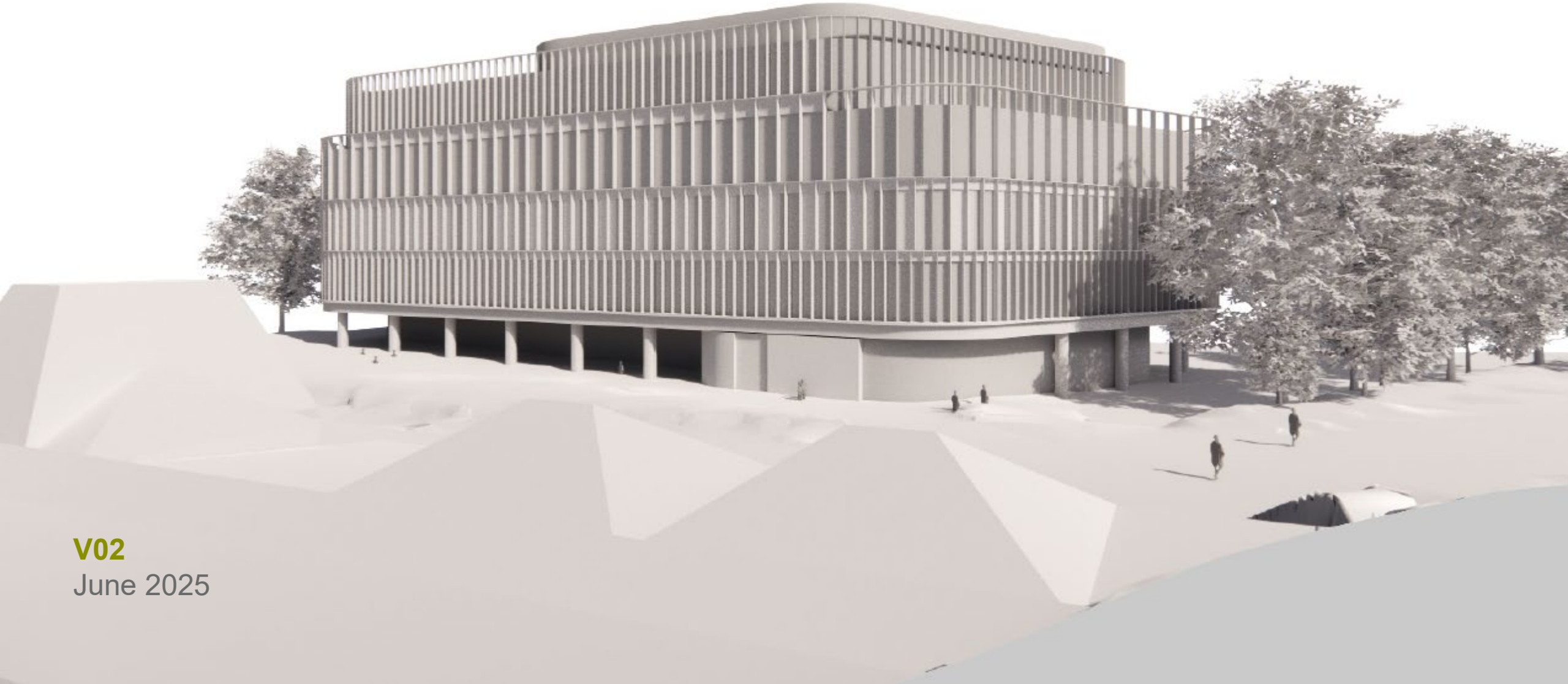
WREXHAM GATEWAY, EASTERN ZONE

Sustainability Statement



V02

June 2025

WREXHAM GATEWAY, EASTERN ZONE

Sustainability Statement

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Report Issue:	V02
Date:	30/06/2025

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Executive Summary

EXECUTIVE SUMMARY

A Sustainability Statement has been produced for the proposed development of the Wrexham Gateway, Eastern Zone; a mixed-use development, near to Wrexham Station and which sits within the wider Wrexham Town Centre Masterplan Area. This report forms part of the 'Outline Planning' submission to the Wrexham County Borough Council and supports the outline planning application for the proposed development. In this report, Cushman & Wakefield (C&W) outlines how the development complies with sustainability related planning policy at the national and local levels:

Development Description

Outline planning application for new commercial office building, creation of public realm and landscaping, conversion of existing buildings to brewery, with associated museum and taproom/restaurant, accessibility improvements including new highway infrastructure and pedestrian footbridge, including parking facilities and coach/taxi drop off, with all matters reserved except for access

The proposed development aims to create high-quality office space and ground-floor retail space with the premier sustainability credentials and a low carbon footprint. The new construction works will look to achieve BREEAM Excellent, support the transition to sustainable sources of energy, minimise car parking, increase cyclist facilities, introduce EV charging points and support local biodiversity as part of the wider Wrexham Gateway, Eastern Zone development.

Policy and Drivers

As a summary, planning policy and guidance applicable to the proposed development from a sustainability perspective includes:

- Planning Policy Wales (February 2024)
- Future Wales: The National Plan 2040 (September 2021)
- Wrexham Local Development Plan 2 (LDP2) 2013 to 2028 (2023)

Approach to Sustainability

The sustainability strategy for Wrexham Gateway, Eastern Zone has been established in the context of current global challenges, and informed by both national and local policy requirements, relevant sustainable design and development guidance and frameworks.

The project vision centres around the creation of a net-zero workplace, with the users' health and wellbeing needs and expectations at the heart of design. It will be delivered through embedding of the principles of sustainable development at all stages and ensures compliance with our statutory requirements.

The four key sustainability outcomes of the project are as follows:

1. A sustainable building delivered at a low embodied carbon cost through the utilisation of circular economy principles.
2. A positive and healthy place which enhances wellbeing and productivity.
3. Minimising the impact of climate change.
4. Targeting the highest sustainability credentials where possible.

Working with the project team, we have actively engaged with the planning authority, local community groups and the public throughout the planning process. Robust collaboration with the client, project team and other key stakeholders has helped to inform the innovative sustainability strategies for the proposed development.

EXECUTIVE SUMMARY

Key Sustainable Features

The focus of this report is to demonstrate best practice of the proposed development across key sustainability areas:

- Utilising the existing frame and re-using existing materials where appropriate to reduce the **embodied carbon.**
- Reducing operational energy and carbon in line with the **energy hierarchy**, adapting a fabric first strategy.
- Building an **all electric** building in recognition of the net zero carbon aspiration of the project.
- Promoting **sustainable transportation** by reducing car parking, increasing cyclist facilities, introducing EV charging points (to existing parking spaces).
- Utilising a roof terrace to promote **health and wellbeing, and biodiversity.**
- **Limiting the risks associated with climate change,** such as flooding risk through appropriate risk assessment and mitigation.
- **Reducing waste** generated from the construction works and subsequent operation of the project.
- **Deploying responsible sourcing principles** throughout the project, including the use of timber and timber-based products that are legally harvested and traded, and have FSC or PEFC certified timber, utilisation of a sustainable procurement plan and leveraging local suppliers where possible.

Targeted Sustainability Credentials

The proposed development targets the following sustainability related certifications and performance benchmarks. The results will be subject to the feasibility of the design, which may vary in the later design and construction stages.

- EPC Rating **A**
- BREEAM NC: **Excellent**

Figure 1: Sustainability Considerations for Wrexham Gateway, Eastern Zone

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Introduction

INTRODUCTION

Wrexham Gateway, Wrexham

Description of Development

The Wrexham Gateway wider development represents a major redevelopment in Wrexham, focusing on revitalising the area around the city centre and key transport hubs, the project intends to enhance infrastructure, boost the local economy, and create a vibrant welcoming environment.

Wrexham Gateway, Eastern Zone office development is designed by Stephenson Hamilton Risley Studio and extends to 8,043.2 m^2 (GIA) and is located on a former timber yard and unused warehouse development. The site is currently clear.

The Wrexham Gateway site is a strategic regeneration site that incorporates Wrexham General Station and surrounding areas. The site extends from the Post Office in the south-eastern corner through to the Wrexham University car park in the north, incorporating Wrexham General Station, and the consented Racecourse Ground Kop.

