Heating		
Flue Gas Heat Recovery System Waste Water Heat Recovery Instantaneous System 1 Waste Water Heat Recovery Instantaneous System 2 Waste Water Heat Recovery Storage System Solar Panel No Solar Panel Water use <= 125 litres/person/day Yes Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 2 23.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation In Airing Cupboard No No No No No No Loss 1.0 Thermal Store No No No No No No No No No N	Water Heating	Main Heating 1	
Waste Water Heat Recovery Instantaneous System 1 No Waste Water Heat Recovery Storage System No Solar Panel No Water use <= 125 litres/person/day	SAP Code	901	
Waste Water Heat Recovery Storage System 2 Waste Water Heat Recovery Storage System No Solar Panel Water use <= 125 litres/person/day Yes Summer Immersion Cold Water Source From mains Bath Count Supplementary Immersion Immersion Only Heating Hot Water Yes 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume Loss Pipes insulation In Airing Cupboard No 31.0 Thermal Store No No No No No L No No L No No	Flue Gas Heat Recovery System	No	
Waste Water Heat Recovery Storage System No Solar Panel No Water use <= 125 litres/person/day	Waste Water Heat Recovery Instantaneous System 1	No	
Solar Panel Water use <= 125 litres/person/day Yes Summer Immersion No Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No No No No No No Solar Panel No No No No No No No No No No No	Waste Water Heat Recovery Instantaneous System 2	No	
Water use <= 125 litres/person/day Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No No No No No No No No No N	Waste Water Heat Recovery Storage System	No	
Summer Immersion Cold Water Source Bath Count Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation In Airing Cupboard Noe	Solar Panel	No	
From mains	Water use <= 125 litres/person/day	Yes	
Bath Count Supplementary Immersion Immersion Only Heating Hot Water Yes 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No 31.0 Thermal Store No	Summer Immersion	No	
Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Fully insulated primary pipework In Airing Cupboard No No No No No No No No No N	Cold Water Source	From mains	
Immersion Only Heating Hot Water Yes 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Hot Water Cylinder Cylinder Stat Yes Cylinder In Heated Space Yes Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume 200.00 L Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework In Airing Cupboard None	Bath Count	2	
28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation Fully insulated primary pipework In Airing Cupboard No No 1.0 Thermal Store	Supplementary Immersion	No	
29.0 Hot Water Cylinder Cylinder Stat (Yes Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Figure insulation Pipes insulation In Airing Cupboard No Hot Water Cylinder Yes Wes L L kWh/day KWh/day Store None	Immersion Only Heating Hot Water	Yes	
Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss Pipes insulation In Airing Cupboard No Yes Independent Time Control Yes Measured Loss L kWh/day Fully insulated primary pipework No	28.3 Waste Water Heat Recovery System		
Cylinder In Heated Space Independent Time Control Yes Insulation Type Measured Loss Cylinder Volume Loss 1.65 kWh/day Pipes insulation In Airing Cupboard No No Yes Measured Loss L kWh/day Fully insulated primary pipework No	29.0 Hot Water Cylinder	Hot Water Cylinder	
Independent Time Control Insulation Type Measured Loss Cylinder Volume Loss 1.65 Pipes insulation In Airing Cupboard No No No No No No No No	Cylinder Stat	Yes	
Insulation Type Cylinder Volume Loss Pipes insulation In Airing Cupboard Measured Loss L kWh/day Fully insulated primary pipework No No No	Cylinder In Heated Space	Yes	
Cylinder Volume Loss 1.65 kWh/day Pipes insulation In Airing Cupboard No No No No No No	Independent Time Control	Yes	
Loss 1.65 kWh/day Pipes insulation Fully insulated primary pipework In Airing Cupboard No No Noe	Insulation Type	Measured Loss	
Pipes insulation In Airing Cupboard No No None	Cylinder Volume	200.00] L
In Airing Cupboard No None	Loss	1.65	kWh/day
31.0 Thermal Store None	Pipes insulation	Fully insulated primary pipework	
	In Airing Cupboard	No	
32.0 Photovoltaic Unit One Dwelling	31.0 Thermal Store	None	
	32.0 Photovoltaic Unit	One Dwelling	



Jan	Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	Nov	Dec
Electricity Ger	neration			Annual						
Connected to	dwelling's ele	ctricity meter		Yes						
Apportioned				0.00				kWh/Ye	ar	
Electricity Ger	nerated			0.00						
34.0 Small-scale	Hydro			None						
0.50		South	30°	None Or Little	No	No	1.00		Reference	
PV Cell	s kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Oversi Factor	hading	MCS Certificate Reference	Panel Manufacturer
Battery Capac	city [kWh]			10.00						
Diverter				Yes						
Connected To	Dwelling			Yes						
Export Capab	le Meter?			Yes						

