HGGT

HARLOW & GILSTON GARDEN TOWN

SUSTAINABILITY GUIDANCE & CHECKLIST

MARCH 2021

Interactive PDF: best viewed on computer screen

CONTENTS

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Essex County Council · Hertfordshire · Harlow Council · Epping Forest District Council · East Herts Council

www.harlowandgilstongardentown.co.uk

The pioneering New Town of Gibberd and Kao will grow into a Garden Town of enterprise, health and sculpture at the heart of the UK Innovation Corridor. Harlow and Gilston will be a joyful place to live with sociable streets and green spaces; high quality homes connected to fibre optic broadband; local centres accessible by walking and cycling; and innovative, affordable public transport.

It will set the agenda for sustainable living. It will be adaptable, healthy, sustainable and innovative.

HARLOW AND GILSTON GARDEN TOWN

Harlow and Gilston Garden Town (HGGT) will comprise new and existing communities in and around Harlow. Set in attractive countryside, with transformative investment in transport and community infrastructure, new neighbourhoods to the east, west and south and new villages to the north will be established.

East Herts, Epping Forest and Harlow District Councils are working together with Hertfordshire and Essex County Councils to ensure plans for the Garden Town support sustainable living and a healthy communities and economies, provide a good quality of life for existing and future residents, and respond to local landscape and character.

The HGGT Vision sets out the principles and indicators for the Garden Town which will ensure its growth and management is high quality and sustainable.

SUSTAINABLE LIVING

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs. High quality sustainable developments require adopting a holistic approach to environmental, social and economic sustainability; in line with the UN Sustainability Development Goals.

The Garden Town seeks to set the agenda for sustainable living through ensuring growth that will be being net carbon neutral by 2030, and building strong and integrated communities across new and existing places, with social equity.

COVID-19 RECOVERY

This Guidance has been developed during the pandemic of COVID-19. The pandemic has highlighted stark health inequalities which relate closely to environmental, social, and economic inequalities.

Now more than ever, high quality, sustainable and resilient design and development is needed to ensure that existing and new residents of the Harlow & Gilston Garden Town recover from this pandemic in a long term and locally-led manner.

Opportunities to foster community strength, provide job opportunities, support green and local economies and bolster residents health must be taken. All stakeholders are therefore expected to work collaboratively to contribute to this recovery, and ensure that the Garden Town is a joyful and sustainable place to live, work, and play.

Introduction

INTRODUCTION

1 | THE CLIMATE EMERGENCY

The UK Government and all five HGGT Partner Authorities have declared a Climate Emergency/ Actions.

This Sustainability Guidance supports the primary commitment across the Garden Town Authorities; to become Carbon-Neutral by 2030.

The global climate is changing, primarily as a result of greenhouse gas emissions from human activity.

Communities, businesses, and the natural environment are already feeling the impacts of the changing climate. Continued change is now unavoidable and will disrupt everyday life, with higher average temperatures and more extreme weather events.

There is a strong and committed national and local policy context for planning environmentally, socially, and economically sustainable places and developments, and climate adaptation.

2 | PURPOSE OF THIS GUIDANCE

The Garden Town will set the agenda for Sustainable living, making it easy for residents to adopt sustainable lifestyles.

The three district authorities have a combined carbon emission contribution of 2,048 CO_2 (kt) across all industries. With the goal of reducing carbon emission contributions, and planning for significant growth in the Garden Town, new developments must have exemplar placemaking and long term sustainability.

This document provides practical and technical guidance on how to apply sustainability indicators and policies (environmental, social, and economic) in the HGGT Vision and partner authorities Plans to new major developments in the Garden Town.

The purpose of this guidance is to help applicants meet the Garden Town goals of becoming net zero-carbon by 2030, and, to build strong and integrated communities across new and existing places.

3 | WHO USES THIS GUIDANCE

Applicants + Agents:

The document is to be used by developers, design teams, consultants and contractors in shaping development proposals, This will guide the design of proposals and ensure coordinated and integrated consideration of sustainability principles and targets at an early stage.

Local Authority Officers and decision-makers:

This document will be endorsed to have material planning weight and the Checklist will help guide the assessment of planning applications for developments coming forward within the Garden Town. It will inform pre-application discussions and assist decision-makers in sustainability matters.

