



SUSTAINABILITY STATEMENT

PITSFORD ROAD, MANCHESTER

JSP SUSTAINABILITY LTD
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EXECUTIVE SUMMARY

- Bellway Home's proposed residential development at Pitsford Lane, Manchester includes the construction of 88 no. properties.
- Measures will be enacted throughout the construction phase to ensure a sustainable development is created.
- Bellway Homes operates a nationwide timber procurement policy and affords advantage to materials with a lesser environmental impact.
- Eco-sanitary ware and flow restriction devices will be included in the construction of every property.
- A site waste management plan will operate at the construction site.
- Each home will be constructed to a robust fabric specification compliant with the latest version of Part L of the Building Regulations.
- Photovoltaic panels will be installed on the roof slopes of every house.



1 INTRODUCTION

JSP Sustainability Ltd has been commissioned by Bellway Homes to prepare a Sustainability Statement to accompany the planning application for the proposed residential development off Pitsford Road, Manchester. The application seeks permission for the construction of 88 no. residential properties, landscaping and associated highway works.

This Statement will detail the energy efficiency, renewable energy, water efficiency, materials, and waste management measures to be adopted by Bellway Homes to deliver a sustainable development. A number of documents have been used to complete this report. These include;

[National Planning Policy Framework \(NPPF\)](#) includes a presumption in favour of sustainable development. The Framework expands upon the guiding principles and objectives of a successful planning system. These include the building of a strong and competitive economy, delivering high quality housing, requiring good design and meeting the challenges of climate change.

[Approved Document L – Conservation of Fuel & Power](#) sets fabric efficiency standards and together with SAP, establishes a maximum CO₂ emission rate and primary energy rate for new build residential properties. The Approved Document is the Government's sustainable design benchmark in England.

[The Future Homes Standard: 2019 Consultation on changes to Part L and Part F of the Building Regulations for new dwellings. \(January 2021\)](#) provides a summary of the received responses to the 2019 consultation and the Government's intentions to revise Part L of the Building Regulations in 2022 and introduce a FHS in 2025.

[Manchester Core Strategy 2012 to 2027](#) includes policy EN6 which requires new development to achieve a 15% CO₂ reduction over Part L 2010. Recent amendments to Part L have surpassed this target. Policy EC1, Employment and Economic Growth in Manchester, asks that development proposals should have regard for "climate change resilience demonstrating how CO₂ emissions will be minimised with an aim of zero carbon emissions, through energy efficiency, renewable energy and contributing to low and zero carbon decentralised energy infrastructure."

[Places for Everyone Plan](#) is unadopted at the time of writing, but includes policy JP-S2: Carbon and Energy, which requires new development to be zero carbon from regulated sources of energy, adopt a strategy in line with the principals of the Energy Hierarchy and achieve a space heating demand of 30kWh/m²



2 MATERIAL SELECTION

Bellway Homes subcontracts the majority of its development processes to suppliers and contractors. As such the effective monitoring of the processes and practices of all contractors is key to delivering an efficient and environmentally sustainable supply chain. To this end Bellway Homes forms strong collaborative relationships with all its suppliers. Indeed, as many as 82% of all Group suppliers have worked with Bellway Homes for 3 years or more. Of these, the key suppliers have auditable environmental management systems and policies in place which have been certified to ISO 14001 or similar.

Bellway Homes and its contractors operate an ethical timber procurement policy which has at its core a commitment to purchase legally and sustainably sourced timber. Suppliers of timber must produce full Chain of Custody Certificates right through the supply chain; from the initial timber yard, manufacturing process, transformation and distribution. Secure certificates must be produced by valid accrediting bodies – FSC, PEFC, CSA, SFI & MTCC.

When specifying materials at the design stage the sustainable credentials of a product are rated alongside their affordability, lifecycle costs, durability, availability and ease of use. This exercise guarantees Bellway Homes gives due consideration to the environmental impact of materials at the earliest design and procurement stage.

