Sustainable Construction, Energy and Water Statement

Land South of the A507, Buntingford - Commercial

June 2024



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1. Introduction

This Sustainable Construction, Energy and Water Statement has been prepared to demonstrate the strong sustainability credentials of Land South of A507 Buntingford.

1.1 Introduction

This Sustainable Construction, Energy and Water ('ScEW') Statement has been prepared by Turley Sustainability, on behalf of Hallam Land Management Limited (referred to hereafter as 'the Applicant'), to support an outline application to East Herts District Council for a highly sustainable development of employment land that consists of a mix of employment uses.

This statement relates to the Land to the South of the A507 which relates to commercial development.

Sustainability is at the heart of all schemes designed and delivered by the Applicant. This is demonstrated by a range of metrics and the commitments by the Applicant to integrate sustainability from the outset of design through to construction and operation. As with all schemes from the Applicant, key factors such as biodiversity, carbon reduction, climate change adaptation and energy generation are considered from the outset.

This document provides a summary of the sustainable design measures incorporated into the proposals to ensure high levels of sustainability performance in that align with, and exceed in some areas, local and national planning policy.

1.2 The Development

1.2.1 Site Context

The site, which lies to the west of Buntingford, is 13.28ha in size, and is distinct, with its eastern boundary currently characterised by the A10, which connects Buntingford to London and Cambridge with railway stations along the route connecting to those respective destinations.

1.2.2 Proposed Development

The proposed development will deliver high quality and future-proof employment space. The planning description for the site is as follows:

'Outline planning application for development of employment land (flexible use B2, B8, E(c) and E(g)), informal open space, associated works and infrastructure including a new access from A507, with all matters reserved save for access'.

Figure 1: Site Location



The site location is shown in **Figure 1** above.

1.3 Document Structure

Chapter 2 of this Statement sets out the planning policy context for the proposals in relation to sustainable development at national and local level.

Chapter 3 describes the sustainability performance of the proposed development and how this accords with planning policy. **Chapter 4** provides an overall summary. **Appendix 1** provides the Sustainability Checklist as required by the Council's Sustainability SPD.

This ScEW Statement should be read in conjunction with other documents submitted in support of the planning application, particularly the Planning Statement, and Design & Access Statement.

Figure 2: Proposed Site Plan (Source: DLA Associates)



2. Policy Context

This chapter provides an overview of the relevant sustainability planning policy and guidance from a national and local perspective.

2.1 National Policy

This section sets out a summary of current national guidance and policy in relation to sustainable development.

2.1.1 National Planning Policy Framework

The National Planning Policy Framework[1] (NPPF) provides a framework for the development of locally prepared plans and the government's planning policies for England and how these are expected to be applied.

Paragraph 7 of the NPPF states that: 'the purpose of the planning system is to contribute to the achievement of sustainable development'.

It states clearly that in order to deliver sustainable development, the planning system must perform three distinct objectives, aligned to the three pillars of sustainability, which must not be taken in isolation and should be pursued jointly:

An **economic** objective to contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure.

A **social** objective supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high-quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being.

An **environmental** objective contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

[1] National Planning Policy Framework (publishing.service.gov.uk)

These objectives are key to the development of plans and the NPPF sets out a number of key themes for consideration which guide the preparation of local plans and policies, ensuring the delivery of sustainable development.

The NPPF recognises the role planning has to play in support of the UK's pursuit of the United Nations Sustainable Development Goals[2] (UNSDGs) which address social progress, economic wellbeing and environmental protection. Example UNSDGs are presented in **Figure 2**.

Figure 3: Example UN Sustainable Development Goals



2.2.2 Planning Practice Guidance

Planning Practice Guidance (PPG) provides further advice on various planning issues associated with development, including those linked to sustainability and renewable energy and underpins the policies within the NPPF.

PPG is a material consideration in planning decisions and should generally be followed unless there are clear reasons not to. It sets out how local authorities should include polices that protect the local environment and strategies to mitigate and adapt to climate change and supports developments that are functional and adaptable for the future.

Local Authorities have the option to set technical requirements exceeding the minimum requirements of the Building Regulations in respect of access, water and space where sufficient evidence is produced to justify the target.

2.2.3 National Design Guide

The National Design Guide[3] published in October 2019 is based on the national planning policy practice guidance and objective for good design as set out in the NPPF. The Guide introduces ten characteristics of well-designed places which work together to create developments Character and Community, while positively addressing environmental issues affecting climate.

2.2.4 Building Regulations

Part L Conservation of Fuel and Power[4] - Whilst not planning policy, the Building Regulations (and specifically Approved Document Part L: Conservation of Fuel and Power) set out the

[2] https://sdgs.un.org/goals
[3] National_design_guide.pdf (publishing.service.gov.uk)
[4] Approved Document L, Conservation of fuel and power, Volume 2: Buildings other than dwellings (publishing.service.gov.uk)

requirements for energy and carbon performance in new buildings.

Periodic updates to these national regulations will drive energy efficiency and carbon reduction improvements. Government has stated that developers will continue to have flexibility in how they meet carbon reduction targets; but that the emphasis is on using a "fabric first" approach.

On the 15th June 2022, the Building Regulations were updated as an interim step towards part of the roadmap to the 'full' Future and Building Standards, which is anticipated to come into effect in 2025. The regulations aim to deliver buildings that are of a higher quality, with lower energy bills and reduce GHG emissions by around 27% for non-domestic buildings.

The 2025 FBS consultation was published in December 2023 and requires new buildings to achieve a c.75% carbon reduction beyond Part L 2013, removing the use of fossil fuel use and requiring increased air tightness levels and use of low carbon renewable energy generation.

As of 15th June 2022, new Building Regulations Part S and Part O are now also in place. The requirements of each are set out as follows;

Part S Infrastructure for Charging Electric Vehicle–[5] - New approved document Part S sets out guidance for electric vehicle (EV) charging infrastructure and specifies that for non-residential car parks with more than 10 spaces, at least one active EV charge point must be provided, with cabling to the remaining 20% of spaces.

Part O Overheating[6] – New approved document Part O sets out requirements for mitigating overheating, specifying that new developments must limit unwanted solar gains in the summer and provide means to remove heat. Compliance with Part O can be demonstrated using two methods to demonstrate the risk of overheating from rising summer temperatures has been mitigated:

- Following a simplified prescribed glazing and free area ratio; or,
- Use of a Dynamic Simulation Modelling.

2.2.5 Industry Guidance

UKGBC Net Zero Carbon Buildings Framework7

The UK Green Building Council Net Zero Framework was released in April 2019 and is currently the most widely used and accepted net zero building standard in the UK. The framework requires developers to assess, mitigate and offset the remaining embodied carbon of a development.

Upcoming UK Net Zero Carbon Standard (UKNZCBS)

A cross-industry initiative to develop the UK's first Net Zero Carbon Buildings Standard (NZCBS) is currently underway. The new standard will provide clear guidance of the requirements for new developments to become 'Net Zero'.

The new standard is due to be released in 2024 and will replace the UKGBC Framework.

2.3 Local Planning Policy

2.3.1 East Herts District Council Climate Emergency

East Herts District Council declared a climate emergency in July 2019, and committed the council to achieve net zero by 2030. The steps it will take to do this are set out in the East Herts Climate Change Strategy[8]. The key priorities identified by the council include:

[5] Approved Document S: Infrastructure for the charging of electric vehicles (publishing.service.gov.uk)
[6] Approved Document O: Overheating (publishing.service.gov.uk)

[7] Net Zero Carbon Buildings: A Framework Definition (UKGBC)

[8] Climate_Change_Strategy_2022 Accessible.pdf (onwebcurl.com)

- Active, greener transport including public transport, walking, cycling and promotion of low emission and e-vehicles;
- Domestic energy efficiency in both new and existing homes;
- Biodiversity and wildlife protection;
- Waste reduction and maximising recycling;
- Using planning policies to tackle climate change; and
- Involving individuals and community groups.

2.3.2 East Herts District Plan

The East Herts District Plan[9] was adopted in October 2018 and sets out the vision for the District up to 2033. The Plan contains a number of sustainability-related policies and objectives which are listed below.

Policy CC1 Climate Change Adaptation – All new development should demonstrate how the design, materials, construction and operation of the development would minimise overheating in summer and reduce the need for heating in winter, and integrate green infrastructure from the beginning of the design process to contribute to urban greening, including the public realm. Elements that contribute to this include appropriate tree planting, green roofs and walls, and soft landscaping.

Policy CC2 Climate Change Mitigation – All new developments are encouraged to achieve standards above and beyond the requirements of Building Regulations, and carbon reduction should be met on-site unless it can be demonstrated that this is not feasible or viable. In such cases, effective offsetting measures to reduce on-site carbon emissions will be accepted as allowable solutions. The energy embodied in construction materials should be reduced through re-use and recycling, where possible, of existing materials and the use of sustainable materials and local sourcing.

Policy CFLR7 Community Facilities - The provision of adequate and appropriately located community facilities will be sought in conjunction with new development.

Developers will be expected to provide either on-site provision, or where appropriate, a financial contribution towards either off-site provision, or the enhancement of existing off-site facilities. Where provision is made on-site as part of a development, applicants should detail how it will be maintained in the long term.

Proposals for new and enhanced uses, buildings or land for public or community use will be supported in principle where they do not conflict with other policies within this Plan. Such proposals:

(a) Should be in suitable locations, served by a choice of sustainable travel options;

(b) Should be of an appropriate scale to meet needs and be of a flexible design to enable multiple uses throughout the day;

(c) Should take measures to integrate such facilities into the landscape, including the creation of features which provide net benefits to biodiversity; and

(d) Should be constructed in tandem with the development to ensure they are available for the new and existing community from the start of occupation.