Outline planning application is for new commercial office building, creation of public realm and landscaping, conversion of existing buildings to brewery, with associated museum and taproom/restaurant, accessibility improvements including new highway infrastructure and pedestrian footbridge, including parking facilities and coach/taxi drop off, with all matters reserved except for access.

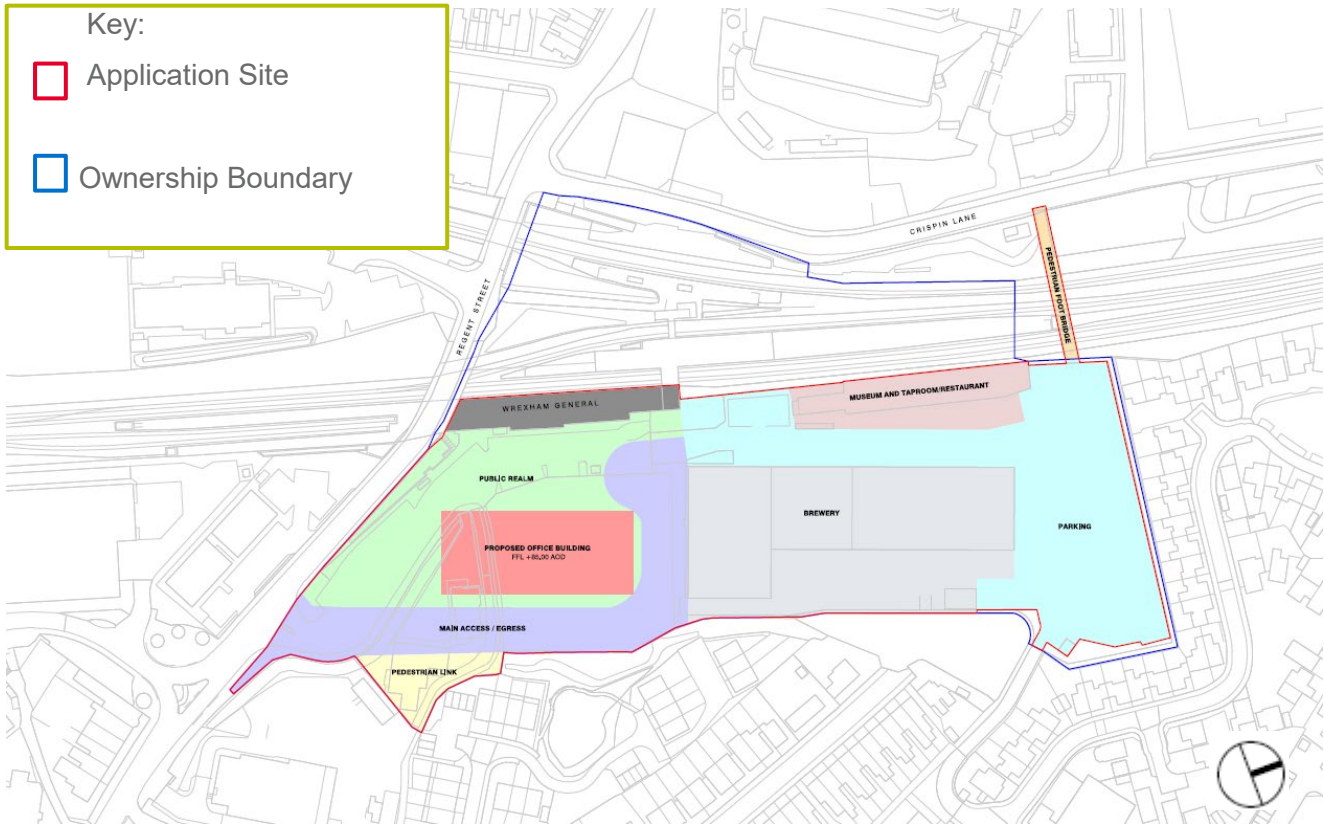

Figure 2: Proposed Development Site Location (Stephenson Hamilton Risley Studio)

INTRODUCTION

Purpose of the report

This document has been prepared on behalf of Wrexham County Borough Council, in support of the outline planning application for Wrexham Gateway, and refers to the proposal for a new-build office building in the heart of Wrexham, Wales, hereafter referred to as the “proposed development”.

The Sustainability Statement summarises the pertinent regulatory and planning policies applicable to the proposed development and sets out how the proposed development addresses the relevant policy requirements. This report outlines the proposed approach to sustainability.

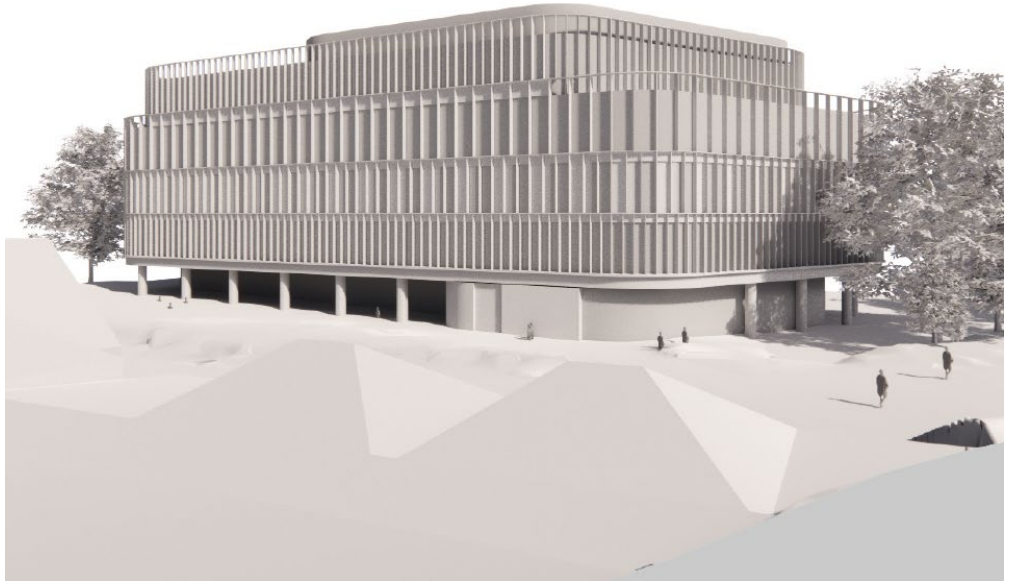

Figure 3: Rendered Image of Wrexham Gateway, Eastern Zone, Station Approach, Wrexham (Stephenson Hamilton Risley Studio)

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Policy Review

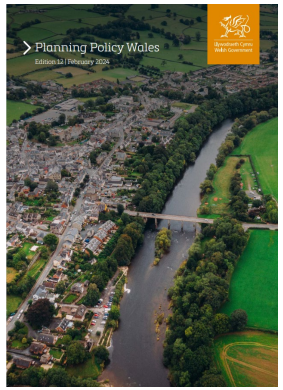
POLICY REVIEW

The key policy framework on a national and local level, as applicable to the sustainability strategy of the project, are outlined under this section. The sustainability strategy developed for this project and presented in this report has been developed in response to the following regulatory framework.

National-Level Policies

Planning Policy Wales, 2024

The planning system manages the development and use of land in the public interest, prioritising long term collective benefit, contributing to improving the economic, social, environmental and cultural well-being of Wales.



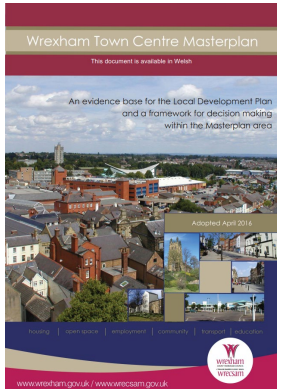
Future Wales: The National Plan 2040, 2021

A national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities

Local-Level Policies

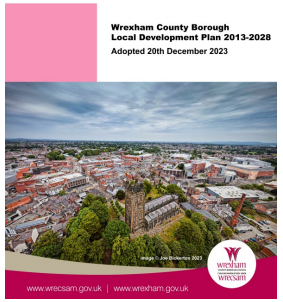
Wrexham Town Centre Masterplan, 2016

The Masterplan sets out the future development and management framework for Wrexham town centre. Its purpose is to ensure that Wrexham builds on its many strengths, so that alongside recent investment there is a catalyst for future growth that ensures the town centre is a vibrant and viable place.