To confirm the environmental impact of materials, Bellway Homes proposed specification for the Pitsford Road development was assessed against the Building Research Establishment's Green Guide. The Guide assesses the relative environmental impact of construction materials commonly used in buildings. Materials are given an overall rating of A+ to E, based on Life Cycle Assessments using the BRE's Environmental Profiles Methodology. The table below summarises the ratings anticipated;



Table 1 –Green Guide Ratings

	Description	Green Guide Reference	Rating
External Wall	Brickwork outer leaf, insulation, aircrete blockwork inner leaf, cement mortar, plasterboard on dabs, paint	806170615	A+
Party Wall	Twin leaf 100mm min. solid aircrete blocks with 100mm min. cavity including proprietary glass wool acoustic roll, type A wall ties, with gypsum-based board (9.8kg/m ²) on dabs and paint to each side	818190008	A
Ground Floor	Structural topping on beam and expanded polystyrene flooring.	820140015	A+
Intermediate Floor	T&G floorboards on timber I joists	807280024	A+
Internal Wall	Timber stud, plasterboard, paint	809760003	A+
Glazing	PVC-U window, double glazed	813100009	A
Roof	Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and slates	812410008	A+



3 WASTE MANAGEMENT

In 2012 the Government repealed the Site Waste Management Plan Regulations, therefore there exists no legal obligation to operate such a plan at Pitsford Road. However, as an environmentally responsible developer Bellway Homes intends to operate such a Plan at the application site.

As an engaged partner in the WRAP initiative Bellway Homes conducts regular reviews of the Group's performance. At the present-time the Group is engaged in a drive to reduce the volumes of waste generated on site and increase the percentage of waste diverted from landfill through reuse and recycling. Current data confirms a national recycling rate of 98.1% and a 3.7% fall in the absolute volume of waste sent to landfill.

This level of performance is enforced through the adoption of a robust Site Waste Management Plan but also through effective and coordinated design and procurement. The following briefly summarises the policies contained within the Groups waste management policies and to be enacted as part of the SWMP at Pitsford Road;

- Design to minimise wastage during the construction phase;
- Landform design and mass balance exercises are undertaken to retain as much material on site and reduce disposable volumes. There should be careful sub and topsoil storage and accommodation within the predetermined landform;
- Maximise the value of recycled aggregates through the separation of physical and chemical contaminants and through the careful matching of the materials generated with appropriate site use;
- Regular inductions and toolkit talks to all contractors and sub-contractors are standard. Careful site management of stockpiling and storage, segregation of waste groups and the prevention of cross contamination are implemented as standard;
- Agreements are in place with suppliers to reduce the amount of packaging on goods delivered to site. Take back agreements and *"just in time delivery"* are in place with key suppliers;
- All waste contractors are required to segregate waste off site and provide records of such; and
- Waste streams to be reused on site or recycled offsite are to be identified and communicated to all contractors so that careful disposal is assured;



4 WATER EFFICIENCY

Approved Document G of the Building Regulations requires each new home to achieve a water consumption rate of no more than 125 litres per person per day. Bellway Homes propose to incorporate low flow sanitary ware and eco-sanitary products into the design of each property to achieve a low water consumption rate. This strategy will permanently reduce water consumption. The tables below summarise the proposed flow rates and capacities and the water efficiency calculation.

Table 2 – Flow Rates & Capacities

Fitting	
Toilets	6 & 3 litre dual flush
WHB Taps	4 litres/min
Kitchen Taps	6 litres/min
Bath	160 litres
Shower	6 litres/min



Table 3 - Water Efficiency Calculation

Installation Type	Unit of Measurement	Capacity/Flow Rate (1)	Use Factor (2)	Fixed Use (litres/ person/ day) (3)	Litres per Person day. =[(1) x (2)] +(3) (4)
WC (Dual Flush)	Full Flush (litres)	6.00	1.46	0.00	8.76
	Part Flush (litres)	3.00	2.96	0.00	8.88
Taps (excluding kitchen tap)	Flow rate (litres/min)	4.00	1.58	1.58	7.90
Bath (where shower present)	Capacity to overflow (litres)	160	0.11	0.00	17.60
Shower (where bath present)	Flow rate (litres/min)	6.00	4.37	0.00	26.22
Kitchen/utility room sink taps	Flow rate (litres/min)	6.00	0.44	10.36	13.00
Washing machine	Litres/kg dry load	8.17	2.10	0.00	17.16
Dishwasher	Litres/place setting	1.25	3.60	0.00	4.50
TOTAL	(5)				104.02