The HGGT Quality Review Panel (QRP):

This Checklist will be utilised for QRP reviews to help form the basis of Sustainability and Garden Town discussions. The QRP panel members are independent experts and applicants are advised to be in a position to discuss issues on all themes raised in this guidance.

4 | WHEN TO USE GUIDANCE

Masterplanning

This guide should be used at as early a stage as possible in the design process in order to reduce costly and time-intensive re-design at later stages.

Pre-Application

The Sustainability Checklist and relevant evidence should accompany pre-application discussions to ensure applications have considered and incorporated sustainability measures from the outset of their design.

Planning Application

A Sustainability Strategy incorporating the Checklist, with relevant evidence / certification, is to be submitted alongside planning applications.

Post-Planning

Planning conditions and obligations will be aligned to ensure that sustainable measures are secured through to delivery and beyond. Tools such as Post-Occupancy Evaluation for ongoing monitoring will be expected relating to key indicators.

HOW TO USE THIS GUIDE

5 | HOW TO USE GUIDANCE

High quality and sustainable development requires environmental, social and economic sustainability to be holistically considered. This document is split into two sections, with sustainability themes cross-referencing each other, and co-benefits indicated throughout as pop-ups.

1. The Environmental Section
2. The Socio-Economic Section

These Sections consists of a Theme, noting:

1. Objectives & Requirements
2. Key Local Policy & Guidance
3. Case studies: with links to external sources
4. Checklist: to be completed and submitted.

6 | TO BE SUBMITTED

1. Collated Sustainability Quality Checklist
2. Sustainability Statement/Strategy

This guidance assist applicants to provide the information for the above, in order to meet the Garden Town principles and local policies.

7 | APPLICATION OF GUIDANCE

The guidance is applicable to:

- Strategic Masterplan / Village Masterplan areas
- All major residential developments (≥ 10no.)
- Change of Use resulting in a major development
- Council-led housing within the Garden Town

8 | THE QUALITY CHECKLIST

The Checklists indicate the quality of development in line with the Garden Towns' standards through a red/ amber/ green approach. These work together across themes and will be assessed alongside each other to ensure a holistic approach to sustainability is being considered.
Each sustainability theme will be assessed by Officers in the round and in context of factors that may be unique to a development, providing flexibility in how each development is assessed. The applicant is expected to identify unique sustainability aspects of their development and include these in the 'Sustainability Statement', where the Applicant deems this necessary.

All checklists should be completed and submitted; except where highlighted in each checklist table, some questions that are required at Outline Planning Application only, with the remainder expected to be submitted at Full Planning and/or Reserved Matters, including updated figures for those submitted at Outline Planning.

All applications will be considered through the completion and submission of this Sustainability Checklist.

Minimum Requirements (Low Quality)	Net Zero-Carbon by 2050 (Medium Quality)	Net Zero-Carbon by 2030 (Garden Town High Quality)
These are policy-compliant / Building Regulations compliant, but do not meet Climate Declaration targets This sets out what HGGT consider low quality standards / outcomes	These targets meet ultimate goal, but 20 years slower This sets out what HGGT consider medium quality standards/ outcomes	These targets meet HGGT goal and Climate Declarations This sets out what HGGT consider high quality standards/ outcomes
Outline Planning Submission	Outline Planning Submission	Outline Planning Submission

9 | RELATIONSHIP TO THE HGGT VISION & DESIGN GUIDE

This document should be read in conjunction with the Harlow and Gilston Garden Town Vision, and Design Guide. The Sustainability Guidance takes the principles and objectives of the Vision as its starting point and provides guidance and checklists to help deliver these principles, and sustainability indicators.

The HGGT Design Guide sets out Design Quality Questions which applicants are expected to follow. The information in this document aim to build on these and provide further guidance and detail as appropriate.

10 | RELATIONSHIP TO LOCAL PLANS

This document has been endorsed to have material planning weight when determining applications.
This guidance should be read in conjunction with the policies in the current Epping Forest DC, East Herts DC, and Harlow DC Local Plans.
This guidance compliments the policies and relevant SPDs by providing a practical tool for enhancing and assessing the sustainability of developments in the Garden Town.