The Wrexham Local Development, 2023

This plan identifies where and how much new development will take place in the County Borough, as well as which areas need to be protected for their environmental qualities, ensuring that social, economic, environmental and cultural factors are all suitably balanced.

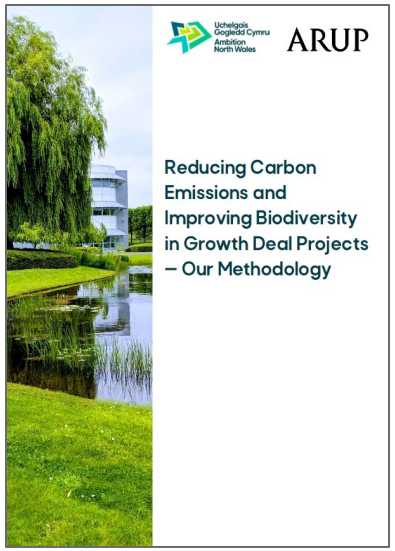


POLICY REVIEW

Methodology and Growth Deal Targets

Ambition North Wales: Reducing Carbon Emissions and Improving Biodiversity in Growth Deal Projects, 2022

Ambition North Wales is a partnership of the six local authorities in North Wales with its ambition to deliver clean economic growth and job creation across the region in a scalable, inclusive, and sustainable way, in line with the Well-being of Future Generations (Wales) Act 2015.



POLICY REVIEW

National Level Policy Summary

The key national policy frameworks applicable to the sustainability aspects of the development are outlined below.

Policy Plan Name	Policy Requirements	Addressing this Policy Requirement
Planning Policy Wales (PPW12)	**Policy 4.1.8 "Sustainable Transport":** Development proposals must seek to maximise accessibility by walking, cycling and public transport, by prioritising the provision of appropriate on-site infrastructure and, where necessary, mitigating transport impacts through the provision of off-site measures, such as the development of active travel routes, bus priority infrastructure and financial support for public transport services. Importantly, sustainable transport infrastructure and services should be prioritised and put in place from the outset, before people have moved in and travel patterns have been established. It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of private motor vehicles.	Section 3: Sustainability Strategy
	Policy 4.1.42 "Ultra-Low Emission Vehicles": The provision of electric vehicle charging points should be planned as part of the overall design of a development and should maximise their social, economic and environmental benefits. Charging points must not cause an obstruction to walking or cycling, should be resistant to vandalism, and located where there is good lighting and natural surveillance. Charging infrastructure must, where possible, ensure that it makes full use of renewable energy generation. Regional energy plans (see section 5.9) will assist local authority-led charging infrastructure.	Section 3: Sustainability Strategy
	Policy 5.7.13 "Energy Hierarchy for Planning": The Welsh Government expects all new development to mitigate the causes of climate change in accordance with the energy hierarchy for planning.	Section 4: Energy Strategy
	Policy 5.8.3. "Sustainable Buildings": Sustainable building design principles should be integral to the design of new development. Development proposals should: • mitigate the causes of climate change, by minimising carbon and other greenhouse gas emissions associated with the development's location, design, construction, use and eventual demolition; and • include features that provide effective adaptation to, and resilience against, the current and predicted future effects of climate change.	Section 3: Sustainability Strategy Section :4 Energy Strategy
	Policy 5.9.11 "Local Energy Generation": The Welsh Government encourages the use of local renewable and low carbon energy as part of the imperative to reduce carbon emissions. Renewable and low carbon energy developments offer significant potential for communities and small businesses to develop their own projects for local benefit.	Section 4: Energy Strategy

POLICY REVIEW

National Level Policy Summary (cont.)

Policy Plan Name	Policy Requirements	Addressing this Policy Requirement
Planning Policy Wales (PPW12)	**Policy 5.11.7 "Making Best Use of Material Resources and Promoting Circular Economy":** Understanding and identifying the specific characteristics of a circular economy as far as this relates to planning will include early consideration in the preparation of development plans and when designing development proposals of the following: • promoting the use of existing buildings wherever possible; • designing out waste by using materials which are or can be remanufactured, refurbished, disassembled and recycled or can be deconstructed and reused; • designing out waste through appropriate site selection and treatment; • encouraging a more adaptable and durable approach to building design using design choices which mean buildings are adaptable during their lifetime (as well as at the end of their use); • designing in reused materials and elements, such as recycled and secondary materials; and • recognising synergies and the multiple economic, environmental, social and cultural benefits which can be gained through appropriate materials choices.	Section 3: Sustainability Strategy
	Policy 5.13 "Sustainable Waste Management Facilities": The planning system has an important role to play in facilitating sustainable waste management by providing a framework for decision making which recognises the social, economic and environmental benefits that can be realised from the management of waste as a resource to meet the needs of society and businesses, whilst at the same time: • minimising adverse environmental impacts and avoiding risks to human health; • protecting areas of designated landscape and nature conservation from inappropriate development; and • protecting the amenity of residents, of other land uses and users affected by existing or proposed waste management facilities.	Section 3: Sustainability Strategy
	Policy 6.2.11 "Integrating Green Infrastructure and Development" The quality of the built environment should be enhanced by integrating green infrastructure into development through appropriate site selection and use of creative design. With careful planning and design, informed by an appropriate level of assessment, green infrastructure can embed the benefits of biodiversity and ecosystem services into new development and places, help to overcome the potential for conflicting objectives, and contribute to health and well-being outcomes. A green infrastructure statement should be submitted with all planning applications.	Section 3: Sustainability Strategy

POLICY REVIEW

National Level Policy Summary (cont.)

Policy Plan Name	Policy Requirements	Addressing this Policy Requirement
Planning Policy Wales (PPW12)	**Policy 6.4 "Biodiversity and Ecological Networks"** Development plan strategies, policies and development proposals must consider the need to: • support the maintenance and enhancement of biodiversity and the resilience of ecosystems; • ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework; • ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded; • safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat; and • secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity..	Section 3: Sustainability Strategy
	Policy 6.6.17 "Sustainable drainage Systems (SuDS)": New developments of more than one dwelling or where the area covered by construction work equals or exceeds 100 square metres also require approval from the SuDS Approval Body (SAB) before construction can commence. The provision of SuDS must be considered as an integral part of the design of new development and considered at the earliest possible stage when formulating proposals for new development.	Section 3: Sustainability Strategy
	Policy 6.6.22 "Development and Flood Risk": Development should reduce, and must not increase, flood risk arising from river and/or coastal flooding on and off the development site itself. The priority should be to protect the undeveloped or unobstructed floodplain from development and to prevent the cumulative effects of incremental development.	Section 3: Sustainability Strategy
	Policy 6.6.22 "Framework for Addressing Air quality and Soundscape": In proposing new development, planning authorities and developers must, therefore: • address any implication arising as a result of its association with, or location within, air quality management areas, noise action planning priority areas or areas where there are sensitive receptors; • not create areas of poor air quality or inappropriate soundscape; and • seek to incorporate measures which reduce overall exposure to air and noise pollution and create appropriate soundscapes.	Section 3: Sustainability Strategy

POLICY REVIEW

National Level Policy Summary (cont.)