(5)	Total Internal Water Consumption	104.02
(6)	Normalisation Factor	0.91
(7)	Internal Water Consumption [(5) x (6)]	94.66
(8)	External Water Use	5.00
(9)	Part G Water Consumption [(8) + (7)]	99.66

A water consumption of 99.66 litres per person per day is calculated.



5 ENERGY STRATEGY

5.1 National Planning Policy Framework

Paragraph 154b) of the National Planning Policy Framework (NPPF) asks that new development should be planned for in ways that *“can help reduce greenhouse gas emission, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government policy for national technical standards.”* As it relates to buildings, the Governments technical standards are those contained in the Building Regulations, specifically Part L.

Paragraph 157 requires new development to *“comply with any development plan policies on local requirements for decentralised energy supply....and take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.”*

5.2 Future Homes Standard

In January 2021 the Government responded to the public consultation on the Future Homes Standard (FHS) and proposed revisions to Part L. The Government confirmed;

“The introduction of the Future Homes Standard will ensure that an average home will produce at least 75% lower CO₂ emissions than one built to current energy efficiency requirements...Homes built under the Future Homes Standard will be “zero carbon ready”, which means that in the longer term, no further retro-fit work for energy efficiency will be necessary to enable them to become zero carbon homes as the electricity grid continues to decarbonise.”

“The Building Regulations will continue to set a performance based standard rather than mandating or banning the use of any technologies. However, to ensure that new homes are zero carbon ready, we intend to set the performance standard of the Future Homes Standard at a level which means that new homes will not be built with fossil fuel heating, such as natural gas.”

“Currently electrification is one of the few proven scalable options for decarbonising heat. As set out in the consultation, we expect heat pumps will become the primary heating technology for new homes under the Future Homes Standard.”

A consultation on the full technical specification for the FHS was launched in December 2023. Within the consultation the Government presented two options for the notional dwelling within the new Home Energy Model. However, both recipes include the specification of electric heat pumps with a co-efficient of performance greater than one.



5.3 Part L of the Building Regulations

In anticipation of the FHS, the Government amended Part L of the Building Regulations on June 15th 2022 to deliver a saving of 31% in CO₂ emissions. The revisions are expected to provide the industry and supply chains with the incentive, skills and time to prepare for the FHS in 2025.

The Part L 2021 Regulations include improved u-value backstops, the inclusion of a new Primary Energy target, updated CO₂ emission factors to take account of the progressive decarbonisation of the national grid and the retention of the Fabric Energy Efficiency Standard. The formulation of the target recipe also makes it necessary to include renewable generation or low carbon heating to deliver compliance with the target metrics.

5.4 Places for Everyone

At the time of writing the Places for Everyone plan was unadopted, however the Planning Inspector's report was received by the GMA and 9 local authorities on 14th February 2024. Included within the plan is policy JP-S2, Carbon and Energy, which states;

"8. An expectation that new development will, unless it can be demonstrated that it is not practicable or financially viable; a Be net zero carbon which applies:

- from adoption – to regulated operational carbon emissions;*
- from 2028 - to all emissions 'in construction'.*

From 2025 development should also calculate and minimise carbon emissions from unregulated emissions alongside regulated emissions.