11 | PARTNERSHIP WORKING

In addition to cross-boundary working as part of the Councils' Duty to Cooperate, the Councils are committed to working with relevant organisations, service providers and community groups to ensure proposals are developed collaboratively and with thorough consideration of local priorities.

12 | REVIEW & MONITOR

This guidance will be reviewed and updated regularly (maximum every three years) to ensure that it remains fit for purpose. The Garden Town encourages Applicants to innovate with new technology to meet the overall Garden Town sustainability ambitions.
This guidance will be reviewed upon national adoption of the Governments' Future Homes Standard (Part L and Part F) - where the first stage of a two-part consultation process was undertaken in 2020. Current Building Regulations fall short of the carbon neutral by 2030 commitment by HGGT.

13 | INCENTIVES FOR SUSTAINABILITY

Design and Planning

Compliance with these sustainability standards will lead to a smoother planning process and faster assessment time.

Awards and recognition

Exemplar schemes will be hosted on the HGGT website and shared as case studies, promoting the most ambitious projects. The Garden Town will work with applicants to put their schemes forward for Local and National awards and partnership opportunities.

Incentives: Cost Benefit

By 2030 all new buildings will need to operate at annual net zero carbon, meaning that by 2025 all new buildings must be designed to net zero-carbon.

In the Garden Town, 16,000 new homes are expected over the next plan period, with more to follow. If the standards highlighted in this guidance are not met when homes are first constructed, they will require retrofit before 2050 just to keep up with changing legislation; this is likely to be five times more expensive than building them to be zero-carbon in the first place.

Net zero carbon homes can be achieved at a capital cost uplift of between 3.5%-15% for residential developments, or, at equal cost - depending on economies of scale in alignment with varying reports.

This capital cost of sustainable buildings is likely to decrease over time as legislation improves, our electricity grid decarbonises, our supply chain upskills, and as cost of technology decreases.

Costs can be offset by value benefits, including; increased rental premiums (6-11% Link), lower tenancy void periods, and lower offsetting costs. Furthermore, long-term operation costs of new homes are vastly reduced due to the lower energy demand from homes, eliminating challenges such as fuel poverty (Link), and providing cost savings of 30%-40% (Link) over 30 years.

Finally, in a post covid society, more people are working from home, and look to live more sustainable lifestyles, making sustainable homes and communities more attractive to homeowners, thereby, providing a commercial benefit to developers (Link).

SUSTAINABILITY GUIDANCE APPLICATION AREA

The Garden Town comprises strategic development sites both within the Harlow administrative area and within East Hertfordshire District and Epping Forest District. This includes:

Gilston Area:

- Located in East Hertfordshire District
- Across 7 villages,
- 10,000 homes in total
- 3,000 built by 2033, a further
- 7,000 to follow post-2033

East of Harlow:

- Located in Harlow and Epping Forest Districts
- 3,350 new homes
- 2,600 within Harlow District
- 750 within Epping Forest District

Water Lane Area:

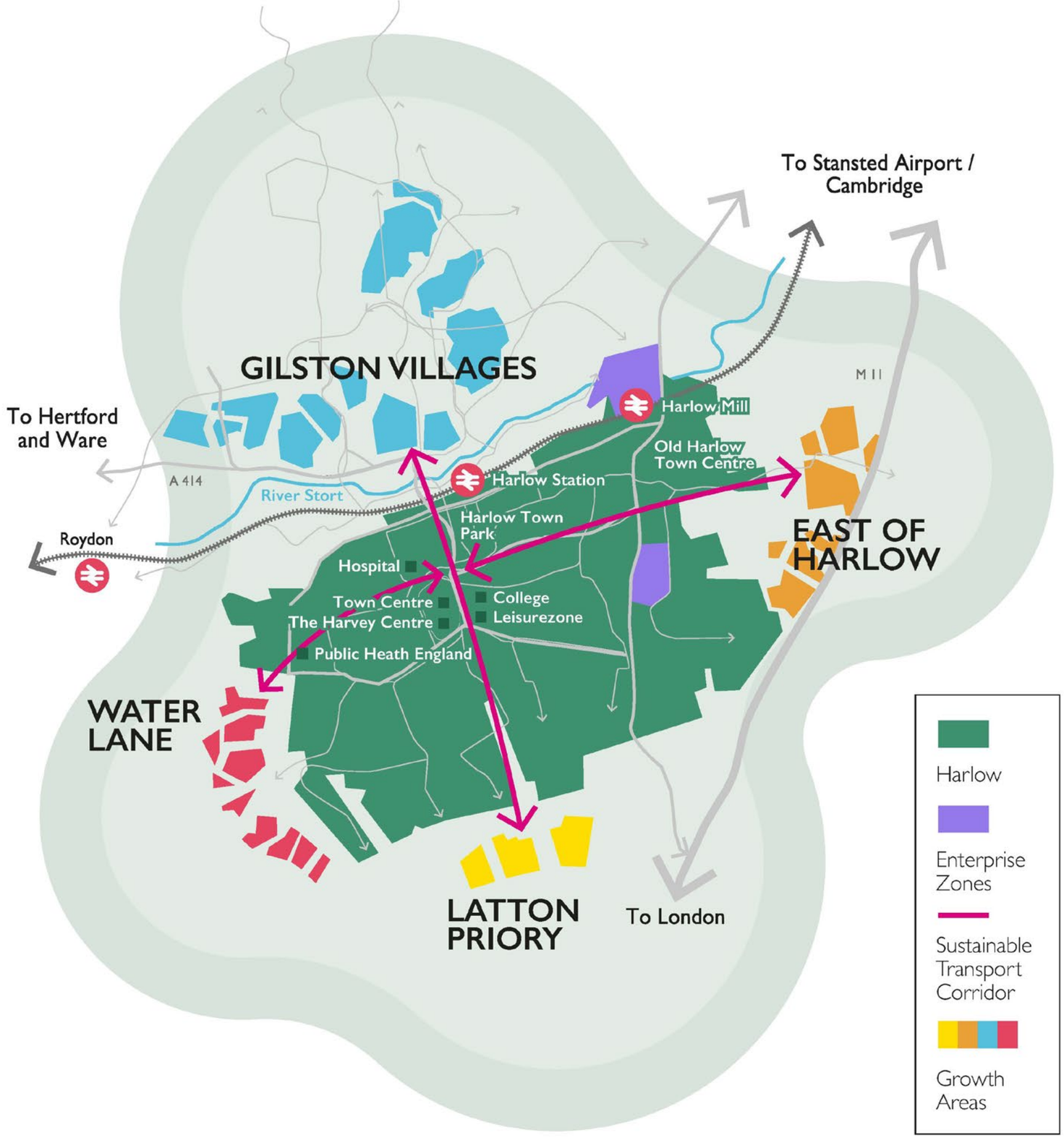
- Located in Epping Forest District
- 2,100 new homes

Latton Priory:

- Located in Epping Forest District
- 1,050 new homes

Draft Harlow Local Plan:

A further 21 sites, which together total 1,147 dwellings, are allocated in the draft Harlow Local Plan



Environmental Sustainability

Goal: Net Zero-Carbon by 2030

DESIGN APPROACH: FIRST PRINCIPLES

These 'First Principles' are to be followed to ensure new Garden Town developments are sustainable, and evolve through good design. The First Principles act as a structured design process, and are iterative, with observations made to be referred back to when navigating the varying scales of design. Use of these principles will significantly benefit the proposal when assessing against the remainder of the Guidance.

1 | LANDSCAPE-LED DESIGN

Harlow and Gilston Garden Town is characterised by a number of different landscape characters areas and assets. Study of existing strategies, analysis, survey and mapping should be undertaken of existing green infrastructure and ecological value of features. These include; topography, trees, hedgerows, woodland, grasslands, wetlands, meadowlands, farmlands, hills and lowlands, scarps and valleys, flood plains, views and vistas. Drawings, surveys, site photographs, and precedent images should be utilised.

Design should be landscape led from the start and across all design stages. The best design and development outcomes will be delivered by engaging landscape and ecology consultants at an early stage. Additional spending on design fees will be very likely outweighed by the speed and ease of securing planning permission.

2 | SUSTAINABLE MOVEMENT

The Garden Town has ambitious sustainable travel mode shift targets, as set out in the HGGT Transport Strategy. To achieve this, sustainable movement must be considered as a first principle in design, alongside landscape and ecology.