Policy Plan Name	Policy Requirements	Addressing this Policy Requirement
Planning Policy Wales (PPW12)	**Policy 6.7.14 "Understanding and Identifying the Sources of Airborne (Air and Noise) Pollution"** Proposed development should be designed wherever possible to prevent adverse effects to amenity, health and the environment but as a minimum to limit or constrain any effects that do occur. In circumstances where impacts are unacceptable, for example where adequate mitigation is unlikely to be sufficient to safeguard local amenity in terms of air quality and the acoustic environment it will be appropriate to refuse permission	Section 3: Sustainability Strategy

Policy Plan Name	Policy Requirements	Addressing this Policy Requirement
Future Wales: The National Plan 2040	**Policy 8 "Flooding":** Flood risk management that enables and supports sustainable strategic growth and regeneration in National and Regional Growth Areas will be supported. The Welsh Government will work with Flood Risk Management Authorities and developers to plan and invest in new and improved infrastructure, promoting nature-based solutions as a priority. Opportunities for multiple social, economic and environmental benefits must be maximised when investing in flood risk management infrastructure. It must be ensured that projects do not have adverse impacts on international and national statutory designated sites for nature conservation and the features for which they have been designated.	Section 3: Sustainability Strategy
	Policy 9 "Resilient Ecological Networks and Green Infrastructure": To ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure, the Welsh Government will work with key partners to: • identify areas which should be safeguarded and created as ecological networks for their importance for adaptation to climate change, for habitat protection, restoration or creation, to protect species, or which provide key ecosystems services, to ensure they are not unduly compromised by future development; and • identify opportunities where existing and potential green infrastructure could be maximised as part of placemaking, requiring the use of nature-based solutions as a key mechanism for securing sustainable growth, ecological connectivity, social equality and well-being.	Section 3: Sustainability Strategy
	Policy 16 "Heat Networks": Within Priority Areas for District Heat Networks planning authorities should identify opportunities for District Heat Networks and plan positively for their implementation. Large scale mixed-use development should, where feasible, have a heat network with a renewable / low carbon or waste heat energy source. Planning applications for such development should prepare an Energy Masterplan to establish whether a heat network is the most effective energy supply option and, for feasible projects, a plan for its implementation.	Section 4: Energy Strategy

POLICY REVIEW

Wrexham Local Level Policy Summary

The key local policy frameworks applicable to the sustainability aspects of the development are outlined below.

Policy Name	Policy Requirements	Addressing this Policy Requirement
Wrexham Local Development Plan 2 (LDP2) 2013 to 2028, (2023)	**Policy SP13: Health and Wellbeing** All development should seek to reduce health inequalities and provide opportunities for healthy lifestyles and improving health and well-being, including mental health, by addressing the physical, economic and social determinants of health.	Section 3: Sustainability Strategy
	Policy SP14: Natural Environment Development will only be permitted where it seeks to protect, conserve and enhance the natural environment including: i. Special Areas of Conservation, Special Protection Areas, and Ramsar Sites; ii. Sites of Special Scientific Interest and National Nature Reserves; iii. Protected Species and their habitat; iv. The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty v. Local Wildlife Sites; vi. Local Nature Reserves; vii. Special Landscape Areas; viii. Natural landscape features and Green Infrastructure such as trees, hedges and woodland which contribute to the quality and diversity of the natural environment and play an important role in mitigating the impact of climate change; ix. The quality of natural services including water, soundscape, air and soils; and x. Habitats and species of principal importance to Wales.	Section 3: Sustainability Strategy

POLICY REVIEW

Wrexham Local Level Policy Summary (cont.)

Policy Name	Policy Requirements	Addressing this Policy Requirement
Wrexham Local Development Plan 2 (LDP2) 2013 to 2028, (2023)	**Policy SP18: Climate Change** To mitigate against the effects of climate change and adapt to its impacts, development proposals will need to demonstrate that they have taken into account the following: i. Reducing carbon emissions; ii. Protecting and increasing carbon sinks; iii. Adapting to the implications of climate change at both a strategic and detailed design level; iv. Promoting energy efficiency and increasing the supply of renewable energy; and v. Maintaining ecological resilience; vi. Avoiding areas susceptible to flood risk in the first instance in accordance with the sequential approach set out in national guidance. Highly vulnerable development, as defined in TAN15: Development and Flood Risk, should not be located within zone C2; vii. Preventing development that increases flood risk; and viii. Assesses the potential effects of climate change when preparing a Flood Consequence Assessment for the site.	i. -> Section 4: Energy Strategy ii. – viii. -> Section 3: Sustainability Strategy
	Policy SP19: Green Infrastructure Wrexham's distinctive natural heritage provides a network of green and blue infrastructure. Protection, conservation and enhancement of natural heritage networks needs to be reconciled with the benefits of development. Development will be required to maintain the extent, quality and connectivity of multi-functional green infrastructure on or near a site, and, where appropriate to enhance it by: i. Creating new interconnected areas of green infrastructure between the proposed site and the existing network; ii. Filling gaps in the existing network to improve connectivity; iii. Protecting the features most valuable for both nature and people; and iv. In instances where loss of green infrastructure is unavoidable, provide mitigation and compensation for the lost assets on a site-specific basis.	Section 3: Sustainability Strategy
	Policy MW5: Sustainable Waste Management Proposals for new development should demonstrate how the production of waste will be minimised during all stages of the development and how wastes which do arise would be managed in a sustainable way, in accordance with the waste hierarchy. Proposals for new development should demonstrate, where relevant, that adequate facilities and space for collection, composting and recycling of waste materials has been made.	Section 3: Sustainability Strategy

POLICY REVIEW

Wrexham Local Level Policy Summary (cont.)

Policy Name	Policy Requirements	Addressing this Policy Requirement
Wrexham Local Development Plan 2 (LDP2) 2013 to 2028, (2023)	**Policy RE1: Development and Renewable Energy/Low Carbon Technology** The Council require developers of the Key Strategic Sites and major sites (100 dwellings or more or development exceeding 1000m2) to incorporate schemes which generate energy from renewable and low carbon technologies unless it is demonstrated that it would not be financially or technically viable to do so. This includes opportunities to minimise carbon emissions associated with the heating, cooling and power systems for new development. An independent energy assessment investigating the financial viability and technical feasibility of incorporating such schemes will be required to support applications.	Section 4: Energy Strategy
	Policy T1: Managing Transport Impacts Proposals for new development will be supported where they: i. Facilitate increased journeys by more sustainable modes of travel first by walking and cycling, then by public transport and finally by private motor vehicle; ii. Mitigate any significant adverse effects upon the transport network that arise from the proposed development including improvements to transport infrastructure where required; iii. Do not compromise the safe, effective and efficient use of the highway network and do not have an adverse impact on highway safety or create unacceptable levels of traffic generation; iv. Provide appropriate levels of parking and ensure access arrangements for the site to allow for safe manoeuvring; v. Make provision for people with restricted mobility including those with characteristics as defined by the Equality Act 2010.	Section 3: Sustainability Strategy

POLICY REVIEW

Ambition North Wales: Targets Summary

Policy Name	Policy Requirements	Addressing this Policy Requirement
Reducing Carbon Emissions and Improving Biodiversity in Growth Deal Projects — Our Methodology (2022)	**Policy A2.1: Deliver Net-zero Operational Carbon** All growth deal projects are expected to set out the degree to which they deliver Net Zero operational carbon. Growth Deal Projects should be able to demonstrate how all available opportunities to reduce operational GHG emissions have been exploited before exploring GHG removals (offsets) as a means to demonstrate achievement of the net zero operational carbon target.	Section 3 Sustainability Strategy & Section 4: Energy Strategy
	Policy A2.2: Delivering 40% less embodied carbon target The 'delivering 40% less embodied carbon' target requires Growth Deal projects to target and set out the degree to which they achieve a 40% reduction in embodied carbon across these emissions sources using the standardised carbon assessment methodology.	Section 3: Sustainability Strategy
	Policy B3: Net gain for biodiversity All Growth Deal projects are encouraged to deliver, at a minimum, 10% net benefit for biodiversity as outlined in Ambition North Wales's position statement.	Section 3: Sustainability Strategy

03

Sustainability Strategy

3.1 SUSTAINABLE TRANSPORTATION

Objectives

To demonstrate compliance with the planning requirement defined in:

Planning Policy Wales (2024):

- Policy 4.1.8 “Sustainable Transport”
- Policy 4.1.42 “Ultra-Low Emission Vehicles”

Wrexham LDP2 (2023):

- Policy T1: Managing Transport Impacts
- Policy SP19: Green Infrastructure

Development Response

The proposed development has considered the following aspects to promote and encourage sustainable transportation:

- **Appropriate car parking space –** Car parking provision is limited to 145 spaces and parking area is designed to minimise disruption.
- **Facilitated sustainable modes of transport –** Proposed development is walking distance from Wrexham General Station.
- **EV charging –** EV charging points will be provided in the new car parking area near good lighting and natural surveillance. The provision will be 9 no. active EV charging points and 12 no. enlarged disabled parking bay. EV Charging points make up approximately 6% of total parking allowance.
- **New cycle spaces –** 1 cycle spaces per 10 occupants will be installed within the building’s indoor cycle storage. There are also plans for a cycle hub to be located onsite.
- **New changing facility –** New high-quality male, female, gender neutral and accessible changing facilities will be provided including showers and locker facilities. Showers will be available at a ratio of 1 shower per 10 cycle spaces.
- **Transport Statement and Travel Plan –** A Transport Statement and Travel Plan will be drafted to support the planning application as well as the BREEAM Assessment, ensuring that the identified measures will be implemented and supported by the building’s management in operation. The Transport statement and Travel Plan will be provided at RIBA Stage 2. This is in line with BREEAM Tra 01 Travel Assessment and Travel Plan requirement.