Development proposals should set out how this has been achieved in an energy statement in accordance with the energy hierarchy, which in order of importance seeks to:

- i. Minimise energy demand;*
- ii. Maximise energy efficiency;*
- iii. Use renewable energy;*
- iv. Use low carbon energy; and*
- v. Utilise other energy sources.*

From 2025 any residual carbon emissions that cannot be fully mitigated on[1]site should be offset, in agreement with the relevant local planning authority through a financial contribution to a carbon offset fund. As an interim measure, development should be consistent with the 2022 Part L Building Regulations unless superseded by changes to building regulations and/or national or local planning policies.

b. Incorporate adequate electric vehicle charging points, in line with Part S of the Building Regulations, unless superseded by relevant Local Plan policies, to future proof for the likely long-term demand, taking account of the potential maximum energy demand for the site;



c. Where practicable, prioritise connection to a renewable energy/heating/cooling network in the first instance or a low carbon energy/heating/cooling network that is adaptable to non-fossil fuels at a later date;

d. In residential developments, achieve energy demand reductions for residential development in terms of space heat demand; hot water energy demand and the delivery of on-site renewable energy generation, in accordance with Table 5.1

Table 5.1 Targets For Reducing Energy Demand and Onsite Renewable Energy Generation [within residential developments \(MM5.2\)](#)

	Space Heat Demand ²⁶	Hot Water Energy Demand ²⁷	Renewable Energy Generation Targets
2021 - 2025	Houses (30kWh/m ²) Flats (25kWh/m ²)	20% energy demand reduction in the total heat required for water heating (compared to Part L 2013)	*Photovoltaic installation: 20% ground floorspace
2025 - onwards	Houses (20kWh/m ²) Flats (15kWh/m ²)	[^] 20% energy demand reduction in the total heat required for water heating (compared to Part L 2020)	*Photovoltaic installation: 40% ground floorspace
*Ground floorspace used as a proxy for available roof area.			
[^] will need to be reviewed with Future Homes Standard 2025 to determine if savings already embedded.			

5.5 Proposed Strategy

In response to the recent amendments to the Building Regulations and imminent adoption of the Places for Everyone Plan, Bellway Homes will construct each home to an efficient fabric specification capable of achieving compliance with the revised fabric energy efficiency standard. Furthermore, each home will be provided with a photovoltaic array sized to comply with the primary energy and CO₂ emissions targets associated with Part L of the Building Regulations.



5.6 Energy Efficiency Measures

Bellway Home's exposure to the marketplace has confirmed that purchasers demand energy efficient homes with low operating costs and familiar user-friendly technologies. As such the Group's current construction specification has been tailored to these demands and incorporates many of the lean and clean measures of the Energy Hierarchy. Listed below are some of the measures that have been incorporated into the detailed design of the scheme;

- The construction specification of every home will include high levels of insulation in the ground floor, external walls and roof spaces. This will lessen heat loss from the building envelope and lower the energy requirement of every home;
- The detailed house type designs will incorporate intelligent junction design, including the specification of thermally broken lintels, to limit heat loss at non-repeating junctions;
- An efficient gas condensing boiler will be installed in each property. The specified boilers will have confirmed NOx emissions rate of 40mg/kWh or less. The heating designs of each house type will include dual zone controls with smart thermostatic controls;
- The heating system will be designs to operate efficiently at a flow rate of 55 degrees;
- Energy efficient lamps will be installed in every light fitting.
- Each property will be naturally ventilated using efficient decentralised continuous extract fans to ensure the internal living environment will be healthy and comfortable;
- Each house will have openable windows with cross ventilation possible, thereby ensuring each home has a sufficient air change rate to lessen the possibility of a summer overheating risk. As part of the Building Regulations submission for the site, SAP calculations and Part O calculations will be submitted to the relevant Building Control body;
- Each entrance will be illuminated with an energy efficient external light or provision will be made for a purchaser to install such a fixture; and
- The white goods installed in each property or offered to purchasers will be energy efficient with an A+/A rating.