Recommendations

Lower cost measures

None
Further measures to achieve even higher standards
None



Property Reference	Flat 23							Issu	ed on Date	13/0	04/2024
Assessment Reference	Flat 23	Be Green			Prop	Type I	Ref				
Property											
SAP Rating			90 B	DER		3.31			TER		16.80
Environmental			98 A	% DER	< TER					1	30.30
CO ₂ Emissions (t/year)			0.14	DFEE		36.2	8		TFEE		41.24
Compliance Check			See BREL	% DFE	E < TFEE						12.02
% DPER < TPER			62.57	DPER		33.7	1		TPER	9	90.05
Assessor Details	Mr. Giovann	i Maurizi							Assessor	· ID	M052-0001
Client											
SUMMARY FOR INPL	JT DATA FOR	: New Bui	ild (As Built)								
Prientation			West								
roperty Tenture			ND								
roperty remure			5								
errain Type			Urban								
.0 Property Type			Flat, Semi-Detach	ed							
Position of Flat			Top-floor flat	- Cu							
Which Floor			4								
			1					=			
2.0 Number of Storeys			'								
3.0 Date Built			2023								
3.0 Property Age Band			L								
I.0 Sheltered Sides			2								
5.0 Sunlight/Shade			Average or unkno	wn							
5.0 Thermal Mass Paramo Thermal Mass	eter		Enter TMP value 250.00						kJ/m²K		
Thermal wass			250.00						KJ/III-K		
'.0 Electricity Tariff			Standard								
Smart electricity meter	fitted		Yes								
Smart gas meter fitted			Yes								
7.0 Measurements			Basen Ground f 1st Sto 2nd Sto 3rd Sto 4th Sto 5th Sto 6th Sto 7th Sto	nent: loor: lorey: lorey: lorey: lorey: lorey: lorey: lorey: lorey: lorey:	Loss Pe 0.00 m 25.35 r 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	n n i i i i	r Inf	0.00 49.7 0.00 0.00 0.00 0.00 0.00	Floor Area 0 m²	Avera	ge Storey Heig 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
3.0 Living Area			23.00						m²		
0.0 External Walls	Tuno	Construction		11.1/-1	Ven:	Orac -	Nott A :	Chelt	OL -14-	0	ann Area Calant
Description External Wall	Type Cavity Wall	Construction Cavity wall : pl	lasterboard on dabs, AAC block		Kappa (kJ/m²K) 60.00		Nett Area (m²) 33.57	Res 0.00	Shelter None	Openir	ngs Area Calcula Type 8 Enter Gross A
Corridor Wall	Cavity Wall	filled cavity, an	ny outside structure lasterboard on dabs, AAC block		60.00	3.75	3.75	0.90	Stairwell Acc		
External Wall 3	Cavity Wall	filled cavity, an Cavity wall : pl	ny outside structure lasterboard on dabs, AAC block ny outside structure		60.00	21.60	21.60		Corridor 4 Stairwell Stain	ļ	
.1 Party Walls		sarny, an	,								
Description	Type	Con	struction				U-Value (W/m²K)			Shelter Res	Shelter
Party Wall 1	Filled Cavit Edge Seali		sterboard on dabs mounte s, AAC blocks, cavity	ed on cemen	t render	on both		45.00		0.00	None
0.0 External Roofs	<u> </u>		<u>-</u>								