Please see Exterior Architecture's ‘Concept Design Report’ (March, 2025) as part of the outline planning submittal for additional detail regarding the proposed development’s sustainable transportation strategies.

3.2 SUSTAINABLE WASTE MANAGEMENT

Objectives

The proposed development is compliant with:

Planning Policy Wales (2024):

- Policy 5.13 “Sustainable Waste Management Facilities”:
- Policy 5.11.7 “Making Best Use of Material Resources and Promoting Circular Economy”:

Wrexham LDP2 (2023):

- Policy MW5: Sustainable Waste Management

Development Response

The proposed development acknowledges the ‘Towards Zero Waste, One Wales: One Planet’ aspiration for zero waste, and the design aims to minimise reliance on new products and materials through lean design principles. This involves incorporating reclaimed and recycled products and materials, particularly those obtained from the strip-out or demolition of the existing asset to minimise waste during installation and to enhance flexibility in design.

The proposed design aligns with zero waste principles, incorporating several waste management indicators to support alignment with the Planning Policy Wales Waste Hierarchy, as demonstrated in the following:

- A construction waste minimisation target is set in line with the BREEAM Wst 01 Project Waste Management requirements.
- A site waste management plan (SWMP) will be in place to monitor and record data on transport movements and impacts resulting from delivery of materials to site during construction. This is in line with the BREEAM Man 03 Responsible Construction Practices and Wst 01 Project Waste Management requirements.
- The project will target a diversion of resources from landfill rate in line with BREEAM Wst 01 Project Waste Management requirements.
- Dedicated space(s) will be provided for the segregation and storage of operational recyclable waste, such as dry recyclable waste and food waste, and the spaces are designed at a capacity that is appropriate to the building type, size and predicted volume. This is in line with the BREEAM Wst 03 Operational Waste requirements.

3.3 BIODIVERSITY AND GREEN INFRASTRUCTURE

Objectives

The proposed development is compliant with:

Planning Policy Wales (2024):

- Policy 6.2.11 “Integrating Green Infrastructure and Development”
- Policy 6.4 “Biodiversity and Ecological Networks”
- Policy 6.6.17 “Sustainable drainage Systems (SuDS)”

Future Wales: The National Plan 2040 (2023):

- Policy 9 “Resilient Ecological Networks and Green Infrastructure”:

Wrexham LDP2 (2023):

- Policy SP14: Natural Environment

Ambition North Wales (2022):

- Policy B2: Net Gain for Biodiversity

Development Response

The proposed development will support the maintenance and enhancement of biodiversity and the resilience of ecosystems. The scope of proposed development, includes vibrant landscaping design, introducing tree planting, a pocket garden with high ecological value, which will enhance the biodiversity. A suitably qualified Ecologist will be appointed prior to the commencement of activities on-site.

Wrexham Gateway, Eastern Zone will also aspire to enhance local biodiversity through a ‘Biodiversity Net Gain’ strategy, using the industry-recognised Defra Biodiversity Metric to quantify biodiversity change and ensure biodiversity is maximised on site. Additionally, the biodiversity assessments proposed by the Ambition North Wales ‘Reducing Carbon Emissions and Improving Biodiversity in Growth Deal Projects’ methodology shall be utilised to demonstrate that the proposed development will deliver 10% net benefit for biodiversity, at a minimum.

Wrexham Gateway, Eastern Zone will be guided by the mitigation hierarchy endorsed by Planning Policy Wales to ensure biodiversity net gain, as well as exploring opportunities for inclusivity and social justice to biodiversity enhancement.to improve access to biodiversity with the green spaces onsite being open to public and close to local transport links.

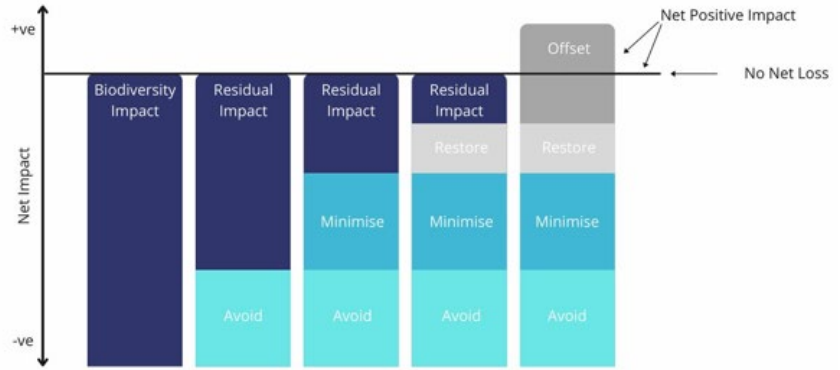


Figure 4: CSBI Mitigation Hierarchy – Avoid, Minimise, Restore and Offset.

3.3 BIODIVERSITY AND GREEN INFRASTRUCTURE (CONT.)

All relevant UK legislation relating to the protection and enhancement of ecology will be complied with during the design process. The “Preliminary ecological assessment will include recommendations that aim to minimise the impact of the planned works on local ecology and will be submitted with the full planning application. This is in line with the BREEAM requirement LE 02 Ecological Risks and Opportunities and LE 03 Managing impacts on Ecology requirements.

A green infrastructure statement will be submitted with the full planning application. This statement will highlight baseline data, surveys and assessments undertaken, including but not limited to, habitats and species surveys, arboricultural surveys and assessments, sustainable drainage statements, landscape and ecological management plans, open space assessments and green space provision and active travel links.

Figure 5: Green Infrastructure Map, Exterior Architecture

3.4 RESPONSIBLE SOURCING AND CIRCULAR ECONOMY

Objectives

The proposed development is compliant with:

Planning Policy Wales (2024):

- Policy 5.8.3. “Sustainable Buildings”:
- Policy 5.11.7 “Making Best Use of Material Resources and Promoting Circular Economy”:

Wrexham LDP2 (2023):

- Policy SP18: Climate Change

Ambition North Wales (2022):

- Policy A2.2: Delivering 40% less embodied carbon target

Development Response

The proposed design aims to promote responsible sourcing and promote a circular economy by aligning with the Waste Hierarchy. This will be achieved through the following:

- Designing out waste by using materials which recycled or reused;
- Designing an adaptable building to minimise refurbishment requirements for the lifetime of the development; such as impact protection, rails, etc.
- Developing a Whole Life Carbon assessment;
- Selecting materials with low embodied carbon.

Wrexham Gateway, Eastern Zone will embed qualitative assessment of embodied carbon into the project’s Procurement Strategy to maximise the positive impact of sustainable choices in supply chain arrangements needed to deliver the project. Additionally, the proposed development will complete the appropriate carbon assessments from Ambition North Wales’ ‘Reducing Carbon Emissions and Improving Biodiversity in Growth Deal Projects’ methodology to outline how the project will achieve the 40% reduction in embodied carbon target.

This is in line with BREEAM Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA) and Mat 05 Designing for durability and resilience requirements.