Proposals should aim to provide for the dual or multiple use of facilities for wider community activities. The use of Community Use Agreements will be sought where appropriate.

As part of proposed strategic development, consideration will be given to the need to provide new Household Waste Recycling Centres in

[9] East Herts District Plan 2018 (onwebcurl.com)

suitable locations, taking account of neighbouring land uses.

Policy WAT1 Flood Risk Management – The functional floodplain will be protected from inappropriate development and where possible, developed flood plain should be returned to Greenfield status with an enhanced level of biodiversity. Development proposals should neither increase the likelihood or intensity of any form of flooding, nor increase the risk to people, property, crops or livestock from such events, both on site and to neighbouring land or further downstream. Development should take into account the impacts of climate change and should build in long term resilience against increased water levels. Therefore, appropriate distances and buffers between watercourses and built development should be maintained in accordance with Environment Agency guidelines.

Policy DES4 Design of Development – All development proposals should incorporate high quality innovative design, new technologies and construction techniques, including zero or low carbon energy and water efficient, design and sustainable construction methods. Dwelling design and layout should make provision for Electric Vehicle charging points in safe and accessible locations.

Policy TRA1 Sustainable Transport – To achieve accessibility improvements and promotion of sustainable transport in the district, development proposals should:

a) Primarily be located in places which enable sustainable journeys to be made to key services and facilities to help aid carbon emission reduction;
b) Ensure that a range of sustainable transport options are available to occupants or users, which may involve the improvement of pedestrian links, cycle paths, passenger transport network (including bus and/or rail facilities) and community transport initiatives; and
c) Ensure that site layouts prioritise the provision of modes of transport other than the car (particularly walking, cycling and, where appropriate, passenger transport) which, where feasible, should provide easy and direct access to key services and facilities.

Policy NE3 Species and Habitats – Development should always seek to enhance biodiversity and create opportunities for wildlife. Proposals must demonstrate how the development improves the biodiversity value of the site and surrounding environment. The biodiversity value of a site pre and post development will be determined by applying a locally approved Biodiversity Metric where appropriate. Proposals will be expected to protect and enhance locally important biodiversity sites and other notable ecological features of conservation value. Integrated bird and bat boxes will be expected in all development bordering public green space and beneficial habitat.

Policy NE4 Green Infrastructure (GI) – A diverse network of accessible, multi-functional green infrastructure across the district will be protected and enhanced for its biodiversity, recreational, accessibility, health and landscape value and for the contribution it makes towards combating climate change. Development proposals should:

a) Avoid the loss, fragmentation or functionality of the green infrastructure network, including within the built environment, such as access to urban waterways;

b) Maximise opportunities for improvement to the green infrastructure network in accordance with the Council's Green Infrastructure Plan, its Parks and Open Spaces Strategy, the Hertfordshire Biodiversity Action Plan;

c) Maximise opportunities for urban greening such as through appropriate landscaping schemes and the planting of street trees;

d) Consider the integration of green infrastructure into proposals as an alternative or to complement 'grey' infrastructure.

Policy WAT4 Efficient Use of Water Resources – Development must minimise the use of mains water by incorporating water-saving measures

and equipment; incorporating the recycling of greywater and utilising natural filtration methods where possible.

Policy WAT5 Sustainable Drainage – Development must utilise the most sustainable forms of drainage systems in accordance with the SUDS hierarchy, unless there are practical engineering reasons for not doing so. Drainage should be designed and implemented in ways that deliver other policy objectives of this Plan, including water use efficiency and quality, biodiversity, amenity and recreation. The provision of balancing ponds as part of an area of public open space for recreation or wildlife should be designed to ensure the safety of other users of the space. Where SUDS are provided as part of a development, applicants should detail how it will be maintained in the long term. Where practicable, SUDS should be designed to ensure the sustainable drainage networks have the additional capacity required to cope with infrequent adverse weather conditions and therefore reduce flood risk.

Policy CFLR7 Community Facilities – The provision of adequate and appropriately located community facilities will be sought in conjunction with new development. Developers will be expected to provide either on-site provision, or where appropriate, a financial contribution towards either off-site provision, or the enhancement of existing off-site facilities. Where provision is made on-site as part of a development, applicants should detail how it will be maintained in the long term. Proposals should aim to provide for the dual or multiple use of facilities for wider community activities.

2.3.3 East Herts District Council Local Validation Requirements

All new development is required to prepare a Sustainable Construction, Energy and Water (ScEW) Statement[10]. This should demonstrate how the development responds to sustainability, considering the following:

- How the design, material, construction and operation of the development would minimise overheating in summer and reduce the need for heating in the winter and cooling in the summer;
- How carbon dioxide emissions will be minimised across the development site; and
- How the development will minimise the use of mains water.

2.3.4 Hertfordshire Development Quality Charter

This guidance document[11] was published in September 2023, and sets a benchmark for high quality and sustainable development. It is a commitment that anyone who builds in Hertfordshire will follow set processes in order to comply with planning and design policies and will seek to achieve high sustainability performance above the current minimums set by Building Regulations. It is hoped that the Charter will be signed by all councils, housing associations and developers that are building in Hertfordshire.

Key design pledges include:

- Major sites must explain the long-term stewardship strategy for their development;
- Developers must incorporate environmental management systems, considerate construction, social value and construction skills development into their business models;
- All developments should achieve at least 10% biodiversity net gain for at least 30 years, in accordance with the DEFRA toolkit; and

[10] Microsoft Word - Validation Requirements - local list.doc (eastherts.fra1.digitaloceanspaces.com)

[11] Draft-Hertfordshire-Development-Quality-Charter.pdf (hertfordshiregrowthboard.com)

- Developers must identify a sustainability standard that exceeds minimum current Building Regulations as part of their planning application and then use an industry-recognised process to demonstrate compliance with that standard upon completion of their development.

2.3.5 Hertfordshire Minerals and Waste Draft Local Plan 2040

This document[12] is the first published Regulation 18 document of the Minerals and Waste Local Plan for Hertfordshire. The Plan sets out the vision, objectives and overall spatial strategy for minerals and waste planning in Hertfordshire up to 2040. It seeks to ensure a steady and adequate supply of mineral to meet needs over the plan period, to protect known mineral resources, and support and safeguard a network of waste management facilities to deal with the wastes arising over the plan period.

The vision is for developments to be designed to mitigate the effects of and on climate change, with a focus on promoting waste reduction, reuse, and the recycling of materials, thereby minimising the need for disposal as part of a more circular approach to materials use.

Emerging Policy 11: Sustainable Design and Resource Efficiency, requires all development proposals to demonstrate how the development ensures the most efficient use of resources through:

- Construction and demolition methods that minimise waste generation and facilitate the re-use/recycling of materials and buildings, as far as practicable on site;
- Design principles and construction methods that minimise the use of primary aggregates and encourage the use of high-quality building materials made from local recycled and secondary resources; and
- Good and innovative design with layout principles that allow effective sorting, recycling, composting and collection of waste within the site.

The emerging waste policy states that all major planning applications are to be accompanied by a Circular Economy Statement which includes details of the management of waste through all stages of the development. As this is currently an emerging policy and not yet adopted the Circular Economy Statement carries reduced weight.

2.3.6 Sustainability Supplementary Planning Document (SPD)

This document[13] was adopted in March 2021, and provides guidance on the implementation of adopted District Plan (2018) policies related to climate change and sustainable design and construction, in order to improve the environmental sustainability of new development. It covers a range of topics including energy and carbon reduction, climate change adaptation, water efficiency, biodiversity, waste management and sustainable transport, and will be a material consideration in the determination of planning applications. The SPD requests that BREEAM Assessments are progressed for non-residential developments. The SPD includes a **Sustainability Checklist** to be completed for all major applications and a **Carbon Reduction Template** which is to be completed for detailed/reserved matters applications. The Sustainability Checklist can be found in Appendix 1. If the proposals progress to Reserved matters a Carbon Reduction Template will accompany the application.

[12] HCC Minerals and Waste Local Plan - July 2022 (hertfordshire.gov.uk)

[13] Sustainability SPD (onwebcurl.com)

Buntingford Community Area Neighbourhood Plan (BCANP)

The Buntingford Community Area Neighbourhood Plan (BCANP)[14] was created by Buntingford Town Council and adopted by East Herts District Council in late 2017. Policies relevant to this application include the following;

- **ES1:** Development proposals should be appropriate to and maintain the Rib Valley setting of the BCA;
- **ES3:** Green energy generation initiatives such as wind turbines, solar, anaerobic digestion, biomass, ground & air source heat pumps and hydro will be supported in order to make a contribution to combatting climate change.
- **ES5:** Development proposals to expand the provision of open space and improve the existing open space.
- **HD3:** Green energy principles in the provision of new housing will be encouraged and supported where they are appropriate to the site.

2.4 Planning Policy Summary

Both local and national policy aims to ensure the delivery of sustainable and well-designed buildings which mitigate and adapt to the increasingly urgent impacts of climate change.

The East Herts District Plan requires development to consider a range of sustainable design measures, including energy efficient and low carbon buildings, green infrastructure, SuDS and water efficiency. This is further supported by the Sustainability SPD Checklist, which encourages development to consider biodiversity gains, carbon reduction, waste management and air quality. These measures demonstrate the District's commitment to the creation of sustainable new developments.

Latest national planning policy and guidance confirms the Government's approach to sustainable development is being driven through the updates to the Building Regulations, to ensure that new buildings are well designed and reduce emissions in line with the UK's national carbon targets.