External Roof 1	External Plane Roof	Other		0.12	0.00 4	(m i 9.73 49.7		0.00	Enter Gros	s 0.00
11.1 Party Floors										
Description		Storey Index	Construction						Kappa (kJ/m²K)	Area (m²
Party Floor 1		Lowest occupied	Precast concrete plank flo	oor (screed laid o	n rubber), c	arpeted			30.00	49.73
12.0 Opening Types										
Description	Data Source	Туре	Glazing		Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple glazed			Air Filled	0.68	Wood	0.70	0.90
13.0 Openings	On a min m. Tu		Lagation		Owiered	-41	A	···· 2\	Die	la
Name Windows/Door Opening	Opening Ty Glazinf Wind Glazinf Wind	lows/Door	Location External Wall External Wall		Orient Ea We	st	Area (12.9 4.3	6	(tch 0 0
14.0 Conservatory			None				7			
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes				Ī			
17.0 Thermal Bridging			Calculate Bridges							
17.1 List of Bridges			Calculate Bridge				_			
Bridge Type E1 Steel lintel with per	forated stool base n	lato	Source Type Gov Approved Scheme	Length 5.30	Psi 0.50	Adjusted 0.50	Reference	ŀ		Imported Yes
E3 Sill	noraled steel base p	iale	Gov Approved Scheme	5.30	0.04	0.04				Yes
E4 Jamb E7 Party floor betweer	n dwellings (in block	s of flats)	Gov Approved Scheme Gov Approved Scheme	10.00 10.44	0.05 0.07	0.05 0.07				Yes Yes
E16 Corner (normal) E18 Party wall betwee	- ,	ŕ	Gov Approved Scheme Gov Approved Scheme	6.00 6.00	0.09 0.06	0.09 0.06				Yes Yes
Y-value			0.04	0.00	0.00	0.00	W/m²K			103
40.0 Days To add			No.				<u></u> -			
18.0 Pressure Testing Designed AP ₅₀			Yes 5.00				 	²) @ 50 F	Do.	
Property Tested?			Yes) @ 30 1	a	
Test Method			Blower Door				_			
As Built AP ₅₀			4.00				 ☐ m³/(h.m	²) @ 50 F	Pa	
19.0 Mechanical Ventilat	ion									
Mechanical Ventilation										
	tilation System Pres	ent	No							
20.0 Fans, Open Fireplac	ces, Flues									
21.0 Fixed Cooling Syste			No				7			
22.0 Lighting										
No Fixed Lighting			No				٦			
			Name Lighting 1	Efficacy 75.00		wer 40	Capa 300	ocity 00		ount 7
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				%			
Database Ref. No.			102735							
Fuel Type			Electricity							
SAP Code			0							
In Winter			263.38							
In Summer			170.32				Ī			
Model Name			AERONA3				Ī			
Manufacturer			Grant Engineering (L	JK) Ltd			₹			
System Type			Heat Pump	, =			_			
							\exists			
Controls SAP Code			2207				_			
Delayed Start Stat			No							



HETAS approved System	No]
Oil Pump Inside	No	1
FI Case	0.00	1
Flue Type	None or Unknown]
Fan Assisted Flue	No]
Is MHS Pumped	Pump in heated space	1
Heating Pump Age	2013 or later	1
Heat Emitter	Radiators	1
Flow Temperature	Enter value	1
Flow Temperature Value	45.00	1
Boiler Interlock	No	1
Combi boiler type	No Combi	1
Combi keep hot type	None]
		1
25.0 Main Heating 2	None	
26.0 Heat Networks	None]
Heat Source Fuel Type Heating U Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None	lse Efficiency Percentage Of Heat Ele Heat Power Ratio	ctrical Fuel Factor Efficiency type
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	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	Yes	1
Summer Immersion	No	1
Cold Water Source	From mains	1
Bath Count	1	1
Supplementary Immersion	No	1
Immersion Only Heating Hot Water	Yes	1
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder]
Cylinder Stat	Yes]
Cylinder In Heated Space	Yes	j
Independent Time Control	Yes	j
Insulation Type	Measured Loss	1
Cylinder Volume	200.00	Ĺ
Loss	1.00	kWh/day
Pipes insulation	Fully insulated primary pipework	j
In Airing Cupboard	No No	j
31.0 Thermal Store	None	<u>. </u>
32.0 Photovoltaic Unit	One Dwelling	7



Jan	Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	. Nov	Dec
Electricity Ge	neration			Annual						
Connected to	dwelling's ele	ctricity meter		Yes						
Apportioned				0.00				kWh/Ye	ar	
Electricity Ge	nerated			0.00						
34.0 Small-scale	Hydro			None						
0.75		South	30°	None Or Little	No	No	1.00		Reference	
PV Cell	ls kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	hading r	MCS Certificate Reference	Panel Manufacturer
Battery Capa	city [kWh]			15.00						
Diverter				Yes						
Connected To	Dwelling			Yes						
Export Capab	le Meter?			Yes						