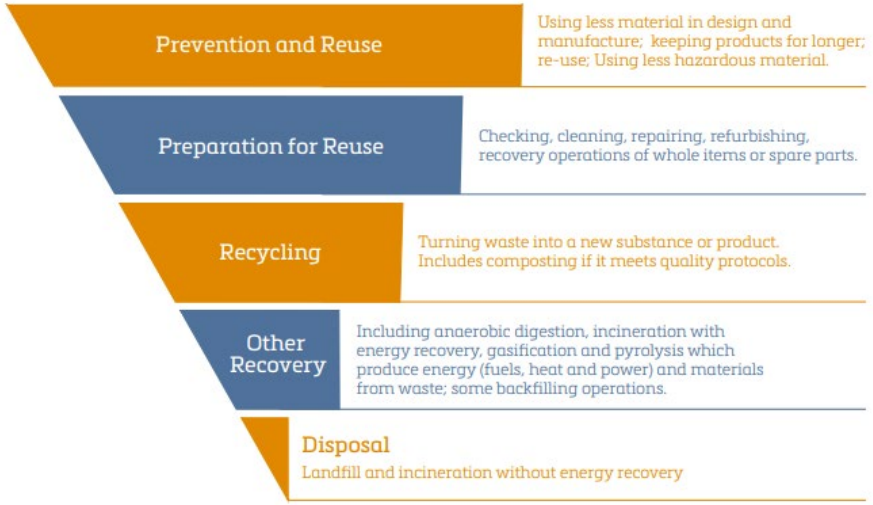


Figure 5: Planning Policy Wales, Waste Hierarchy

3.5 FLOODING AND CLIMATE RISK

Objectives

The proposed development is compliant with:

Planning Policy Wales (2024):

- Policy 5.8.3. “Sustainable Buildings”:
- Policy 6.6.22 “Development and Flood Risk”
- Policy 6.6.17 “Sustainable drainage Systems (SuDS)”

Future Wales: The National Plan 2040 (2023):

- Policy 8 “Flooding”

Wrexham LDP2 (2023):

- Policy SP18: Climate Change

Development Response

The proposed design aims to limit and mitigate the risks associated with flooding and other climate change impacts through innovative design and sustainable drainage systems.

Wrexham Gateway, Eastern Zone is situated in flood zone 1 and therefore has a low flood risk. Additionally, there is currently no surface water flood risk associated with the site. A full climate risk assessment will be completed to ensure the site aligns with the requirements as defined in TAN15: Development and Flood Risk. This assessment will also identify and mitigate the potential effects of climate change with include a Flood Consequence Assessment for the site.

This is in line with the BREEAM Wst 05 Adaptation to climate change and Pol 03 Flood and surface water management requirements.

The proposed development looks to maximise asset resilience and value through consideration of the likely impacts of future climate change, reduce future risks and minimise the need for future adaptation associated with climate change.

Figure 6: Flood Risk Map, Wrexham (Flood and Coastal Erosion Risk Maps)

3.6 HEATH AND WELLBEING

Objectives

The proposed development is compliant with:

Planning Policy Wales (2024):

- Policy 6.7.14 “Understanding and Identifying the Sources of Airborne (Air and Noise) Pollution”
- Policy 6.6.22 “Framework for Addressing Air quality and Soundscape”:

Future Wales: The National Plan 2040 (2023):

- Policy 9 “Resilient Ecological Networks and Green Infrastructure”:

Wrexham LDP2 (2023):

- Policy SP13: Health and Wellbeing

Development Response

The proposed development aims to promote health and wellbeing through significantly limiting pollution from a variety of sources and supporting the physical health of building occupants through the following:

- This building intends to be 100% electric with no polluting fuel used onsite.
- Supporting green transport through electric vehicles and cycling through parking onsite.
- Fresh air will be drawn into the building at appropriate rates through high performance filters to limit pollutants entering the indoor environment.

Due to the site being located close to the Wrexham General Railway Station, windows will not be openable at the proposed development. This will limit noise and air pollution from entering the building.

This approach is in line with the BREEAM Hea 02 Indoor Air quality and Hea 07 Safe and Healthy Surroundings requirements.

3.7 BREEAM

BREEAM

BREEAM is one of the world's leading building assessment schemes, assessing the environmental life cycle impacts of the building throughout the refurbishment process. BREEAM sets the standard for best practice in sustainable design across 9 categories.

In line with the Applicant's sustainability aspirations, BREEAM Excellent will be targeted for the proposed development. Wrexham Gateway is enrolled to pursue a BREEAM NC (New Construction) V6.1. Achievement of a BREEAM "Excellent" certification will indicate that Wrexham Gateway, Eastern Zone is a sustainable, forward-thinking development and highlight the attention given to the building's occupants.

Figure 7: BREEAM Assessment Categories

3.7 BREEAM

Wrexham Gateway BREEAM Pre-assessment

A pre-assessment workshop will be held to review the credits that form part of the BREEAM NC 6.1 Assessment for the project and verify the ability to achieve the relevant criteria to attain an “Excellent” rating. At this stage, BREEAM Rating of ‘Excellent’ is being targeted.

BREEAM Category	Category Intent
Management	Encourages the adoption of sustainable management practices in connection with design, refurbishment, fit-out, commissioning, handover and aftercare activities to ensure that robust sustainability objectives are set and followed through into the operation of the building. Credits in this section focus on embedding sustainability actions through the key stages of design, procurement and initial occupation from the initial project brief stage to the appropriate provision of aftercare.
Health and Wellbeing	Encourages the increased comfort, health and safety of building occupants, visitors and others within the vicinity. Credits in this section aim to enhance the quality of life in buildings by recognising those that encourage a healthy and safe internal and external environment for occupants.
Energy	Encourages the specification and design of energy efficient building solutions, systems and equipment that support the sustainable use of energy in the building and sustainable management in the building’s operation. Credits in this section assess measures to improve the inherent energy efficiency of the building, encourage the reduction of carbon emissions and support efficient management throughout the operational phase of the building’s life.
Transport	Encourages better access to sustainable means of transport for building users. Credits in this section focus on reviewing the accessibility of public transport and other alternative transport solutions (cyclist facilities, provision of amenities local to a building) that support reductions in car journeys and, therefore, congestion and CO_2 emissions over the life of the building.
Water	Encourages sustainable water use in the operation of the building and its site. Credits in this section focus on identifying means of reducing potable water consumption (internal and external) over the lifetime of the building and minimising losses through leakage.
Materials	Encourages steps taken to reduce the impact of construction materials through design, refurbishment, maintenance and repair. Credits in this section focus on the procurement of materials that are sourced in a responsible way and have a low embodied impact over their life including extraction, processing and manufacture and recycling.

3.7 BREEAM

BREEAM Category	Category Intent
Waste	Encourages the sustainable management (and re-use where feasible) of construction and operational waste through future maintenance and repairs associated with the building structure and interiors. By encouraging good design and construction practices, credits in this section aim to optimise material re-use, reduce the waste arising from the refurbishment and fit-out as well as through operation of the building, encouraging its diversion from landfill. It includes recognition of measures to reduce future waste as a result of the need to alter the building in the light of future changes to climate.
Land Use and Ecology	Encourages habitat protection and creation, and improvement of long-term biodiversity for the building's site and surrounding land. Credits in this section relate to the protection of ecology during refurbishment, enhancement of ecology and long-term biodiversity management.
Pollution	Encourages the prevention and control of pollution and surface water run-off associated with the building's location and use. Credits in this section aim to reduce the building's impact on surrounding communities and environments arising from light-pollution, noise, flooding and emissions to air, land and water.

04

Energy Strategy

4.1 ENERGY STRATEGY

Objectives

The proposed development is compliant with:

Planning Policy Wales (2024):

- Policy 5.7.13 “Energy Hierarchy for Planning”
- Policy 5.8.3. “Sustainable Buildings”:
- Policy 5.9.11 “Local Energy Generation”:

Future Wales: The National Plan 2040 (2023):

- Policy 16 “Heat Networks”:

Wrexham LDP2 (2023):

- Policy SP18: Climate Change
- Policy RE1: Development and Renewable Energy/Low Carbon Technology

Ambition North Wales (2022):

- Policy A2.1: Deliver Net-zero Operational Carbon

Development Response

The proposed development has utilised the ‘Energy Hierarchy for Planning’ to optimise the energy performance prioritising the reduction of energy demand through a fabric first approach, before maximising system efficiency. The proposed development will incorporate rooftop Solar PV to minimise the carbon emission associated with the site.