The following sections of this Sustainability Strategy set out the sustainability measures incorporated into the design of the development to ensure the delivery of a sustainable development whilst addressing the requirements of local and national policy

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[14] bcanp-april-2016-amended-version-jan-2017-compressed.pdf (buntingford-tc.gov.uk)

3. Sustainability Strategy at Land South of A507 Buntingford

This chapter summarises the measures which have been incorporated into the design of Land South of A507 Buntingford to ensure the delivery of high quality and future-proof new employment units for Buntingford.

This chapter outlines the Sustainability and Energy Strategy for the proposed development demonstrating how the employment buildings will respond strongly to both national and local planning policy, specifically the requirements of **CC1, CC2, DES4, WAT4, WAT5 and TRA1.** Key areas where the targeted performance **exceeds that of policy** are set out as follows;

Energy and Carbon: Policy CC2 requests that new developments target performance beyond Building Regulations and achieve this carbon reduction on site if possible. Through a commitment to the next iteration of Building Regulations (Future Buildings Standard 2025) the development will achieve a substantial carbon reduction. Through a target to achieve the upcoming **UK Net Zero Carbon Building Standard (UKNZCBS)** for the employment buildings, the Applicant aims to be at the forefront of delivering low carbon, future-proof development.

Embodied Carbon: Policy CC2 notes the importance of minimising embodied carbon. In the case that the upcoming UKNZCBS is targeted, a Whole Life Carbon Assessment (WLCA) for the buildings will be completed – ensuring that embodied carbon impacts are mitigated to zero* (**subject to the upcoming UKNZCBS requirements*). This would result in a significant performance beyond Policy. As detailed later in this statement in Section 3.3.1, as the UKNZCBS has not yet been released the development proposals cannot currently commit to its achievement. In the case that the UKNZCBS is not targeted WLCA assessments will in any case be completed for those buildings subject to a BREEAM assessment.

Water efficiency: Policy WAT4 requires development to minimise the use of mains water and use of water recycling schemes. At Buntingford the employment units will target 3 credits under the BREEAM Wat01 issue, which relates to a 40% reduction beyond baseline. This target responds to the severe water stressed region.

The sustainable design commitments made at this stage and to be considered as part of the detailed design of the development are set out under the following headings:

3.1 Sustainable Design – Setting out how the development will make use of sustainable design metrics to measures sustainable performance.

3.2 Adaptation to Climate Change – How the development will incorporate measures to adapt to climate change.

3.3 Climate Change Mitigation – A summary of the Energy and Carbon Strategy detailing how the development will incorporate measures to mitigate GHG emissions through construction and operation.

3.4 Materials – How design has considered the procurement of materials which promote sustainability, including by use of low impact, sustainably sourced, reused and recycled materials.

3.5 Waste and Recycling – How the development incorporates waste and recycling measures during construction and operation.

3.6 Adaptation to Future Needs – How the design of the development is flexible and adaptable to future occupier needs.

3.7 Biodiversity – How the development incorporates measures that support and, where possible, enhance biodiversity.

3.8 Sustainable Transport – Setting out measures incorporated into the development to encourage sustainable transport.

3.9 Social and Economic Benefits – Summarising the socio-economic benefits of the proposed development.

3.1 Sustainable Design

The Applicant aims to deliver sustainable new employment space at Land South of A507, Buntingford. The proposed design includes a number of principles which support sustainable development, including:

Low Carbon and Highly Energy Efficient

- The delivery of 4.71ha of energy efficient, well-designed employment space, built in line with the **upcoming Future Buildings Standard 2025;**
- A target of **Net Zero Ready** for the employment units under the upcoming UK Net Zero Carbon Building Standard (UKNZCBS);

Well connected, supporting Active Travel

- An extensive network of **new pedestrian and cycle connections** throughout the development and beyond into the town;
- **EV charging points** in line with Building Regulations Part S, which requires 1 in 10 car parking spaces to have an active charge point with cabling for the remaining 20%;

Provision of open space and amenities

- Provision of c.6.1ha of parkland for residents, employees and the wider community.

3.1.1 BREEAM

It is noted that the Sustainability SPD recommends BREEAM assessments are progressed for new non-residential buildings. In Turley Sustainability's experience BREEAM assessments are only suitable for buildings beyond 1,000sqm. The majority of BREEAM policies present in Local Plans clarify that assessments are required on buildings beyond 1,000sqm only. It is noted that the SPD does not currently provide a floor area guideline for BREEAM. At the Outline Stage the floorspace of the proposed employment Units remain flexible. In the case that the Units are beyond this scale a BREEAM assessment will be progressed if appropriate. In the case that a building is in the region of 1,000sqm (i.e slightly smaller) it is likely that an assessment would be progressed, subject to a review by a licensed BREEAM Assessor.



3.1.2 Net Zero Ready

The applicant has a clear focus on ensuring the development is designed to support a Net Zero Future. Therefore the employment elements of the scheme will review the feasibility of achieving

'Net Zero Ready' under the upcoming UK Net Zero Carbon Buildings Standard – likely to be released later this year. Further detail on this is set out in **Section 3.3.1.**

Further information on how the development incorporates sustainable design principles is contained within the Design & Access Statement (DAS) which accompanies this planning application.

3.2 Adapting to Climate Change

To promote resilience to the effects of climate change, the development incorporates a number of key design measures in response to the Met Office's latest (UKCP18) climate projections. The UK Climate Projections (UKCP) is a set of tools and data that shows how the UK climate may change in the future.

These projections report that the UK will experience increased summer and winter temperatures with significantly increased maximum temperatures, reduced summer rainfall, increased winter rainfall and an increase in extreme weather events.

The UK Climate Change Risk Assessment, updated in 2022, identifies key risks associated with the effects of climate change. In relation to the proposed development, risks include reduced summer water availability, increased winter rainfall, and increased summer temperatures.

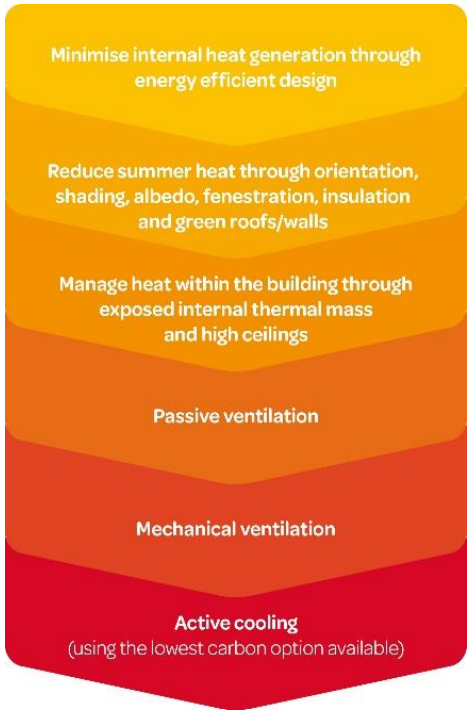
This section identifies key measures which will be incorporated into the design of the Proposed Development to adapt to climate change.

3.2.1 Overheating

With increasing summer temperatures there is an increasing risk of overheating in buildings which could adversely affect building occupants and users. To minimise this risk, the buildings will be designed in accordance with the new Building Regulations Part O Overheating.

Additionally, the proposed buildings will be designed in accordance with the cooling hierarchy, as shown in **Figure 4,** which aims to reduce any potential overheating in buildings through the consideration of passive cooling measures first. Incorporating the cooling hierarchy into the design process means buildings will be better equipped to manage their cooling needs and to adapt to and mitigate climate change.

Figure 4: Cooling Hierarchy



3.2.2 Water Efficiency

Potable water is an increasingly important natural resource and, with the majority of the UK classed as being at moderate or severe water stress, the conservation of water is becoming a significant sustainability metric.

Buntingford is served by Affinity Water which in the most recent Policy Note[15] from the Environment Agency is categorised as being in 'Serious' water stress.

Therefore, the new development will aim to reduce water consumption through a range of water efficiency measures such as:

- Dual flush WCs;
- Water meters;
- Low flow fittings; and
- Where appropriate, water efficient equipment.

The sanitary ware will be specified in line with BREEAM Wat01 guidance[16] and are likely to utilise the water efficiency measures as listed above. As stated in the beginning of Section 3 of this report, the employment units will target 3 credits under the BREEAM Wat01 issue, which relates to a 40% reduction beyond baseline. This target responds to the severe water stressed region.

The use of rainwater harvesting for the employment units will be explored as part of further design development.

3.2.3 Flood Risk and Sustainable Drainage

With increased winter rainfall and an increase in extreme weather events, climate change could result in increased flood risk across the UK.

Jubb Consulting Engineers Ltd. prepared a Flood Risk Assessment and Drainage Strategy to accompany the application. The EA 'Flood Map for Planning' indicates that the entire site is located within Flood Zone 1 – Low Probability (land at less than a 1 in 1000 (0.1%) annual probability of river or sea flooding).

Adequate drainage design will be provided to cater for all events up to and including the 1 in 100 (1%) annual probability event, plus a 40% allowance for climate change, in line with **Policy WAT1** of the East Herts District Plan. Flows will be discharged from the site at a restricted predevelopment greenfield rate of 15.7l/s.

A variety of SuDS features are proposed as part of the site wide drainage strategy in accordance with **Policy WAT5** of the East Herts Local Plan. These features will provide ecological benefits as well as amenity and water quality benefits through the dilution, filtration, and settlement of solid particles. Proposed SuDS features include an attenuation basin, with additional features such as permeable paving, and raingardens/swales to supplement the overall drainage strategy for the site.