Recommendations

Lower cost measures

None
Further measures to achieve even higher standards
None



Property Reference		Flat 24							Issue	d on Date	13/0	4/2024
Assessment Referen	ce	Flat 24 Be Gr	een			Prop	Туре	Ref				
Property												
SAP Rating				87 B	DER		3.29	<u> </u>		TER	1.	4.00
Environmental				97 A	% DER	< TER					7	6.50
CO ₂ Emissions (t/yea	r)			0.23	DFEE		35.0	0		TFEE	4	0.16
Compliance Check				See BREL	% DFEE	< TFEE					1:	2.83
% DPER < TPER				54.55	DPER		33.8	7		TPER	7.	4.52
Assessor Details	Mr.	Giovanni Mau	rizi							Assessor	ID N	052-0001
Client												
SUMMARY FOR INI	PUT DAT	A FOR: Nev	w Build (A	As Built)								
Orientation				East								
Property Tenture				ND								
Fransaction Type				5								
Terrain Type				Urban								
1.0 Property Type				Flat, Semi-Detached	<u> </u>							
Position of Flat				Top-floor flat								
Which Floor				4								
2.0 Number of Storeys				1								
3.0 Date Built				2023								
3.0 Property Age Band				I								
4.0 Sheltered Sides				2								
5.0 Sunlight/Shade				Average or unknow	2							
5.0 Sunngni/Snade 6.0 Thermal Mass Parai	motor			Enter TMP value	1							
Thermal Mass	illetei			250.00					i	kJ/m²K		
7.0 Electricity Tariff				Standard								
Smart electricity mete	er fitted			Yes								
Smart gas meter fitte				Yes								
7.0 Measurements												
. To incusure incinc				Baseme Ground flo 1st Store 2nd Store 3rd Store 4th Store 5th Store 7th Store	nt: or: ey: ey: ey: ey:	0.00 m 33.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m	1	r In	ternal Flo 0.00 81.00 0.00 0.00 0.00 0.00 0.00 0.0	m² m² m² m² m² m² m²	Averag	e Storey Heig 0.00 m 3.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m 0.00 m
3.0 Living Area				32.00					r	n²		
9.0 External Walls Description External Wall	Type Cavity Wa	all Cavity		pard on dabs, AAC block,	U-Value (W/m²K) 0.12	Kappa (kJ/m²K) A 60.00		Nett Area (m²) 56.62	Shelter Res 0.00	Shelter None	Opening	gs Area Calculat Type Enter Gross A
Corridor Wall	Cavity Wa	all Cavity	avity, any outsi wall : plasterbo avity, any outsi	oard on dabs, AAC block,	0.12	60.00	23.40	23.40	0.70	Stairwell Acce Corridor 3		Enter Gross A
9.1 Party Walls Description	Тур)e	Construc	tion					Kappa (kJ/m²K	Area) (m²)	Shelter Res	Shelter
Party Wall 1		ed Cavity with ge Sealing		ard on dabs mounted C blocks, cavity	on cement	render o	n both		45.00	24.00	0.00	None
10.0 External Roofs Description	Туре	Co	onstruction	·		Value Ka //m²K)(kJ				Shelter Sh Code Fa		ulationOpenii ype



External Roof 1	External Plane Roof	Other		0.12	0.00 8	1.00 81.0	00 None	0.00	Enter Gross Area	s 0.00
11.1 Party Floors Description Party Floor 1		Storey Index Lowest occupied	Construction Precast concrete plank fle	oor (screed laid o	n rubber), c	arpeted			Kappa (kJ/m²K) 30.00	Area (m²) 81.00
12.0 Opening Types		<u>'</u>								
Description	Data Source	Туре	Glazing		Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Glazinf Windows/Door	Manufacturer	Window	Triple glazed		Сир	Air Filled	0.68	Wood	0.70	0.90
13.0 Openings Name Windows/Door	Opening Ty Glazinf Wind	pe lows/Door	Location External Wall		Orient We		Area (19.9			t ch
14.0 Conservatory			None							
15.0 Draught Proofing			100				%			
16.0 Draught Lobby			Yes							
17.0 Thermal Bridging 17.1 List of Bridges Bridge Type E1 Steel lintel with perfo E3 Sill E4 Jamb E7 Party floor between of E16 Corner (normal) E18 Party wall between	dwellings (in block		Calculate Bridges Source Type Gov Approved Scheme	Length 8.85 8.85 20.00 24.22 6.00 6.00	Psi 0.50 0.04 0.05 0.07 0.09 0.06	Adjusted 0.50 0.04 0.05 0.07 0.09 0.06	Reference:			Imported Yes Yes Yes Yes Yes Yes
Y-value			0.05				W/m²K			
18.0 Pressure Testing			Yes				7			
Designed AP ₅₀			5.00				m³/(h.m ²	²) @ 50 F	Pa Pa	
Property Tested?			Yes				i '	, 0		
Test Method			Blower Door				Ī			
As Built AP ₅₀			4.00				m³/(h.m ²	²) @ 50 F	Pa	
19.0 Mechanical Ventilatio Mechanical Ventilation Mechanical Ventila 20.0 Fans, Open Fireplace	ation System Pres	ent	No							
21.0 Fixed Cooling System			No							
22.0 Lighting			INO							
No Fixed Lighting			No Name	Efficacy		wer	Capa	city		unt
			Lighting 1	75.00		40	300	JU	1	2
24.0 Main Heating 1			Database							
Percentage of Heat			100.00				<u></u> %			
Database Ref. No.			102735							
Fuel Type			Electricity 0				_			
SAP Code			267.59				_			
In Winter In Summer			171.01				\exists			
Model Name			AERONA3				\exists			
Manufacturer			Grant Engineering (I	IK) I td			_			
System Type			Heat Pump	J. () E.U			\exists			
Controls SAP Code			2207				\exists			
Delayed Start Stat			No				=			
HETAS approved System	m		No				\exists			
i i i i no appioved oystei	III		INU				_			



Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating U	se Efficiency Percentage Of Heat Heat Elec Heat Power Ratio	ctrical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 None	Ratio	
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	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	Yes	
28.3 Waste Water Heat Recovery System		
29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Measured Loss	
Cylinder Volume	200.00	L
Loss	1.65	kWh/day
Pipes insulation	Fully insulated primary pipework	
In Airing Cupboard	No	
31.0 Thermal Store	None	
32.0 Photovoltaic Unit	One Dwelling	
Export Canable Meter?	Ves	



Connected To Dwelling			Yes						
Diverter			Yes						
Battery Capacity [kWh]			10.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Facto	shading or	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00			
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's ele	ctricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	t Nov	Dec

Recommendations

Lower cost measures
None
Further measures to achieve even higher standards
None



Property Reference	Flat 25							Issue	d on Date	13/0	4/2024
Assessment Reference	Flat 25	Be Green			Pro	о Туре	Ref				
Property											
SAP Rating			87 B	DER		3.25			TER	1	3.60
Environmental Environmental			97 A		c < TER	3.20)		ILK		6.10
CO ₂ Emissions (t/year)			0.22	DFEE	· · ILK	24.6	-0		TFEE		
					E < TFE	34.5	00		IFEE		7.99
Compliance Check			See BREL		EVIFE				TDED		.03
% DPER < TPER			53.80	DPER		33.4	15		TPER	/	2.41
Assessor Details	Mr. Giovanr	ni Maurizi							Assesso	r ID	1052-0001
Client											
SUMMARY FOR INP	UT DATA FOR	R: New Build	(As Built)								
Orientation			East								
Property Tenture			ND								
Transaction Type			5								
Terrain Type			Urban								
1.0 Property Type			Flat, Semi-Detac	ned							
Position of Flat			Top-floor flat								
Which Floor			4								
2.0 Number of Storeys			1								
3.0 Date Built			2023								
3.0 Property Age Band			L								
4.0 Sheltered Sides			3								
5.0 Sunlight/Shade			Average or unkno	own							
6.0 Thermal Mass Param	eter		Enter TMP value								
Thermal Mass			250.00						kJ/m²K		
7.0 Electricity Tariff			Standard								
Smart electricity meter	fitted		Yes								
Smart gas meter fitted			Yes								
7.0 Measurements				Heat	Loss Po	erimete	r Int	ternal Fl	oor Area	Averag	e Storey Heig
			Baser	nent:	0.00 r	n		0.00	m²	7110148	0.00 m
			Ground f 1st St		28.00 r 0.00 r			79.60 0.00			3.00 m 0.00 m
			2nd St 3rd St		0.00 r 0.00 r			0.00			0.00 m 0.00 m
			4th St	orey:	0.00 r	n		0.00	m²		0.00 m
			5th St 6th St		0.00 r 0.00 r			0.00			0.00 m 0.00 m
			7th St		0.00 r			0.00			0.00 m
8.0 Living Area			27.00						m²		
9.0 External Walls											
Description	Туре	Construction		U-Value			Nett Area	Shelter Res	Shelter	Openin	gs Area Calculati
External Wall	Cavity Wall	Cavity wall : plaste filled cavity, any o	erboard on dabs, AAC bloc	(W/m²K) k, 0.12	60.00	56.50	32.02	0.00	None	24.48	Type Enter Gross Ar
Corridor Wall	Cavity Wall		erboard on dabs, AAC bloc	k, 0.12	60.00	27.00	27.00	0.70	Stairwell Acc		Enter Gross Ar
9.1 Party Walls											
Description	Туре	Constr	ruction				U-Value			Shelter	Shelter
Party Wall 1	Filled Cavi		board on dabs mount	ed on cemer	nt render	on both	(W/m²K) 0.00	45.00	(m²) 40.00	Res 0.00	None
·, · · · ·	Edae Seali										
10.0 External Roofs	Edge Seali	ng sides, A	AAC blocks, cavity								