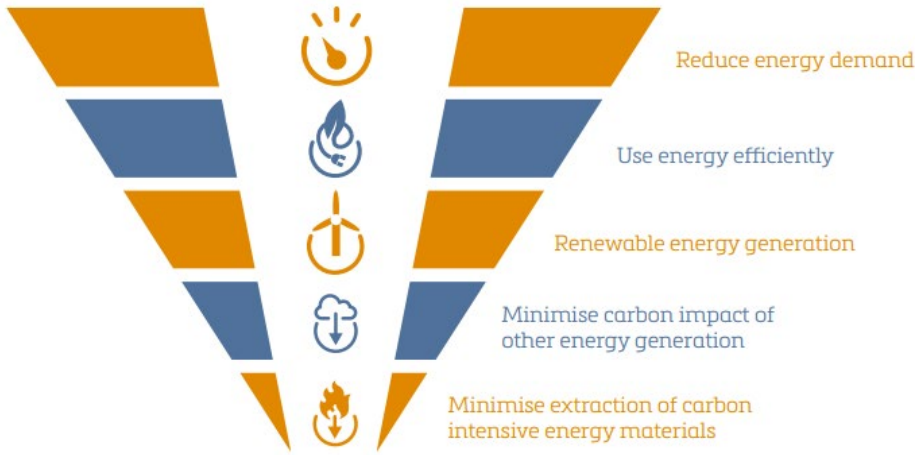


Figure 8: Planning Policy Wales, Energy Hierarchy for Planning

Wrexham Gateway will be fully-electric which will eliminate carbon emissions onsite. The development will also minimise energy demand and maximise system efficiency through the measure discussed in this Section, as well as utilising onsite renewable energy to minimise any carbon impact from generation.

Wrexham Gateway, Eastern Zone takes a holistic approach to energy use, materiality and the building’s overall building services strategy. It is a client requirement that the building will achieve an EPC rating of A upon completion.

Passive design strategies such as external shading, orientation and strategic glazing placement will help to ensure the design is energy efficient prior to the incorporation of conditioning systems and onsite local renewable energy. An all-electric servicing strategy is proposed to align with the net-zero aspirations, with no gas connection provided for heating or hot water and any other electricity demand needed onsite will be targeted to be generated by renewable sources.

4.1 ENERGY STRATEGY

Low and zero carbon technologies in the form of air source heat pumps and photovoltaic panels are planned to be integrated within the scheme. An independent energy assessment investigating the financial viability and technical feasibility of incorporating low carbon technology will be provided with the full planning application.

Heat Networks:
There are no local heat networks suitable for connection to the proposed development at this time. However, a capped connection to the primary LTHW circuit will be provided to allow future connection to a district heating network should a network extend past the site at a later date. The proposed LTHW distribution system for providing space heating can be adapted at a later date to feed from the district heat network with minimal impact on the building users.

Table 1: Fabric Performance Targets

Design Measures	Proposed Performance	Part L2 (2022) Maximum Values
External Wall (U-Value)	0.15 W/m²K	0.26 W/m²K
Ground Contact and Exposed Floors (U-Value)	0.14 W/m²K	0.22 W/m²K
Roof (U-Value)	0.14 W/m²K	0.20 W/m²K
Windows (U-Value including frame)	1.2 W/m²K	1.6 W/m²K
Air Permeability	3 m³/hr/m²@50Pa	8 m³/hr/m²@50Pa

Table 2: Other Energy Reduction Measures

Design Measures	Proposed Performance
Orientation	The proposed development is oriented to maximise solar gains in the winter and maximise daylight for occupants as well as reducing the demand of electric lighting.
External Shading	The proposed development used significant amounts of external shading to manage the solar gains entering the building to reduce heating demand in the winter and cooling demand in the summer.

Table 3: Use Energy Efficiency

Design Measures	Proposed Performance
Air Source Heat Pumps (ASHPs) & Variable Refrigerant Volume (VRF) systems	The proposed development will utilise ASHPs and VRF systems to maximise the efficiency Heating and Cooling on site.
Mechanical Ventilation Heat Recovery (MVHR)	High performance MVHR will be integrated into the proposed development's ventilation system to minimize ventilation heat loss.
High efficiency LEDs & Controls	High efficiency LEDs will be installed onsite to minimize the energy consumption of the lighting throughout the building. Additionally, motion and daylight sensing controls will further reduce lighting demand.

4.1 ENERGY STRATEGY

Table 4: Renewable Energy Generation

Design Measures	Proposed Performance
Connection to Heat Networks	A preliminary examination of Wales Heat Maps did not uncover any viable low carbon District Heating Networks (DHN) in close proximity to the site. A capped connection to the primary LTHW circuit will be provided to allow future connection to a district heating network should a network extend past the site at a later date.
Renewable Generation Technologies	The installation of PV panels on the roof will generate part of the electricity demand from renewable energy technologies on site. An independent energy assessment investigating the financial viability and technical feasibility of incorporating low carbon technology will be provided with the full planning application.

Table 5: Minimise carbon impact of other energy generation

Design Measures	Proposed Performance
EV Charging & Green Transport Links	The proposed development is situated to be walking distance from Wrexham General Station and major bus terminals to maximise walkability. Additionally, EV chargers are to installed onsite to support electric vehicles.

Table 5: Minimise carbon impact of other energy generation (cont.)

Design Measures	Proposed Performance
Connection to Centralised Heat Networks	A preliminary examination of Wales Heat Maps did not uncover any viable low carbon District Heating Networks (DHN) in close proximity to the site. a capped connection to the primary LTHW circuit will be provided to allow future connection to a district heating network should a network extend past the site at a later date.
No natural gas	The proposed development is 100% electric and has no gas use onsite.

Table 6: Minimise extraction of carbon intensive energy materials

Design Measures	Proposed Performance
Sustainable Material Use and Circular Economy	The proposed design aims to promote responsible sourcing and a circular economy by aligning with the Waste Hierarchy. This is explained further in Section 3.4.

4.2 ENERGY MODEL RESULTS

An evaluation of the Energy Strategy for the proposed development was conducted employing a Dynamic Simulation Model (DSM) created in IES VE 2024. The aim was to assess adherence to Part L2 (2022), Wales concerning the proposed design measures recommended 'Wrexham Gateway', Wrexham. These results were calculated utilising the most recent Government-approved calculation DSM VE Compliance Module provided by IES VE 2024.1.0.0.

The data shown in the table below confirm that the strategy outlined in this report aligns with the energy and CO_2 requirements outlined in Part L as well as meeting the minimum credit requirement for BREEAM Ene01 Excellent.

Table 7: Part L2 (2022) Compliance Result Summary

Part L 2022, Wales Analysis	
Building Emissions Rate (BER)	1.9 $kgCO_2/m^2$
Target Emissions Rate (TER)	2.9 $kgCO_2/m^2$
Building Primary Energy Rate (BPER)	19.90 kWh/m^2
Target Primary Energy Rate (TPER)	22.11 kWh/m^2
Part L Compliance	**PASS**