Key destinations and active travel desire lines for journeys to work, schools, shops and leisure should be mapped, to be direct, inclusive, attractive and safe. Opportunities to knit communities together with movement routes and green infrastructure should be maximised.

Follow the HGGT User Hierachy on routes and access points; ensure walking and cycle networks connect to the Sustainable Transport Corridors and wider networks, and prioritise travelling to further destinations by public transport over private cars.

3 | ORIENTATION AND FORM

Solar orientation must inform the topography, scale and massing of development at early stages of masterplanning, with south-facing buildings, fenestration, and amenity being orientated to take advantage of passive solar gain – absorbing the sun's heat energy to warm buildings and spaces. Building axis' can be orientated in the east-west direction to take advantage of maximum daylight and heat from the sun which significantly reduces the energy consumption of a building, and can reduce a homes' heating and cooling costs by up to 85%.

To stay cool in the summer months and avoid overheating, external shading provisions should be made to the buildings and surrounding areas, including the use of green infrastructure.

4 | FOLLOW ENERGY HIERARCHY

When determining energy strategies for new developments and masterplans, the Energy Hierarchy is to be followed:

1. BE LEAN:
Use less energy: minimising the energy demand of new buildings through fabric performance: This step requires design that reduces the energy demand of a development. Energy Strategies need to demonstrate how energy efficiency measures reduce the energy demand in line with performance targets highlighted in this document.

2. BE CLEAN & GREEN:
Supply energy efficiently: utilising energy efficiently in buildings including for space heating & cooling: Consideration must be given to how heat and energy will be provided to the development using low-carbon heating networks.

3. BE SEEN:
Monitor & Report performance: for at least 5years post-completion to remove the performance gap: This requires all major developments to monitor and report their energy performance post-construction to ensure that the actual carbon performance of the development is aligned with the Garden Town ambitions of a net zero-carbon target.

5 | ADAPTABLE & FUTURE PROOF DESIGN

Building strong communities is aided by giving people and families the opportunity to have accommodation that can adapt to respond to their changing needs and abilities.

This means looking at the macro-scale of large scale green and blue infrasrtucture and management for climate adaptation, futureproofing infrastructure for technological innovation, provision of a range of house types, adaptable facilities and meanwhile use spaces. And through to the micro-scale; for example the space and ease in ability to extend homes and facilities (physical and digital) to work from home.

While technologies will change, the homes built here will exist for decades - 60+ years, and it is important that strong communities are not broken due to the lack of adaptable design.

DESIGN APPROACH: FIRST PRINCIPLES

6 | FABRIC-FIRST APPROACH

A fabric-first approach requires the building envelope to be a high-performance thermal envelope, reducing energy waste. This means the proposed buildings must have external walls, roofs, floors, windows & doors that are: super insulated, airtight, and windtight.

A fabric-first approach includes the windows and doors – which provide significant heat loss and heat gains – depending on solar orientation. Windows and doors must therefore incorporate high-performance glazing to provide comfortable internal temperatures. A high-performance thermal envelope delivers exceptional indoor comfort and building energy efficiency.

7 | VENTILATION & OVERHEATING

A mixed-mode (natural and mechanical) ventilation strategy is encouraged for excellent indoor air quality. This involves the incorporation of passive and/or whole-house mechanical ventilation with heat recovery system (MVHR) – which is key to delivering radically energy efficiency and exceptional comfort, through providing clean, filtered air into habitable spaces.

Early stage overheating analysis will be expected to be carried out at design stage to identify key factors contributing to overheating risk; where developments are at risk of overheating, additional detailed assessment and mitigation measures will be expected to be incorporated.

8 | EMBODIED & OPERATIONAL ENERGY

Embodied energy is the total energy required for the extraction, processing, manufacture and delivery of building materials to the building site, and the construction of the development.

All design teams are expected to think about, and reduce the embodied energy required to develop their schemes. For example, depending on location, height, and site suitability, materials like timber could be favoured over less sustainable alternatives such as concrete.

Operational Energy is concerned with the amount of carbon emissions associated with the building's annual operation. Developments should be aiming for net zero carbon – where energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources.

Developments should be designed using realistic predictions of operational energy to avoid performance gap in a building's energy use.