Party Ceiling 1 Precast concrete plank floor (screed laid on rubber), carpeted	Kappa (KJ/m²K) 30.00 79.00 Kappa (kJ/m²K) 30.00 79.60 Frame Factor 0.70 0.90 Pitch 0 0 0
Party Ceiling 1	Kappa (kJ/m²K) 30.00 79.00 Kappa (kJ/m²K) 79.60 Frame Factor 0.70 U Value (W/m²I 0.90) Pitch 0 0
11.1 Party Floors	Kappa (kJ/m²K) 30.00 79.60 Frame U Valu (W/m²h 0.70 0.90 Pitch 0 0
Description Party Floor 1 Precast concerte plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor (screed laid on rubber), carpeted Precast concrete plank floor Precast concrete plank fl	KJ/m²K 30.00 79.6
Party Floor 1	KJ/m²K 30.00 79.6
12.0 Opening Types Description Data Source Type Glazing Type Opening Types Opening Type Openin	Frame Factor 0.70 U Value (W/m²I) 0.90 Pitch 0 0
Description Data Source Type Glazing Triple glazed Gap Raphing Raphin	Factor
13.0 Openings Name West Windows/Door Glazinf Windows/Door Clazinf Windows/Door	Factor
13.0 Openings Name West Windows/Door Glazinf Windows/Door External Wall North 21.60 2.88 Name West Windows/Door Glazinf Windows/Door External Wall North 21.60 2.88 North 21.60 2.88 North Nor	Pitch 0 0 lmporte Yes Yes
Name Wast Windows/Door Glazinf Windows/Door External Wall External Wall External Wall Section West 21.60 2.88	Importe Yes Yes
Mest Windows/Door Glazint Windows/Door External Wall North 2.88	Importe Yes Yes
None	Importe Yes Yes
15.0 Draught Proofing 16.0 Draught Lobby Tr.0 Thermal Bridging 17.1 List of Bridges Bridge Type E1 Steel lintel with perforated steel base plate E3 Sill E4 Jamb E7 Party floor between dwellings (in blocks of flats) E16 Corner (normal) E18 Party wall between dwellings E18 Party though the perforated wellings E18 Party floor between dwellings E18 Party floor dwellings E18 Party floor dwellings E18 Party floor dwellings E18 Party floor dwellings	Yes Yes
15.0 Draught Proofing 16.0 Draught Lobby Tr.0 Thermal Bridging 17.1 List of Bridges Bridge Type E1 Steel lintel with perforated steel base plate E3 Sill E4 Jamb E7 Party floor between dwellings (in blocks of flats) E16 Corner (normal) E18 Party wall between dwellings E18 Party though the perforated wellings E18 Party floor between dwellings E18 Party floor dwellings E18 Party floor dwellings E18 Party floor dwellings E18 Party floor dwellings	Yes Yes
16.0 Draught Lobby Yes	Yes Yes
17.0 Thermal Bridging Calculate Bridges	Yes Yes
17.1 List of Bridges Bridge Type E1 Steel lintel with perforated steel base plate E3 Sill E4 Jamb Source Type Gov Approved Scheme Gov Approved Scheme Gov Approved Scheme E7 Party floor between dwellings (in blocks of flats) E18 Party wall between dwellings Length Gov Approved Scheme E0 Approved Scheme E18 Party wall between dwellings Adjusted Reference: B. 8.5 0.50 0.50 0.05 0.04 0.04 0.04 0.09 0.09 0.09 0.09 0.09	Yes Yes
Bridge Type	Yes Yes
Size Intel with perforated steel base plate Gov Approved Scheme 8.85 0.50 0.50 E3 Sill E4 Jamb Gov Approved Scheme 8.85 0.50 0.94 E4 Jamb Gov Approved Scheme 20.00 0.05 0.05 E7 Party floor between dwellings (in blocks of flats) Gov Approved Scheme 24.22 0.07 0.07 E16 Corner (normal) Gov Approved Scheme 24.22 0.07 0.07 E18 Party wall between dwellings Gov Approved Scheme 6.00 0.09 0.09 E18 Party wall between dwellings Gov Approved Scheme 6.00 0.06 0.06 Y-value	Yes Yes
E4 Jamb E7 Party floor between dwellings (in blocks of flats) E16 Corner (normal) E18 Party wall between dwellings 0.05 W/m²K 18.0 Pressure Testing Designed APso Property Tested? Test Method As Built APso As B	
E7 Party floor between dwellings (in blocks of flats) E16 Corner (normal) E16 Party wall between dwellings Gov Approved Scheme Gov Doop 0.06 W/m²K W/m²K W/m²/(h.m²) @ 50 Pa Poper Scheme Gov Approved Scheme Gov Doop 0.06 W/m²/(h.m²) @ 50 Pa Property Tested? Test Method As Built AP ₅₀ M³/(h.m²) @ 50 Pa Poper Scheme Gov Approved Scheme	
E18 Party wall between dwellings Gov Approved Scheme 6.00 0.06 0.06 V-value 0.05 W/m²K 18.0 Pressure Testing Designed AP ₅₀ Property Tested? Test Method As Built AP ₅₀ 19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No No No No No No No No No N	Yes Yes
18.0 Pressure Testing Designed AP-30 Froperty Tested? Test Method As Built AP-30 Mechanical Ventilation Mechanical Ventilation System Present 19.0 Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No No No No No No No No No N	Yes
Designed AP ₅₀ Property Tested? Yes Test Method As Built AP ₅₀ 19.0 Mechanical Ventilation Mechanical Ventilation Mechanical Ventilation System Present 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting No Rame Lighting 1 No m³/(h.m²) @ 50 Pa	
Property Tested? Test Method As Built APso 4.00 19.0 Mechanical Ventilation Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting No Fixed Lighting No Fixed Lighting No Mame Efficacy Power Capacity 3000	
Property Tested? Test Method As Built APso 4.00 19.0 Mechanical Ventilation Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No No No Fixed Lighting No Fixed Lighting No Fixed Lighting No Fixed Lighting No Fixed Cooling System No No Name Lighting 1 Fifficacy Power Capacity 3000	
Test Method As Built APso 4.00 19.0 Mechanical Ventilation Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting No Fixed Lighting No Rame Efficacy Power Capacity 3000	
As Built APso 4.00 m³/(h.m²) @ 50 Pa 19.0 Mechanical Ventilation Mechanical Ventilation System Present No 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting Name Efficacy Power Capacity 3000	
Mechanical Ventilation Mechanical Ventilation System Present 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting Lighting 1 No Capacity 3000	
Mechanical Ventilation Mechanical Ventilation System Present 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting Lighting 1 No Capacity 3000	
Mechanical Ventilation System Present 20.0 Fans, Open Fireplaces, Flues 21.0 Fixed Cooling System No 22.0 Lighting No Fixed Lighting No Fixed Lighting Name Lighting 1 Fixed Cooling System No Capacity 3000	
21.0 Fixed Cooling System No	
21.0 Fixed Cooling System No	
22.0 Lighting No Fixed Lighting No Efficacy Power Capacity Lighting 1 75.00 40 3000	
No Fixed Lighting No Name Efficacy Power Lighting 1 75.00 40 3000	
NameEfficacyPowerCapacityLighting 175.00403000	
	Count
5.4	12
24.0 Main Heating 1 Database	
Percentage of Heat 100.00 %	
Database Ref. No. 102735	
Fuel Type Electricity	
SAP Code 0	
In Winter 267.68	
In Summer 171.02	
Model Name AERONA3	
Manufacturer Grant Engineering (UK) Ltd	
System Type Heat Pump	