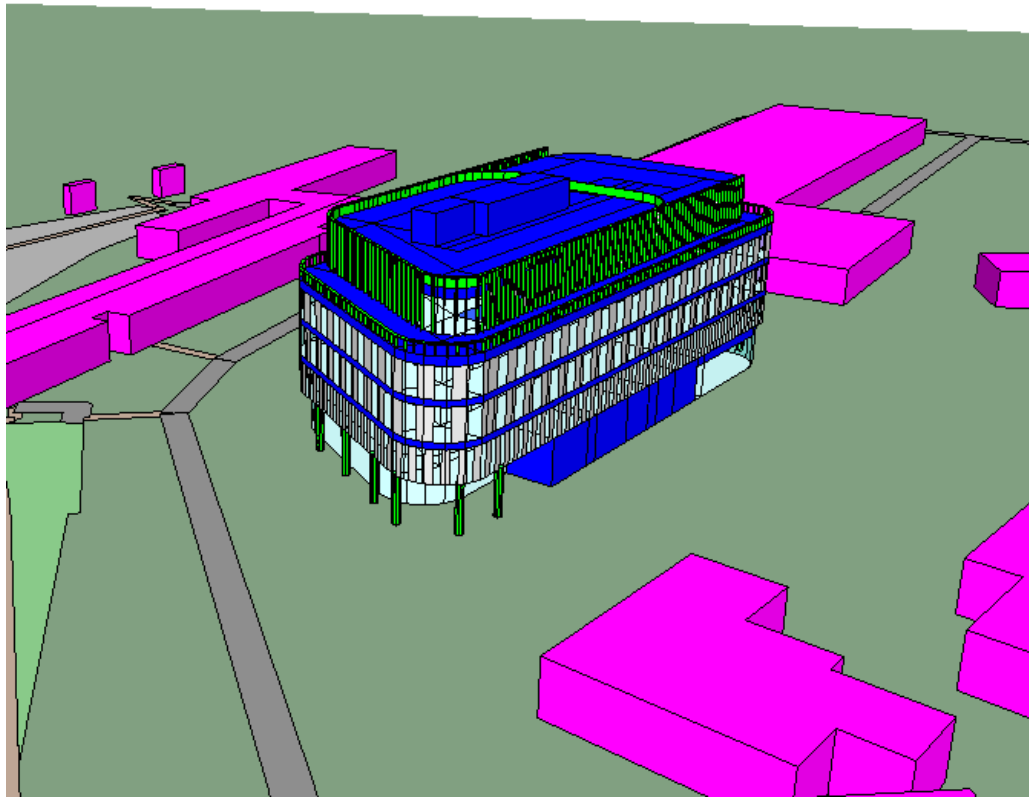


Figure 9: IESVE Model of Wrexham Gateway, Eastern Zone

4.2 ENERGY MODEL RESULTS (CONT.)

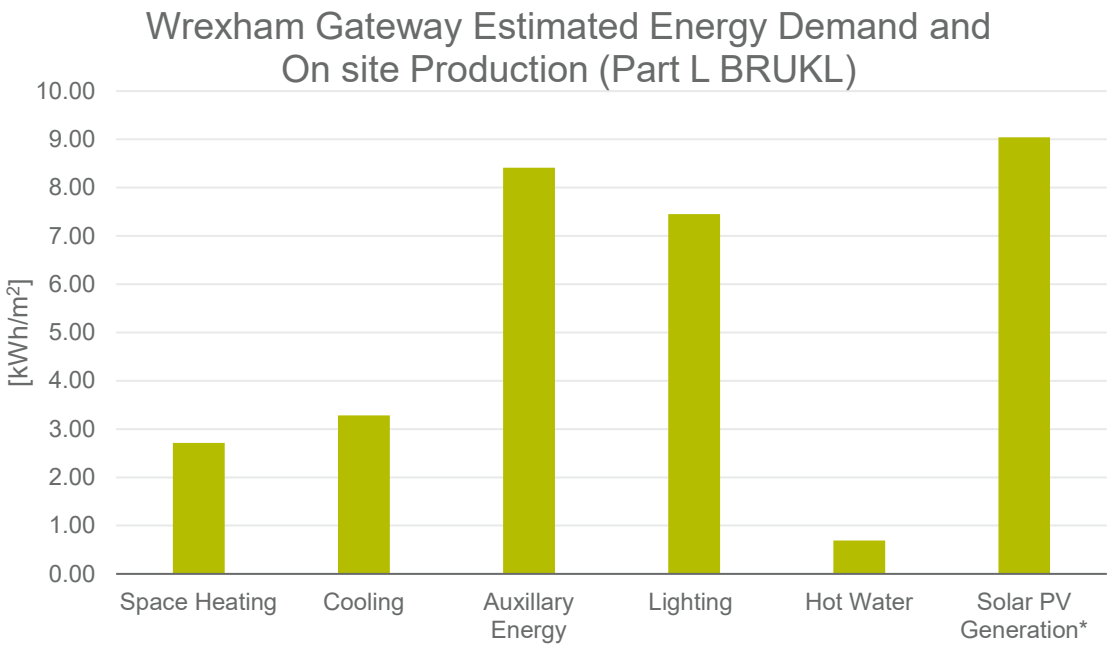


Figure 10: Estimated Regulated Energy Demand and Consumption

*The electricity generation from PVs, as depicted in these graphs, counteracts other energy demands by decreasing, rather than increasing, the energy consumption from the national grid

Emission and Energy Minimisation

The proposed development will limit Green House Gas (GHG) emissions through incorporating the following low and zero carbon technologies:

- VRF and ASHPs to meet heating demand;
- Mechanical ventilation with heat recovery (MVHR) to provide the building with fresh air;
- High efficiency lighting with associated lighting controls;
- Point of use (POU) Domestic Hot Water (DHW) heating; and
- PV panels on the roof to generate electricity on-site.

It is projected that these measures will reduce the reliance on fossil fuels and minimise carbon emissions for the site.

EPC Rating

The development is targeting an EPC rating of A and current designs align with this target.

05

Appendix

APPENDIX 1: WREXHAM GATEWAY, EASTERN ZONE_ AS-DESIGNED BRUKL

APPENDIX 2: WREXHAM GATEWAY, EASTERN ZONE IES INPUTS

	Office (Option A: ASHP - FCUs)	Server Room	WCs, Changing Rooms & Central Corridors	Plant & Bin Store	Stairs	Retail Unit
Space heating						
NCM system type	FCUs	None	ASHP - water-based serving radiators	None	None	VRF
Heat Source	ASHP	-	ASHP	-	-	ASHP
EER/COP	4.0	-	4.0	-	-	2.5
Heating seasonal efficiency (SCOP)	4.0	-	4.0	-	-	2.5
Cooling						
NCM Cooling System Type	FCUs	DX (split system)	None	None	None	VRF
Type	ASHP	ASHP	-	-	-	ASHP
EER	5.2	5.0	-	-	-	5.0
System Seasonal efficiency SEER	5.2	5.0	-	-	-	5.0
Ventilation						
Ventilation mechanism	Central Balanced AHUs	None	Central Balanced AHUs	Local Extract	None	Local MVHR
Demand control	Demand control - based on gas sensors	-	-	-	-	-
Heat recovery	Thermal Wheel	-	Thermal Wheel	-	-	PHE
heat recovery efficiency	82%	-	82%	-	-	82%
Indoor terminal SFP (W/l/s)	0.18	-	-	0.4 (6ACH)	-	-
AHU SFP (W/l/s)	1.35	-	1.2	-	-	1.5
Pump Type	Variable speed, multiple pressure sensors	-	Variable speed, multiple pressure sensors	-	-	-
Ductwork Leakage	Level 2 B	-	Level 2 B	-	-	-
DHW						
Heat source	POU	POU	POU	POU		POU
Generator seasonal efficiency	100%	100%	100%	100%		100%
Pump Type	-	-	-	-		-
Storage (l)	-	-	-	-		-
Storage heat loss (kWh/day)	-	-	-	-		-
Delivery efficiency	100.00%	100.00%	100.00%	100.00%		100.00%
Secondary circulation	-	-	-	-		-
Advancement for management features						
Is artificial lighting circuit separately sub-metered?	Yes					
Is warning for "out-of-range" values available?	Yes					
Electric power factor correction	>0.95					
Renewable Energy	Rooftop Solar PV: 344m2 (79.12kWp)					

HVAC Input Sheet

	Office & Reception (Option A: ASHP - FCUs)	Server Room	WCs, Changing Rooms & Central Corridors	Plant & Bin Store	Stairs	Retail Unit
Lamp Type	LED	LED	LED	LED	LED	LED
Power Density	130lm/W	130lm/W	130lm/W	130lm/W	130lm/W	130lm/W
Lighting Controls	Occupancy: Auto-on-off Daylight sensing (perimeter spaces)	None	Occupancy: Auto-on-off	None	Occupancy: Auto-on-off	Occupancy: Auto-on-off
Parasitic Power	0.09W/m²	-	0.09W/m²	-	0.09W/m²	0.09W/m²
Time switch (occupancy or photoelectric)	Occupancy & photoelectric dimming for perimeter spaces		Occupancy		Occupancy	Occupancy
Display lighting	Yes, Efficient	None	None	None	None	Yes, Efficient
Display luminaire lumens	120lm/W	-	-		-	80lm/W

Lighting Input Sheet

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