Further information on the site's flood risk and the proposed surface water management system can be viewed in the accompanying Flood Risk Assessment and Drainage Strategy submitted with this application.

3.3 Climate Change Mitigation

Minimising GHG emissions is key to mitigating the effects of development on climate change. GHG emissions for the development proposals are anticipated to occur through construction and operation. The following sections set out the strategy to reduce carbon emissions through development.

3.3.1 Net Zero Ready

'Net Zero Ready' comprises achieving net zero carbon in construction and taking necessary steps in the base build to allow the operator / tenant to achieve net zero in operation. This could be through the procurement of renewable energy in

[15] Environment Agency – 2021 Classification Policy Note

[16] BREEAM New Construction 2018 (UK) - Wat 01 Water consumption (bregroup.com)

operation through an agreement such as a 'green lease'.

The Applicant has a clear focus on ensuring the development is designed to support a Net Zero Future. In 2019 the UK Green Building Council (UKGBC) published the Net Zero Carbon Buildings Framework Definition[17] to provide the industry with clarity on the definition of net zero carbon buildings. In May 2022 a cross-industry Steering Group, representing stakeholders across the built environment, joined together to develop a Standard for verifying UK buildings as Net Zero Carbon (NZC). The UKGBC Framework will be retired in 2024 and replaced with the UKNZBS. UKNZBS will enable the industry to robustly verify that built assets are Net Zero Carbon, and in line with the nation's climate targets.

The UKNZBS Standard is expected to be published in Spring 2024. A consultation document published in June 2023 details the technical fundamentals behind the Standard, sharing the metrics that buildings will be assessed against to demonstrate that they are aligned with what is required for the UK built environment to achieve Net Zero Carbon.

It is widely recognised by industry that this document will form the 'gold standard' for voluntary commitment to net zero buildings. Any applicant whom achieves certification to this voluntary standard is to be recognised for their commitment to climate leadership and sustainable design and construction.

When the final UKNZBCS requirements are available the applicant will review the feasibility of achieving 'Net Zero Ready' for the employment units at Land South of Buntingford.

3.3.2 Construction GHG Emissions

The proposed development will aim to reduce the construction GHG emissions to help mitigate the impact of the development on climate change.

The Applicant is aware of the substantial carbon impacts of the construction process and building materials. Therefore, as a part of the detailed design of the buildings, materials with reduced embodied carbon will be selected where possible. This includes utilising locally sourced materials which will have lower transport emissions.

In the case that the employment uses are of a substantial floor area (circa 1,000 sqm) a Whole Life Carbon Assessment (WLCA) will be completed in line with BREEAM requirement Mat01. This will ensure the buildings have assessed lower embodied carbon options for a range of key building materials at an early stage of the design and incorporated these where feasible.

For those buildings that are perhaps too small to be assessed through BREEAM, lower embodied carbon materials will be reviewed for inclusion into the design. This could include increased use of timber as opposed to steel, recycled steel and lower carbon concrete.

Furthermore, throughout construction, energy, fuel, and water use will be monitored as far as possible to minimise resource use and carbon emissions from construction.

3.3.3 Operational GHG Emissions

The Energy Strategy has been designed to support the UK's trajectory towards net zero through committing to the upcoming Future Building Standard 2025 and supporting **Policy C22** of the adopted Local Plan. The proposed strategy is the implementation of a 'fabric first' holistic approach, which is based on ensuring high performance building fabric, efficient building services, and the incorporation of low carbon

[17] Net Zero Carbon Buildings: A Framework Definition | UKGBC

technology through the use of Air Source Heat Pumps and photovoltaic panels (solar PV).

Due to the early stage of design the use class and size of the employment units have not yet been confirmed. The Units will provide a range of flexible, B2, B8, E(c) and E(g), to meet the identified needs outlined in the Employment Study conducted for the Applicant. The use classes and their respective likely energy demand requirements have been set out **in Table 1**:

Table 1: Use Class Energy Demand Requirements

Use Class	Expected Energy Demand Requirements
Class B8: Storage and Distribution	B8 units primarily require high energy demand for lighting and low demand for heating. The warehouse spaces are usually unheated.
B2: General Industrial	Similar to B8, B2 units usually have high lighting demand and low demand for heating. They are likely to have a higher load for industrial process equipment for unregulated uses.
Class E: Commercial Business and Service *'c' and 'g' are most likely to relate to office space.*	Offices tend to have higher heating and cooling demands than B2/B8. Lighting demand is lower than B2 and B8.

The proposed energy strategy has been designed to ensure energy demand will be minimised across all use classes covered in the application. The employment buildings will achieve the upcoming Future Building Standard (hereafter, FBS) due to come into force in 2025. The FBS requires a 75% carbon reduction over the Part L 2013 standard (which is the baseline regulation the FBS standards are measured against). As noted in the Policy Review **Section 2.2.4**, the Building Regulations were updated in 2022 as an interim step towards part of the roadmap to the 'full' FBS. The FBS seek to ensure that no refurbishment will be necessary to reach zero-carbon as the electricity grid continues to decarbonise – and no new building built under the FHS/FBS will be reliant on fossil fuels.

The building designs will also be assessed with CIBSE TM54 to optimise operational energy efficiency and minimise the performance gap, committing to post-construction testing to ensure buildings are performing as intended/ optimised.

Be Lean

Central to the delivery of low carbon and energy efficient buildings is the 'Fabric First' principle which recognises the most effective way of minimising carbon emissions is to reduce the demand for heat and power from the outset through a well-insulated, energy efficient building fabric and services.

Reducing the primary energy demand of a building is therefore the first and most important step to reducing carbon emissions.

The new buildings have been designed in accordance with a fabric first approach to create a highly efficient building which reduces primary energy demand and therefore carbon emissions. In the first instance, to create an efficient fabric and minimise energy use and lighting requirements, the following measures will be considered:

- Highly insulated and air-tight building envelope;
- Energy efficient lighting and controls.

Investing in improved fabric and construction techniques to create a more airtight building dramatically reduces the loss of energy to the external environment, thereby reducing energy demand.

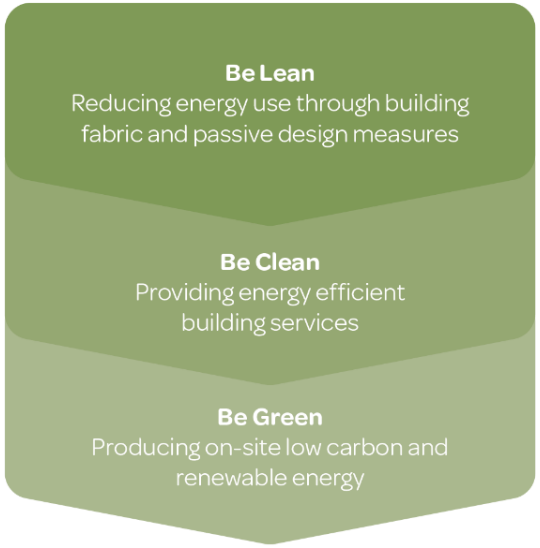
Be Clean

The next stage of the Energy Hierarchy is the efficient supply of heat and energy. This means connecting into an existing District Heating Network (referred to as "DHN" hereafter) where possible or providing an on-site communal heat network or individual systems.

District Heating Networks (DHN) comprise a centralised heat generator, typically a gas fired Combined Heat and Power (CHP) engine. CHP systems generate electricity and waste heat which can be fed into a network of insulated pipes which deliver low carbon heat to buildings to provide heating and hot water via individual heat transfer units.

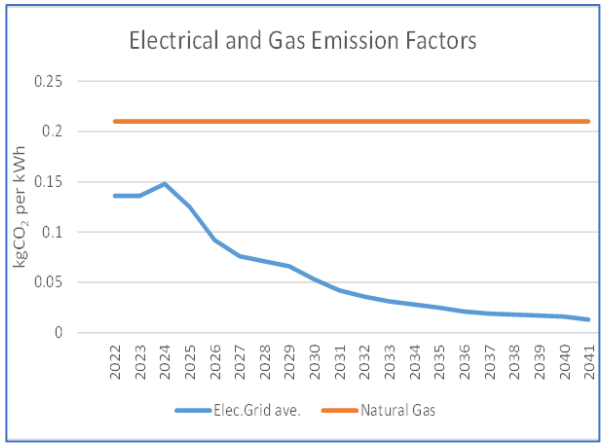
Turley Sustainability have evaluated the potential of the site to connect to a DHN. It has been concluded that there are no known heat networks in the vicinity of the proposed development, and therefore connection to one is not feasible for this site. The employment buildings will have a low demand for heating. There may be a slight increase in heating demand for any Office units in comparison to logistics and B8 units, however these will be minimal, especially as they will achieve the upcoming FBS 2025. DHN are not feasible for developments with low and intermittent heating demand.

Figure 5: The Energy Hierarchy



The UK government has committed to decarbonising the grid by 2035, 15 years earlier than the previous commitment to a fully decarbonised power system by 2050 set out in the Energy White Paper[18]. Progress has already been made, with grid emissions falling by 44% while GDP rose by 76.4% between 1990 and 2019. Decarbonisation of the electricity grid means that an all-electric development will be virtually net-zero in operational carbon emissions by 2035 (see **Figure 6** below).

Figure 6: Grid Decarbonisation graph



The continued decarbonisation of the national electricity network and changes to the Building Regulations mean that the carbon emission benefits of traditional CHP systems will diminish during their life cycle.