Controls SAP Code	2207	
Delayed Start Stat	No	
HETAS approved System	No	
Oil Pump Inside	No	
FI Case	0.00	
Flue Type	None or Unknown	
Fan Assisted Flue	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
Boiler Interlock	No	
Combi boiler type	No Combi	
Combi keep hot type	None	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	
Heat Source Fuel Type Heating Us		trical Fuel Factor Efficiency type
Heat source 1 None Heat source 2 None Heat source 3 None Heat source 4 None Heat source 5 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 No	
Solar Panel	No Yes	
Water use <= 125 litres/person/day Summer Immersion	No No	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No.	
Supplementary Immersion Immersion Only Heating Hot Water	No Yes	
Supplementary Immersion Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System		
Immersion Only Heating Hot Water		
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System	Yes	
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder	Yes Hot Water Cylinder	
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat	Yes Hot Water Cylinder Yes	
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space	Yes Hot Water Cylinder Yes Yes	
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control	Yes Hot Water Cylinder Yes Yes Yes	L
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type	Yes Hot Water Cylinder Yes Yes Yes Measured Loss	L kWh/day
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume	Yes Hot Water Cylinder Yes Yes Yes Measured Loss 200.00	
Immersion Only Heating Hot Water 28.3 Waste Water Heat Recovery System 29.0 Hot Water Cylinder Cylinder Stat Cylinder In Heated Space Independent Time Control Insulation Type Cylinder Volume Loss	Yes Hot Water Cylinder Yes Yes Yes Measured Loss 200.00 1.65	



32.0 Photovoltaic Unit			One Dwelling						
Export Capable Meter?	•		Yes						
Connected To Dwelling			Yes						
Diverter			Yes						
Battery Capacity [kWh]			10.00						
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overs Factor	hading	MCS Certificate Reference	Panel Manufacturer
0.75	South	30°	None Or Little	No	No	1.00		Kelefelice	
34.0 Small-scale Hydro			None						
Electricity Generated			0.00						
Apportioned			0.00				kWh/Ye	ear	
Connected to dwelling's	s electricity meter		Yes						
Electricity Generation			Annual						
Jan Feb	Mar	Apr	May Jun	Jul	Aug	Sep	Oct	t Nov	Dec