The table overleaf provides a summary of the energy efficiency standards to be achieved in the design and construction of each home;



Table 4 – Specification Summary

Element	Part L	Bellway Homes Specification
Wall	0.26W/m ² K	0.24W/m ² K
Party Walls	0.20W/m ² K	0.00W/m ² K
Cold Roof	0.16W/m ² K	0.09W/m ² K
Sloped Roof	0.16W/m ² K	0.15W/m ² K
Floor	0.18W/m ² K	0.11-0.12Wm ² K
Glazing	1.60W/m ² K	1.30W/m ² K
Door	1.60W/m ² K	1.40W/m ² K
Air Permeability	8 m ³ /(h.m ²) @ 50 Pa	4.0-5.0 m ³ /(h.m ²) @ 50 Pa

5.7 Photovoltaic Panels

Bellway Homes will install photovoltaic arrays on the roof slopes of every home sufficient to comply with the Primary Energy and Target Emission Rate associated with Part L 2021 and SAP 10. The exact size of array will be dependent on the orientation of the roof slope and house type. However, arrays ranging from 1.005-2.68kWp are forecasted. The heating designs of those house types with a hot water cylinder will also include the specification of a PV diverter. This addition will ensure the generated electricity will be directed to the hot water cylinder for the production of hot water with a nil emission rate.



5.8 Forecasted Emission Rate

The specification summarised overleaf was modelled in SAP 10 to determine the anticipated emission rate of the site. The table below summarises the results calculated. The calculations assume the minimum provision of PV to deliver compliance with the Target Primary Energy and Target Emission Rate associated with Part L.

Table 5 – Pitsford Road Emission Rate

House Type	Target Emission Rate (kg/year)	Calculated Emission Rate (kg/year)	Energy Requirement (kWh/year)	PV Generation (kWh/year)
Cartwright	16,516.08	15,899.10	84,838.88	11,961.04
Lymner	22,272.77	21,536.26	123,308.97	30,536.91
Mason	21,584.30	20,776.73	123,358.07	36,982.36
Salter	9,668.26	9,466.08	52,554.22	10,3842.20
Scrivener	3,600.23	3,43.24	20,454.42	6,075.57
Tailor	16,109.64	15,281.82	87,253.20	20,830.50
Tenterer	1,088.40	1,063.31	6,055.70	1,446.56
TOTAL	90,839.68	87,461.54	497,823.46	118,217.14

The calculations forecast a regulated site emission rate of 87,461.54kg/year, representing an 3.72% saving over Part L 2021. The calculations also confirm that photovoltaic panels will generate approximately 23.75% of the site's energy requirement.



5.9 Space Heating Requirement

Policy JP-S2 requires home constructed before 2025 to achieve a space heating requirement of 30kWh/m². One can extract the area weighted average space heating requirement from the same SAP 10 calculations summarised on the page overleaf. The table below details the calculation.

Table 6 – Pitsford Road Space Heating Demand

House Type	Space Heating Demand (kWh)
Cartwright	42,286.86
Lymner	57,947.90
Mason	62,348.54
Salter	20,695.58
Scrivener	10,506.47
Tailor	36,043.02
Tenterer	2,939.12
TOTAL	232,767.49
Total Floor Area (m²)	7,781.98
Area weighted Average (kWh/m²)	29.91



6 EVALUATION

This Statement accompanies the planning application for the Bellway Homes residential development off Pitsford Road, Manchester and includes details on material selection, waste management, water efficiency and energy efficiency. The key endeavours are;

- Bellway Homes operates a robust Sustainable Procurement Policy which emphasises the legal and sustainable sourcing of timber and other building materials;
- The construction specification for the site achieves A+ - C ratings when assessed against the Building Research Establishments Green Guide;
- Eco sanitary ware and flow restriction devices will be installed in every property;
- A site waste management plan will operate at the development;
- Recycling facilities will be provided to each home;
- The house types elevations proposed aid the ability of each home to take advantage of solar gain;
- The construction and services specification proposed at Pitsford Road achieves robust energy efficiency standards capable of complying with the revised Fabric Energy Efficiency standard;
- The energy efficiency measures will deliver an area weighted average space heating demand of 29.91kWh/m²; and
- Photovoltaic panels will be installed on the roof slope of every house. The arrays will provide each home with a free and zero carbon source of electricity. The proposals have the potential to generate approximately 23.75% of the site's regulated energy requirement.

In conclusion the strategy addresses energy efficiency, water efficiency, pollution and material selection. When assessed against the definition included in the NPPF, the proposals can be described as sustainable. We therefore recommend the approval of these measures.