CHP and DHN are not proposed, as carbon emissions associated with electricity are expected to continue to reduce as the grid decarbonises, leading to greater savings in carbon emissions over the lifetime of the development.

[18] Energy White Paper

Be Green

The final stage of the energy hierarchy is the generation of on-site low or zero carbon energy. Turley Sustainability have completed a low and zero carbon (LZC) viability assessment to review the most appropriate renewable systems for the proposed development. The results are summarised within this section of the report.

Solar PV – Solar photovoltaic (PV) systems generate zero carbon electricity from sunlight and are well-suited to buildings with unobstructed south-east to south-west facing roof space. Excess power is exported to the grid or can be harnessed using battery storage. Maintenance requirements are typically minimal.

For the reasons set out above, the implementation of PV panels is considered feasible for the employment units. Further applicability of Solar PV across the site will be reviewed as the design develops based on roof space, orientation and required demand.

As set out in **Section 2.2.4,** the FBS 2025 is currently under consultation. As part of the Consultation 2 Options were presented for non-domestic buildings for Solar PV as set out below;

- **Option 1:** (Preferred) PV array of 75% foundation area
- **Option 2:** PV array of 40% foundation area.

It is currently assumed that the Governments preferred 'Option 1' will be incorporated into the updated standard, however this is subject to the outcome of the consultation.

Air Source Heat Pumps (ASHP) – ASHPs extract low grade heat from the air and raise the heat to a higher temperature for non- domestic heating and hot water loads. They require less space than Ground source heat pumps and less maintenance than combustion-based heating systems. They also have a longer life than combustion boilers.

ASHP's are planned technology to provide heating for the employment units. In the case of the B8 warehouse units only the offices are likely to be heated. As Gas Boilers are in the process of being phased out, the use of ASHPs is required for compliance with the FHS 2025.

Energy Strategy Summary

Based on the energy strategy set out above, a combination of an all-electric scheme with Air Source Heat Pumps, Solar PV, high-performance fabric U-values and highly efficient ventilation with heat recovery, the proposed development has been designed to achieve the FBS 2025. The units will seek to achieve a circa 100% reduction in carbon dioxide emissions compared to the Part L 2013 baseline.

Figure 7 on page 22 shows the potential strategy to achieve the FBS 2025 at this stage. The diagram indicates likely requirements required to achieve the FBS, as set out in the current Consultation Document19, The Governments preferred Option for the new standard is Option 1. These include;

- All Electric with no gas and zero air pollution, powered by renewables.
- Solar PV covering a minimum of 75% of the total foundation area.
- Improved airtightness and improved efficiency of fans, lights and pumps.

Initial carbon calculations (set out in **Figure 8** on page 23) suggest that through achieving the FBS 2025, under the Governments preferred 'Option 1' the employment units can achieve 'regulated Net Zero' where their energy demand is matched by renewable energy generation. These

[19] Future Homes and Buildings Standard Consultation UK Gov 2023

calculations are indicative at this time and are subject to more detailed modelling in the case this application is approved. These calculations are based on a B8/B2 building without mezzanines. It is assumed at this stage that the majority of the employment space will be B2/B8 and therefore offices have not been modelled at this stage. It is expected that any office space is likely to also achieve Net Zero Regulated energy, however this is subject to further energy modelling.

Table 2 provides a breakdown of the likely carbon emissions for the B2/B8 units. Achievement of the FBS 2025 (Option 1) is likely to result in a 100 **%** reduction in the total estimated carbon dioxide emissions compared to the baseline Part L 2013 building regulations.

Table 2: Carbon reduction against Part L building regulations – B2/B8 Only*

Building regulations	Baseline Carbon Emissions (tCO2e/yr)	% Reduction
Part L 2013	204.3	**-**
Part L 2021	149.2	**27%**
FHS 2025	0	**100%**

*Calculations are indicative at this time and detailed energy modelling will be completed in the case the application is approved.

The commitment to achievement of the FBS 2025 is will result in a significant reduction in operational carbon, further cementing the Applicant's ambition to create low carbon, future proof employment space.

Figure 7: Employment Unit built under FBS 2025

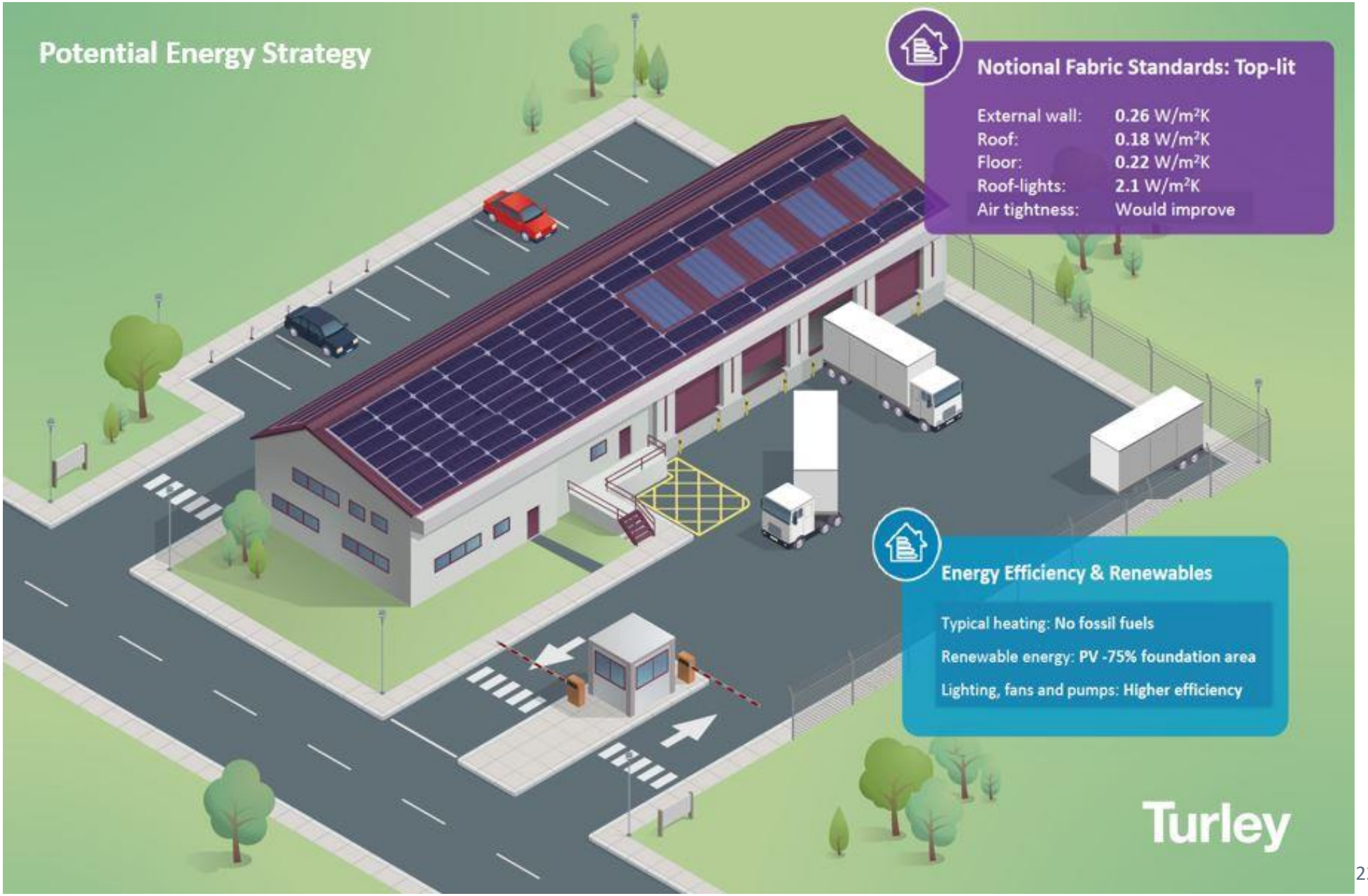
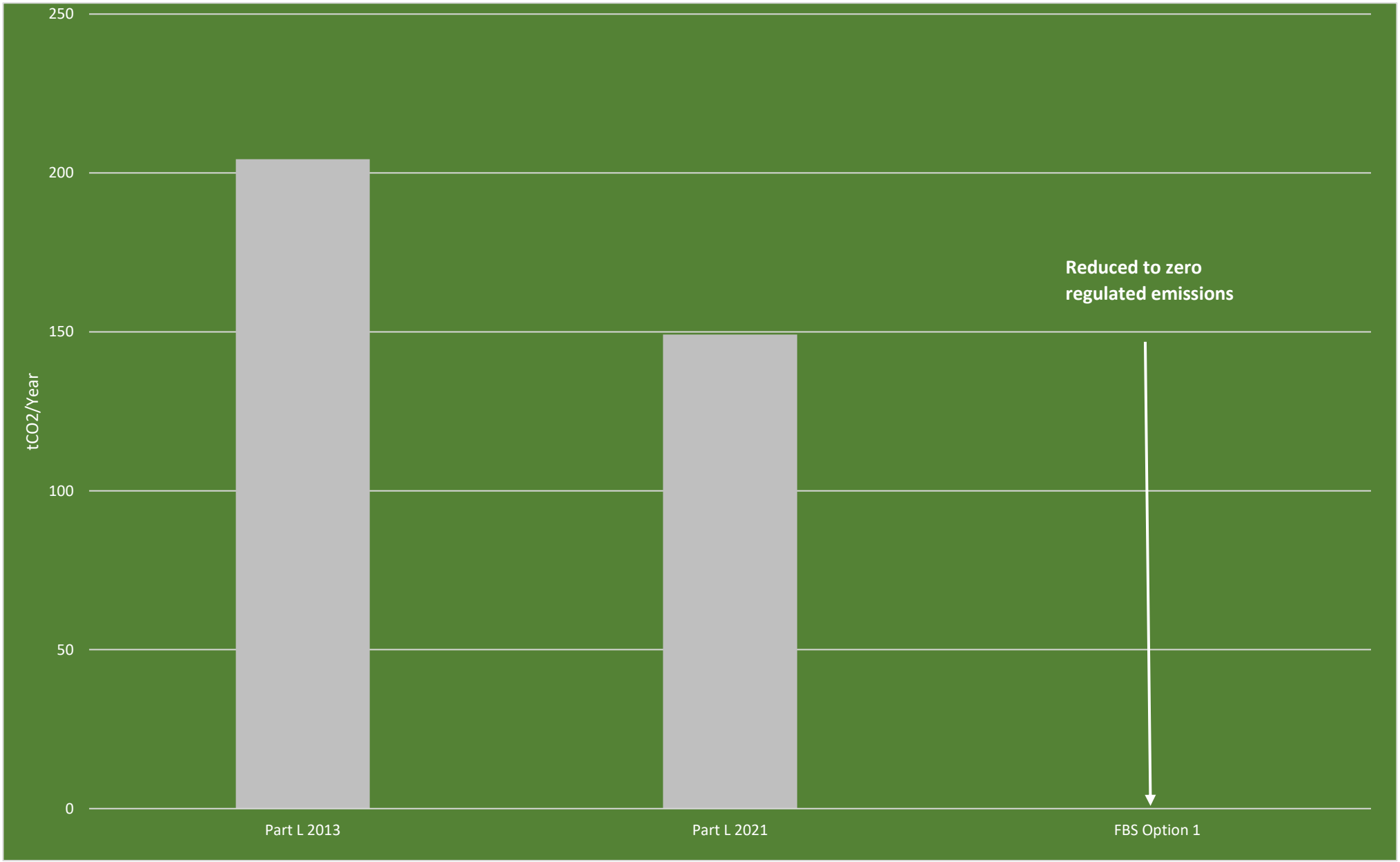