Recommendations Lower cost measures

Further measures to achieve even higher standards

U-Value Calculation Report



Assessor Details

Mr. Giovanni Maurizi, M052-0001

Wall External New Wall - Cavity Wall

Wall Type: Standard Wall

Layer	Description	Thickness (mm)	Conductivity (W/mK)	Resistance (m²K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Thermalite Turbo				
	Standard	100	0.1100	0.9091	93.43
	Bridging - Mortar	100	0.8803	0.1136	6.57
Layer 2	Kingspan Kooltherm Insulation				
	Insulation	100	0.0190	5.2632	100.00
Layer 3	Thermalite Turbo				
	Insulation	100	0.1100	0.9091	93.43
	Bridging - Mortar	100	0.8803	0.1136	6.57
Layer 4	Insulated Plasterboard				
	Insulation	37.5	0.0220	1.7045	100.00
Int surface				0.1300	

Total resistance: Upper limit = $8.842 \text{ m}^2 \text{ K/W}$ Lower limit = $8.383 \text{ m}^2 \text{ K/W}$ Average = $8.613 \text{ m}^2 \text{ K/W}$

Total correction = 0.0000 m² K/W U-value (unrounded) = 0.12 W/m² K

Unheated space: None

Total thickness: 338 mm U-value: 0.12 W/m² K Kappa: 0.00 kJ/m² K

U-Value 2.2.1 Page 1 of 1

U-Value Calculation Report



Assessor Details

Mr. Giovanni Maurizi, M052-0001

Roof External Roof - Flat Roof

Roof Type: Flat Roof standard (no precipitation)

Layer	Description	Thickness (mm)	Conductivity (W/mK)	Resistance (m²K/W)	Fraction (%)	Density Heat Cap. (kr/m³) (J/kgK)
Ext surface	ce			0.0000		
Layer 1	Felt/bitumen layers					
	Standard	10	0.2300	0.0435	100.00	
Layer 2	Kingspan Kooltherm					
	Insulation	150	0.0190	7.8947	100.00	
Layer 3	Vapour Control Layer					
	Membrane	1	0.0000	0.0000	100.00	
Layer 4	Screed					
	Standard	50	1.1500	0.0435	100.00	
Layer 5	Concrete, reinforced (1% steel)					
	Standard	100	2.3000	0.0435	100.00	
Layer 6	Plasterboard, standard					
	Standard	12.5	0.2100	0.0595	100.00	
Int surfac	е			0.1000		

Total resistance: Upper limit = $8.185 \text{ m}^2 \text{ K/W}$ Lower limit = $8.185 \text{ m}^2 \text{ K/W}$ Average = $8.185 \text{ m}^2 \text{ K/W}$

Total correction = 0.0000 m² K/W U-value (ur

U-value (unrounded) = 0.12 W/m² K

Unheated space: None

Total thickness: 324 mm U-value: 0.12 W/m² K Kappa: n/a

U-Value 2.2.1 Page 1 of 1

U-Value Calculation Report



Assessor Details

Mr. Giovanni Maurizi, M052-0001

Floor External Floor - Concrete Slab Floor

Floor Type: Slab On Ground Floor Area = 100.00 m², Perimeter = 40.00 m, Wall thickness = 275.00 mm, Soil: Unknown Horizontal edge insulation: none Vertical edge insulation: none

Layer	Description	Thickness	Conductivity	Resistance	Fraction	Density	Heat Cap.
		(mm)	(W/mK)	(m²K/W)	(%)	(kr/m³)	(J/kgK)
Ext surface				0.0400			
Layer 1	Consolidated Hardcore						
	Standard	150	1.3000	0.1154	100.00		
Layer 2	Sand Blinding						
	Standard	50	1.0000	0.0500	100.00		
Layer 3	Visqueen DPM						
	Membrane	1	0.0000	0.0000	100.00		
Layer 4	Concrete, reinforced (2% steel)						
	Standard	100	2.5000	0.0400	100.00		
Layer 5	Kingspan Thermafloor						
	Insulation	150	0.0220	6.8182	100.00		
Layer 6	Vaapour Control Layer						
	Membrane	1	0.0000	0.0000	100.00		
Layer 7	Screed						
	Standard	50	1.1500	0.0435	100.00		
Int surface				0.1700			

Total resistance: Upper limit = $7.067 \text{ m}^2 \text{ K/W}$ Lower limit = $7.067 \text{ m}^2 \text{ K/W}$ Average = $7.067 \text{ m}^2 \text{ K/W}$

Total correction = 0.0000 m² K/W

U-value (unrounded) = 0.12 W/m² K

Unheated space: None

Total thickness: 502 mm U-value: 0.12 W/m² K Kappa: n/a

U-Value 2.2.1 Page 1 of 1