9 | RENEWABLE TECHNOLOGIES

Renewable energy uses natural resources such as sunlight, wind, tides and geothermal heat which are naturally replenished. Most forms of renewable energy are cheap to operate, but can be expensive to install.

Examples of technologies include; PV's, solar thermal, biomass, ground/air source heat pumps, wind, hydro. The choice of renewable technologies should be dependent on an assessment on site and development suitability.

10 | AIR-TIGHT STRATEGY & THERMAL-BRIDGE FREE

An air-tight strategy focuses on the internal comfort of a building, and will be required to develop a draught-free building envelope. The draught-free building ensures high energy efficiency, internal user comfort, and protects the building envelope.

The airtight strategy must be continuous to ensure there are no unintended gaps in the building envelope that allow uncontrolled air to leak in and out of the building.

Internal comfort is affected by heat loss through the building fabric, and poor thermal bridging – any gaps or thinning of the insulation. Therefore, the design approach must be to design them out.

Post-occupancy evaluation enables air tightness and thermal bridging to be measured, to help close the known perforamnce gap in these areas.

RETROFITTING

Design Principles for Retrofitting of existing buildings has not been addressed in this guidance. This is in anticipation of the emerging HGGT Sustainability Guidance for Retrofit. This document will signpost to industry standards and guidance regarding retrofitting.

ENERGY EFFICIENCY & CARBON REDUCTION

OBJECTIVES & REQUIREMENTS

The transition to net zero-carbon by 2030 must begin with providing genuinely affordable homes. All new buildings are therefore expected to adopt a fabric-first approach (i.e. Passivhaus Standards), with the expectation that as our grid system decarbonises, and, we build more energy efficient homes, emphasis will be placed on the embodied energy involved in constructing new buildings, utilising more renewable technologies.

Currently (2017 figures), all 3 district councils contribute 558CO2kt from the domestic sector only (electricity, gas and other contributions). This accounts for almost a third (27%) of all CO2 contributions in the districts and represents a significant opportunity reduce our carbon impact and adopt circular economy principles.

With the decarbonising of the National Grid, achieving net zero-carbon will mean strategic sites must respond to the two key components of whole-life carbon; embodied carbon and operational energy. Achieving net zero operational energy means the building does not burn fossil fuels and is 100% powered by renewables.

A Whole Life Carbon (WLC) Assessment should be undertaken at pre-application, planning application, and after practical completion, as new homes are expected to last 60+years, with carbon emission reduction in line with the targets in the Checklist. Appendix 2a highlights the sequence of activities to complete an assessment.

Embodied Carbon Reduction Strategy:

1. Using circular economy principles of reuse and refurbish, and designing for disassembly at end of life with processes including using offsite construction.
2. Building low-energy homes, using fossil fuel-free technology to supply heating and power to them.
3. Using renewable energy where necessary

Operational carbon Reduction Strategy:

1. Not burning fossil fuels for supply to homes
2. 100% powered by renewable energy i.e.heat pumps
3. Achieving energy performance in line with checklist

For Outline Planning, Applicants can use Whole Life carbon assessment tools such as FCBS Carbon.

KEY LOCAL POLICY & GUIDANCE

HGGT Vision
- Placemaking and Homes: B9, B10, D3
- Landscape & Green Infrastructure: D1, D2, D3, D4
- Sustainable Movement: D6
- The emerging Garden Town Transport Strategy
- Building Futures – Hertfordshire Guide

HDC Local Plan Policy:
- HGT1: Development & Delivery of Garden Town
- PL3: Sustainable Design, Construction & Energy Use
- Harlow Area Action Plan (TC AAP)

EFDC Local Plan Policy:
- SP4(xvii): Highest standards of energy efficiency
- SP5 Garden Town Communities
- DM9: High Quality Design
- DM19: Sustainable Water Use
- DM20: Low Carbon and Renewable Energy

EHDC Local Plan Policy:
- CC3: Renewable and Low Carbon Energy
- DES1 Masterplanning
- DES4: Design of Development (a) & (b)
- HOU8 Self-Build and Custom Build Housing
- CFLR9 Health and Wellbeing
- 11.2 Harlow and Gilston Garden Town

SOCIO-ECONOMIC CO-BENEFITS +

CASE STUDIES (click image to visit website)

Marmalade Lane, Cambridge
Built with fabric-first approach for energy efficient homes, alleviating fuel-poverty.