Figure 8: Expected Carbon performance (tCO2/yr) of employment units (B8/B2) built under FBS 2025 Option 1 ***Calculations are indicative at this stage***



3.4 Materials

A key benefit of using sustainable and natural materials, and incorporating material efficiency into new development, is reducing carbon emissions. Increasingly stringent energy efficiency and operational carbon regulations means that embodied carbon is proportionately an increased contribution to climate change. Finding ways to reduce embodied carbon associated with new development is therefore becoming increasingly important.

In the case that the target of achieving UKNZBS for the employment unit is progressed, this will require substantial assessment of the embodied carbon impacts of the buildings and the minimisation of these impacts. As set out in **Section 3.3.1** the UKNZBS has not yet been released and therefore feasibility work is required for the Applicant to confirm whether standard is achievable.

As set out in **Section 3.3.4** in the case that the employment uses are of a substantial floor area (circa 1,000 sqm) a Whole Life Carbon Assessment (WLCA) may be completed in line with BREEAM requirement Mat01. This will ensure the buildings have looked at lower embodied carbon options for a range of key building materials at an early stage of the design and incorporated these where feasible.

For those buildings that are perhaps too small to be assessed through BREEAM, lower embodied carbon materials will be reviewed for inclusion into the design. This could include increased use of timber as opposed to steel, recycled steel and lower carbon concrete. The Applicant will aspire to incorporate the following measures into the design and procurement of the units;

- Where possible, materials will be procured locally, to reduce carbon emissions associated with the transport of materials.
- The development specification will prioritise responsible supply chains such as those who hold FSC and BES6001 certification.
- Insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming will not be used. Natural insulation materials such as mineral wool, rock wool or cork board will be considered as they are amongst the lowest Global Warming Potential (GWP) rating.
- The proposed development will ensure the minimisation of waste and maximisation of recycling of any waste generated during construction and operation of the new development.

In line with **emerging Policy 11 of the Hertfordshire Minerals and Waste Draft Local Plan** a circular economy statement will be provided as part of reserved matters stages to detail how waste will be reduced and managed.

3.5 Waste and Recycling

Land South of A507 Buntingford will minimise construction and operational waste based on industry best practice. The proposed approach to waste minimisation is set out in this section.

Construction Waste Management

Prior to the commencement of works on site, a Site Waste Management Strategy (SWMS) may be developed to ensure the use of measures to minimise waste during the construction phases of the development. The expected waste streams for construction are set out below;

Expected waste streams for Construction:

- Insulation materials;
- Concrete, bricks, tiles and ceramics;
- Wood, glass and plastic;
- Bituminous mixtures, coal tar and tar;
- Metallic waste (including cables and pipes);
- Soil, contaminated soil, stones and dredging spoil;
- Gypsum;
- Cement;

- Paints and varnishes; and
- Adhesives and sealants.

Within the SWMS, targets may be set for non-domestic construction waste, considering benchmarks from the British Standard and BREEAM NC 2018 manual for non-domestic waste. The BREEAM indicators aid in the calculation of non-domestic construction waste arisings, applying the entry level metric from the BREEAM New Construction 2018 manual[20] of 11.1t/100m^2 (GIA). Turley Sustainability have conducted research into waste intensity metrics and can provide a range of best-practice industry-wide metrics to estimate non-domestic construction waste.

The reduction, re-use and recycling of construction waste will be prioritised through measures such as avoidance of over-ordering, supervision of deliveries and use of secure materials storage facilities as necessary for compliance with Duty of Care requirements.

The approach will be in line with the Waste Hierarchy as per **Figure 9**;

Figure 9: The Waste Hierarchy



In addition, the development may be registered with the Considerate Constructors Scheme and achieve certification against the Code of Considerate Practice.

Operational Waste Management

The impact that a new development has on waste is mainly incurred during occupation. In accordance with the principles of the waste hierarchy, the development may be designed to reduce the quality of waste that is sent to landfill by providing building occupiers with facilities to recycle a number of materials, removing them from the waste stream.

To calculate non-domestic operational waste, Land West of Buntingford will consider using the British Standard 5906 (2005) Waste Management in Buildings Code of Practice[21].

The expected operational waste arising from new employment buildings are set out below;

Expected waste streams for Operation:

- Organic / compostable waste;
- Dry mixed recyclables;
- Paper and cardboard;
- Packaging wastes;
- Waste electrical and electronic equipment (WEEE) wastes;
- Bulky waste; and
- Residual waste.

An Operational Waste Management Plan will be considered to support building users to reduce waste and maximise recycling in use.

Waste Strategy Summary

At this stage, there is not enough detail to develop a detailed Waste Strategy, as the exact types of buildings and construction processes have not been identified. Instead a Waste Strategy/ Circular Economy Statement will be

[20] BREEAM New Construction 2018 (UK) - Wst 01 Construction waste management (bregroup.com)

[21] untitled (rbkc.gov.uk)

prepared at the Reserved Matters application stage when further detail specifying building types and sizes can be provided to enable more accurate waste estimations.

3.6 Adaptation to Future Needs

Creating a development design that is flexible and adaptable to future occupier needs requires careful consideration of how the environment and building function may alter over its lifetime.

Measures to be incorporated to facilitate future adaptation for occupants include:

- The site will incorporate SuDS in the form of attenuation tanks and swales, and surface water will be designed to cater for storm events up to 1 in 100 plus a 40% climate change allowance;
- Provision of formal and informal Public Open Space catering for a variety of experiences including recreation, play and socialisation for employees and visitors and the general public;
- The use of an all-electric building services strategy future proofs the building for further decarbonisation;
- Future-proof all-electric new employment units powered by renewable systems.

These measures aim to ensure building occupiers have access to services and facilities which enable a flexible, adaptable place of work fit for the future, in line with **Policies CC1** and **CC2** of the adopted Local Plan.

3.7 Biodiversity

A Preliminary Ecological Appraisal has been undertaken by CSA Environment which assesses the potential impact of the proposed development on site habitats and species.

The Site is dominated by arable land with hedgerows, and no nature conservation designations cover the Site or adjacent land. Small woodlands within the site provide greater interest, with Thistley Vale Brook also adjacent to the site.

The development aims to include a number of mitigation and enhancement measures to improve the biodiversity of the site, in accordance with the NPPF. These are set out below.

3.7.1 Mitigation

Following the Preliminary Ecological Appraisal additional investigation/survey work will be completed to inform suitable mitigation measures that can be adopted. These are likely to include;

- Biodiversity Net Gain (BNG) Assessment
- Bat, Dormouse and reptile Surveys
- Riparian Mammal Surveys
- Breeding and Wintering Birds Surveys

A net gain of biodiversity is predicted for the proposed development of +3.57 habitat units (+12.84%) and +1.17 hedgerow units (+20.46%). This is subject to significant on-site gains delivered within open space to include other neutral grassland, woodland and tree planting.

The Proposals will seek to apply the mitigation hierarchy of avoidance, mitigation and compensation, as set out in the NPPF.

3.7.1 Enhancement

The proposed development will seek to achieve biodiversity enhancement through the following measures;

- Incorporation of native plants and those of wildlife interest in to landscaping scheme to provide foraging opportunities for birds and bats.
- Improved connectivity of green infrastructure with new hedgerow.
- Planting and infill planting to provide foraging and dispersal opportunities for bats and dormice.
- Enhancement of woodland habitats, including a long-term management plan.
- Provision of new bat roosting and bird nesting opportunities within new buildings (numbers and specification to be determined at detailed design stage).

- Provision of hedgehog gaps (13x13cm) in all new fencing to promote habitat connectivity across and within the Site.

The ecological value of the site will be significantly enhanced post-development, aligning with **Policy NE3** Species and Habitats.

Further information relating to the existing and potential biodiversity of the site can be found in the Preliminary Ecological Appraisal and associated surveys submitted as part of the planning application.

3.8 Sustainable Transport

Transport is the largest emitting sector of local GHG emissions, producing 24% of the UK's total emissions in 2020[22] . The most effective way to tackle this would be the promotion of sustainable transport. The Applicant has designed the scheme with sustainable travel as a key requirement, ensuring high-quality active travel infrastructure is proposed that will link the proposals with Buntingford and support easy access in and around the proposed development.

The site is located west of the A10, a key connection for longer distance vehicle journeys between London and Cambridge. The proposals look to provide the infrastructure that makes sustainable modes an attractive choice for local journeys, maximising travel by sustainable modes, and so minimising the impact of vehicles on the local road network.

A Transport Assessment has been prepared by Jubb Consulting Engineers Ltd. to support the development proposals, summarising the existing conditions in the vicinity of the site, the accessibility of the site relative to local facilities and services, and outlining the plans to encourage sustainable transport use.

This section of the report provides a summary of the sustainable access and transport measures available and incorporated into the development.

Walking/Cycling Services – There is an existing 3m wide shared cycle-footway connecting Buntingford Business Park to Buntingford, with a crossing on the A10.

The surrounding local highway network comprises of residential streets with 30mph speed limits in Buntingford, and surrounding quiet country roads, and is considered safe for cycling.

The proposed development includes a number of measures to improve walking and cycling accessibility, these include:

- Design of the road network within the site with emphasis on the creation of safe routes which facilitate easy access by foot and cycle;
- Direct connection to the existing shared cycle-footway to provide continuous access for pedestrians and cyclists;
- Upgrade of the existing shared cycle-footway on the northern side of the A507 to a segregated pedestrian and cycle path;
- Upgrade of the crossing of the A10 to a Toucan crossing;
- Provision of a raised parallel pedestrian and cycle crossing across the access to the Buntingford Business Park; and
- Traffic calming features to reduce vehicle speeds limits to 30mph along the A507 in the vicinity to the site.

The proposed improvements mean that the town centre and most of the residential areas of Buntingford will be accessible via high-quality segregated footways and cycle paths. The proposed improvements will result in improvements to walking and cycling facilities for

[22] UK Government Transport and Environment Statistics 2022

local pedestrians and cyclists to the west of Buntingford.

Bus Network – The site is located in close proximity to several existing bus routes that pass through Buntingford and provide public transport connections to nearby towns in the area including Hertford, Royston and Letchworth.

The closest bus stops are located on the B1038 Baldock Road, well within walking distance from the centre of the site.

It is proposed to provide new bus stops on both sides of the A507 Baldock Road to encourage the use of bus services.

Conversations are currently underway with Arriva Group around the potential for public transport improvements.

Rail Services – There are no rail stations within walking distance of the site. Stevenage is the closest located Railway Station, located approximately 20km, South-West of the site.

Local Services and Amenities – The whole town of Buntingford lies within 2km walk of the site. Therefore, the site is located in close proximity to a selection of existing local facilities and services which can be reached within a 20 minute walk of the site. These include:

- Londis Grocery Store
- Costa Coffee
- Greggs Bakery
- A car dealership
- Petrol Station
- Several EV charging spaces
- Veterinary Surgery
- GP surgery
- Local centre with retail
- Nursery, First and Middle School
- Community Centre

Many of these destinations could be used on a day-to-day basis as part of multi-purpose trips for people commuting to the site, particularly education and retail facilities.

Proposed Sustainable Transport Measures – The development proposals include measures to enhance active travel and sustainable modes of transport. These are as follows:

- Improved cycle-footway links;
- Provision of cycle parking in line with the 'Updated Vehicle Parking Standards' SPD document from the East Hertfordshire Local Plan;
- Provision of Electric Vehicle charging points, in accordance with Building Regulations 2010 Approved Document 'Infrastructure for Charging of Electric Vehicles' (2021 edition).
- The ways in which light and medium goods vehicles linked to the employment units can utilise electric charging points will be explored further in the case that the application is approved.

A robust site overarching Travel Plan will also be introduced at the development to reduce the reliance on solo-car journeys and thus to accomplish a positive mode shift from car travel to other sustainable modes.

This Travel Plan will include measures to encourage sustainable travel behaviour from the point of occupation.

In summary – In summary, the site is in a highly accessible location with an extensive range of amenities including leisure, retail, and schools in close proximity. The site is fully integrated with existing pedestrian, cycle and public transport networks and will help to support the uptake of sustainable modes of transport in accordance with **Policy TRA1** 'Sustainable Transport'.

More detailed information on how the development will support sustainable transport is contained in the Transport Statement and Travel Plan by Jubb Consulting Engineers Ltd which accompany the planning application.

3.9 Social and Economic Benefits

The proposed development will provide a range of social and economic benefits to residents and the surrounding area, supporting the aims of the NPPF.

3.9.1 Social Benefits

Social benefits delivered by the proposed development at Land South of A507 include:

- 6.1ha of new parkland, green spaces and play areas;
- Provision of new employment opportunities creating to meet the identified needs outlined in the Employment Study conducted for the Applicant;
- Highly accessible and well-connected location which is fully integrated with existing pedestrian and cycle networks and provides access to frequent to bus and rail services.

3.9.2 Economic Benefits

The proposed development at Land South of A507 will contribute to positive economic growth for Buntingford and the wider area through construction of new employment space.

Economic growth forecasts have predicted job growth in the District to increase over the Local Plan period. The forecast, alongside the loss of the former Sainsbury's Distribution Depot, has identified a substantial deficiency in employment land provision in the town[23].

With much of Buntingford's working population commuting out of the town for employment, and the town currently constrained by a lack of employment land, there is a need for new employment opportunities. 4.71ha of new employment land, south of the Buntingford Business Park and Baldock Road (A507), will provide a range of flexible, B2, B8, E(c) and E(g), to meet the identified needs outlined in the Employment Study conducted for Hallam Land Management.

Construction - The economic benefits of construction are well known with considerable direct and indirect positive impacts resulting from new residential construction.

A study by the Confederation of British Industries (CBI) in February 2020[24] demonstrates that construction projects have a significant benefit on the local and wider economy. The report concludes that for every £1 of construction expenditure £2.92 is injected into the economy.

The construction of the proposed development will therefore provide opportunities for local employment as well as increased revenue locally for materials, services and goods.

Occupation – The provision of a mix of employment units will create local jobs for residents, in a highly accessible location along the Active Travel Corridor, reducing out-commuting and encouraging travel to work by sustainable means.

[23] East Herts District Plan 2018 (onwebcurl.com)

[24] https://www.cbi.org.uk/media/4121/fine-margins-february-2020-cbi.pdf

4. Conclusion

The proposed development has been designed to ensure the creation of high-quality new employment space, fit for the future. The development proposals respond strongly, and in many cases exceeds national and local planning policy, incorporating measures to deliver social and economic benefits, whilst also protecting and enhancing the environment where possible, and addressing climate emergency. The proposed strategy by the Applicant cements their approach to be at the forefront of delivering low carbon, future-proof development.

This Sustainability Strategy sets out a number of key sustainable design measures incorporated into the development. These are summarised in this section.

Social and Economic Benefits

The development aims to provide a range of social and economic benefits to both new and existing residents, through:

- The provision of a mix of employment units will **create local jobs for residents,** in a highly accessible location along the Active Travel Corridor, 6.1ha of new parkland, green spaces and play areas;
- Improvements to the **local walking and cycling network,** helping to promote the use of active travel for future employees and visitors and the surrounding communities.

Environmental Protection and Enhancement

Through a range of design measures the development aims to protect and enhance the local environment, including:

- Provision of **enhancement measures to provide multi-functional benefits including an increase in site biodiversity** through parkland planted with species that enhance biodiversity. A Biodiversity Net Gain of 12.84%.
- Proposed **SuDS features** in the form of an attenuation basin, with additional features such as permeable paving, and raingardens/swales to provide ecological, amenity, and water quality benefits;
- Provision of measures through construction and operation of the site to **reduce pollution, minimise waste and encourage recycling.**

Mitigating and Adapting to Climate Change

In recognition of climate emergency, the development will incorporate a range of measures to reduce carbon emissions, mitigate the effects of climate change, and to ensure the long-term resilience of the development to the effects of climate change. Measures include:

- **All Electric employment units** powered by Air Source Heat Pumps and Solar PV.
- Reduced carbon emissions through the use of energy hierarchy, using a fabric first approach to design to reduce energy demand, helping mitigate the effects of climate change by reducing carbon emissions with an aim to achieve **Net Zero Regulated energy.**
- A target of achieving 'Net Zero Ready' Buildings in line with the **upcoming UK Net Zero Carbon Buildings Standard.**
- A sustainable transport strategy which promotes the use of **active travel, public transport, and electric vehicles**, helping to reduce carbon emissions associated with petrol and diesel vehicles;
- A surface water drainage strategy designed to accommodate a 1 in 100 (1%) annual

probability event, plus a **40% allowance for climate change.**

Appendix 1 – Sustainability Combined Checklist

Climate Change Adaptation		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
CA.1	How has the site layout and buildings been designed to mitigate overheating, giving priority to measures in line with the cooling hierarchy?	The layout of the employment units will be arranged in a sustainable and efficient arrangement. The individual units have not been designed in detail but will take into account orientation and shading in line with the cooling hierarchy. The substantial green infrastructure will support cooling and shading.
CA.2	How has overheating been assessed and what measures are proposed to address it?	The buildings will be designed in accordance with Building Regulations Part O Overheating, adopted in 2022. The proposed buildings will be designed in accordance with the cooling hierarchy
CA.3	What Green Infrastructure is proposed?	Green infrastructure will weave throughout the development, with a series of green corridors, enhanced hedgerows and habitats, and a variety of spaces that offer different opportunities including sport and play. The proposals will create c.6.1ha of parkland.
CA.4	How have existing landscape features such as trees/woodlands and hedgerows been protected and incorporated within a Green Infrastructure network?	The existing green infrastructure network will be preserved, enhanced, and embedded into the proposal, supporting local wildlife.
CA.5	Where feasible and appropriate, have green roofs or walls been included? Please explain your answer.	Green roofs/walls will be reviewed at the next stage of design.