Goldsmith Street, Norwich
Built to Passivhaus standards, needing little energy for heating and cooling.

Newhall , Harlow
Being highly sustainable with consideration for long-term energy use and incorporating measures to reduce energy use in properties

QUALITY CHECKLIST		Minimum Requirement	Net Zero-Carbon by 2050	Net Zero-Carbon by 2030
En.1	What Operational Energy target does the development aim to achieve (KWh/m2/y)	146 ☐	< 70 ☐	< 0 - 35 ☐
En.2	What Embodied Carbon target does the development aim to achieve (kgCO2e/m2)	1000 ☐	< 450 ☐	< 300 ☐
En.3	Space Heating Energy Demand (KWh/m2/y) of net living space	54.26 ☐	25 ☐	15 ☐
En.4	Airtightness (air changes/ hr @ n50)	5 ☐	3 ☐	≤ 0.6 ☐
En.5	Ventilation Strategy (m3/hr/person)	Natural - extract fans ☐	Mechanical - with extract fans ☐	Mechanical Heat Recovery (30) ☐
En.7	What is the on-site reduction in CO2 emissions against Building Regulations Part L (2013)?	0-34% ☐	35%-50% ☐	≥ 50% ☐
En.8	For applications greater than 99no. units, what BREEAM Communities Level is met?	Very Good ☐	Excellent ☐	Outstanding ☐
En.9	Thermal Bridging y-value (W/m2K)	0.0051 ☐	0.0039 ☐	0 ☐
En10	What Fabric U-Values has the proposal been designed to meet? W/(m2K)	☐	☐	☐
	External Walls	0.30 - 0.16	0.15 - 0.11	< 0.1
	Floor	0.25 - 0.11	0.10 - 0.08	< 0.07
	Roof	0.20 - 0.13	0.12 - 0.10	< 0.1
	Windows (triple glazing) & Doors	2.00 - 1.4	1.3 - 1.00	< 0.9
	Attach Whole Life Carbon Assessment Attach Overheating Design Assessment	☐		
	Attach certification of the above chosen standards, and use 'Statement' page for additional information			

Outline Planning submission & Reserved Matters App.

Reserved Matters / Full Planning Application

RENEWABLE ENERGY

OBJECTIVES & REQUIREMENTS

Our recent extreme weather has highlighted the need to ensure that buildings constructed today are fit for the future, and, designed for resilience over the next 60+ years. Other Climate mitigation and adaptation strategies span the breadth of this document, so this section focuses on the use of renewable energy for our heat supply, as heat demand is estimated at more than 40% of the energy consumed across all 3 boroughs.

The nature and scale of the strategic sites make them ideal to ensure that the heating and hot water they generate are fossil fuel free, supporting less demand on the national grid.

On-site renewable technologies such as Heat Pumps, Solar Photovoltaics, and Solar Thermals should be explored for adoption, and paired with each other to provide the greatest benefit to new developments; i.e. heat pumps paired with efficient buildings, and PV's paired with electric charging enabling sustainable travel.

Applicants are to use the LETI Heat Decision Tree (Appendix 3) at concept and developed design stages, to assist them in choosing the most appropriate heating system; where renewable systems should be prioritised over connecting to district heating networks, which depend on fossil fuels.

New Developments should be designed to;
- Heat Sharing Network: joining a heat sharing network is particularly relevant for these strategic mixed-use development sites where opportunities for load shifting and heat sharing occur.
- Minimise system temperatures: high temperatures in heating systems are synonymous with fossil-fuel combustion
- Reduce Heat Demand at point of use: The greatest opportunity to meeting net zero-carbon emissions is to reduce the amount of heat needed: achieved through a fabric-first approach and limited hot water use, coupled with reuse of low temperature waste heat sources.
- Lean Design: load modelling can predict energy use and help size plant requirement.
- Harness Waste Heat: heat released as a by-product of an existing process enables otherwise wasted heat to contribute to meeting energy demands.