CA.6	Have measures been included to address surface water runoff?	The site will incorporate SuDS in the form of attenuation tanks and swales, and surface water will be designed to cater for storm events up to 1 in 100 plus a 40% climate change allowance.
CA.7	If the application is major development, have details of SUDS been submitted?	Jubb Consulting Engineers Ltd have prepared a Flood Risk Assessment and Drainage Strategy that accompanies the application.

Energy and Carbon Reduction		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
En.1	Does the Sustainable Construction, Energy and Water Statement detail how the proposed development's carbon emissions have been minimised and to what extent? Have full and reserved matters planning applications also included a carbon reduction template within the statement?	See Section 3.3 of this report that details the way in which the development will minimise carbon emissions through the energy hierarchy and achievement of the FBS 2025. The achievement of the 2025 Building regulations will achieve a 75% carbon reduction beyond Part L 2013. (N/A)
En.2	How have the site layout and building orientation and form been designed to minimise energy use? For example passive solar gain, natural shade, natural ventilation, thermal mass.	Due to the outline nature of the application the final site layout of the units and building orientation are not yet confirmed, however, these will be considered as part of the plot design and informed by the cooling hierarchy.

En.3	How has the energy hierarchy been applied to prioritise reducing the need for energy and implementing the 'fabric first approach'?	The energy hierarchy has been applied as set out in Section 3.3 of this report.
En.4	How will you ensure that where renewable/low carbon technologies have been included to reduce carbon, that these will be successfully integrated into the design of the development?	The use of Air Source Heat Pumps proposed for heating will be integrated into the development to ensure no visual or acoustic impacts. Where Solar PV is applied these will take into account visual impacts.
En.5	How has the energy embodied in construction materials been reduced? (E.g. reuse and recycling/sustainable materials/locally sourced)	In the case that the outline application is approved, a circular economy statement will be completed providing further detail on embodied carbon of materials.

Water Efficiency		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
Wa.1	For new residential proposals, have you demonstrated compliance with the target for mains water consumption to be 110 litres or less per head per day in the Sustainable construction, Energy and Water Statement?	N/A
Wa.2	For non-residential development, have measures been taken to reduce water consumption in the proposed development?	The measures set out in Section 3.2.2 will be applied to non-residential development taking into account BREEAM Wat01 guidelines.
Wa.3	Have water recycling systems been considered and incorporated? Please explain your approach.	The use of rainwater harvesting systems on employment units will be reviewed as part of further design development.

Air Quality		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
AQ.1	How has the proposal addressed the recommended minimum air quality standards?	The development has been designed to be all electric and support and encourage the use of low carbon transport. The internal environment will be designed to reduce VOCs and promote ventilation.
AQ.2	How does the proposal show consideration of air quality in the design of new development? Design should address the following principles: • Building and development layout and design • Emissions from transport • Sustainable energy	The buildings layout and design are at an early stage of development but will reduce VOCs and promote ventilation. The enhancement of the cycle and pedestrian network support active travel. Active Electric vehicle charging points will be provided for 1 in 10 car parking spaces and 20% will have passive provision, supporting the transition to electrified transport and improving air quality. The development will be all-electric.
AQ.3	How has emissions mitigation been incorporated into the proposal?	
AQ.4	How will emissions be minimised through the construction and demolition phase of the development?	Emissions reduction measures will be detailed in any future reserved matters applications, however potential measures could be employed as below; • Use electricity rather than diesel to power site energy consumption; • Use of machinery and vehicles on site which run on fossil fuel alternatives e.g. green diesel / hydrotreated vegetable oil (HVO), electricity or hydrogen; • Incorporate renewable energy during site operation, including solar PV/solar pod, hydrogen fuel cells to serve site cabins and associated infrastructure.

AQ.5	Has an Emissions Assessment been carried out as part of the Air Quality Neutral Requirement?	Please see submitted Air Quality Assessment.
AQ.6	Has an Air Quality Impact Assessment been submitted?	Yes, an Air Quality Assessment has been submitted.
AQ.7	Has an Air Quality Neutral Assessment been submitted?	Yes, an Air Quality Neutral Assessment forms part of the Air Quality Assessment which has been submitted.

Light Pollution		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
LP.1	Does the proposal materially alter light levels outside the development and/or have the potential to adversely affect the neighbouring uses or amenity of residents and road users or impact on local ecology?	The submitted Lighting Impact Assessment considers light pollution and its impacts on the surrounding environment and concludes that, subject to appropriate mitigation, there will be a neutral effect on residents, ecology and highway users in the area.
LP.2	Is the proposed light design the minimum required for security and operational purposes?	The lighting design will be completed as part of any reserved matter applications, however it will be designed to ensure the lighting scheme is in accordance with requirements for security and operational purposes.

LP.3	Does the proposal minimise potential glare and spillage?	As above, the lighting design will minimise potential glare and spillage.

Biodiversity		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
Bio.1	Have you submitted the East Herts biodiversity checklist?	Completed by CSA Ecology
Bio.2	In accordance with the biodiversity checklist, does the proposal affect a protected species or habitat?	Yes – as per checklist
Bio.3	If a protected species or habitat has been identified, has an ecological survey, with sufficient information been undertaken?	Yes – Ecological Survey undertaken by CSA Ecology
Bio.4	If relevant, has an ecological survey, with sufficient information been undertaken to assess the likely ecological impact of the development?	A Preliminary Ecological Appraisal has been undertaken by CSA Environment which assesses the potential impact of the proposed development on site habitats and species.
Bio.5	Has the mitigation hierarchy been undertaken, to demonstrate an adverse impact on biodiversity has been avoided? If this is not possible, has the impact been mitigated and then subsequently compensated?	The Proposals will be seek to apply the mitigation hierarchy of avoidance, mitigation and compensation, as set out in the NPPF.
Bio.6	Has a biodiversity net gain been achieved? Please explain	A net gain of biodiversity is predicted for the proposed development of +3.57 habitat units (+12.84%) and +1.17 hedgerow units (+20.46%). This is subject to significant on-

		site gains delivered within open space to include other neutral grassland, woodland and tree planting.
Bio.7	Has a suitable biodiversity management and monitoring strategy for the site been proposed?	A biodiversity management and monitoring strategy will be completed as part of the Landscape and Ecology Management Plan that will be completed as a part of any Reserved Matters applications.

Sustainable Transport		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
T.1	Have you demonstrated that the development includes measures that reduce the overall need to travel, and particularly by private car?	Section 3.8 details the measures that reduce the overall need to travel, these include local services, walking and cycling links. A Travel Plan will be completed that includes measures to encourage sustainable travel behaviour from the point of occupation.
T.2	Have you demonstrated how, as first principles of design, the scheme's proposals prioritise walking and cycling within the development and link with existing networks beyond the development to deliver healthy and walkable neighbourhoods?	As set out in Section 3.8
T.3	Where cycling facilities and any bus stops and/or transport hubs are to be provided, have you demonstrated that they are accessible and attractive for all users and offer appropriate shelter?	The detailed design of the cycling facilities, and bus stops have not been completed at this stage, however the project team will ensure they are accessible and attractive.
T.4	Have you included measures (traditional and/or innovative) to encourage uptake of more sustainable modes of transport and engender modal shift from the outset of development?	The Travel Plan completed by Jubb Consulting Engineers will detail the ways in which the modal shift to sustainable transport will be supported.
T.5	Have you developed and submitted to HCC an appropriate Travel Plan, Transport Assessment and/or Statement (as appropriate)?	Yes, completed by Jubb Consulting Engineers and accompanies the application.

T.6	Where car parking is to be provided, have you provided justification for the number of spaces proposed and made provision for electric vehicle charging provision in accordance with the Vehicle Parking Provision at New Developments SPD?	A range of car parking solutions will be adopted to meet the parking standards set by the Local Planning Authority. The employment units will be provided with an active electric vehicle charge point for 1 in 10 car parking spaces and 20% passive provision in line with Part S of the Building Regulations. Detailed design of vehicle parking will be undertaken at the later planning stages.

Waste Management		
Ref	**Checklist criteria**	**Summary of approach to address the criteria**
W.1	Have measures been proposed to reduce, re-use and recycle construction and demolition waste?	Details are set out at Section 3.5 of this report. Full details of the waste reduction targets and measures to achieve them will form part of the Circular Economy Statement at reserved matters stage.
W.2	As relevant, how has the internal and external design of the development factored in effective sustainable waste management measures? Has sufficient detail been submitted with the application?	N/A at Outline Stage
W.3	Have all the relevant criteria identified in SPD Table 13 been addressed?	N/A at Outline Stage

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