KEY LOCAL POLICY & GUIDANCE

HGGT Vision
- Placemaking and Homes: B9, B10, D3
- Landscape & Green Infrastructure: D1, D2, D3, D4
- Sustainable Movement: D6

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- DM19: Sustainable Water Use
- DM20: Low Carbon and Renewable Energy

EHDC Local Plan Policy:
- CC3: Renewable and Low Carbon Energy
- DES4: Design of Development (a) & (b)
- Building Futures: Sustainable Design Toolkit

SOCIO-ECONOMIC CO-BENEFITS +

CASE STUDIES (click image to visit website)

Project Etopia, Corby
Uses combined solar PV's and thermal panel to deliver net zero carbon on site.

Active Homes, Neath, South Wales
Battery technology used to store energy and solar PV & TSC's to generate 60% energy.

Tallack Road, Waltham Forest, London
Large-scale communal Air Source Heat Pump to feed ambient temperature heat network

QUALITY CHECKLIST		Minimum Requirement	Net Zero-Carbon by 2050	Net Zero-Carbon by 2030	
Rn.1	What on-site renewable energy technologies are planned to be included in the development?	PV's + EV charging / CHP's ☐	Low-temperature District Heating ☐	Electric Heat Pumps / Solar Thermal ☐	Outline Planning submission
Rn.2	What percentage of CO2 emission reduction is planned to be provided from on-site renewable energy sources? (SAP 10 carbon emission factors to be used for calculation)	> 20% ☐	> 50% ☐	> 70% ☐	
Rn.3	What percentage of household electricity will on-site renewable technology provide? (net zero operational carbon does not burn fossil fuel and is 100% powered by renewables)	> 35% ☐	> 50% ☐	100% ☐	Reserved Matters / Full Planning Application
Rn.4	Have any government incentivised schemes been taken advantage of? i.e. Non-Domestic Renewable Heat Incentive (RHI)	None ☐	N/A	Non-Domestic RHI ☐	
Rn.5	Photovoltaic Energy Demand (kWh/m2/yr)	-854 ☐	-2,563 ☐	-2,563 ☐	
Rn.6	Domestic hot water (kWh/m2/yr)	42 ☐	20 ☐	6 ☐	
	Please attach Energy Assessment	☐			
	Please attach relevant certification of the above standards you have chosen	☐			
	Please use 'Sustainability Summary' pages where you are adding any further information				

GREEN INFRASTRUCTURE

OBJECTIVES & REQUIREMENTS

The HGGT Vision sets out indicators for landscape and green infrastructure: proposals should respond to the distinctive landscape setting; expand and enhance the town's Green Wedge network; improve access to, and the quality of, the surrounding Green Belt; and support a sustainable and biodiverse environment.

The green and blue infrastructure network of the Garden Town and wider area must be protected and enhanced, and considered in an integrated way to meet sustainability, placeshaping and socio-economic objectives. Key assets include the Stort Navigation & Stort Valley; the River Lea & Lee Valley; the Green Wedge and Finger network; Grade II Listed Harlow Town Park; existing and Ancient woodland including Epping Forest; neighbourhood allotments & green spaces; the proposed Gilston Country Park; proposed Suitable Alternative Natural Greenspace; new 'Super Greenways'; sports, play and adventure spaces.

Proposals must be landscape-led from the start, and green infrastructure should be high quality and multifunctional, as set out in the East Herts Gilston Area Charter SPD and EFDC Green Infrastructure Strategy Relevant landscape and ecology expertise should be sought early in the design process.

Development should deliver at least 10% Biodiversity Net Gain (BNG) following the mitigation hierarchy, and then provided on-site where possible, before off-site or compensation are considered, Ecology Reports should set out targeted net gain outcomes, through baseline surveys, then consider protection, mitigation, habitat enhancement/ creation, with stewardship and maintenance for a minimum of 30 years.

Greening of streetscapes and amenity spaces, with street trees, pocket parks, hedgerows, Super Greenways, greens roofs and swales, provide placeshaping benefits as sociable streets and contribute to climate resilience, through biodiversity enhancement and mitigating overheating.

Multifunctional and inclusive green & blue infrastructure at various scales has an important role to play in placeshaping, health, wellbeing, and community resilience. Play, social spaces, food growing, art and heritage trails should be designed early, considering all ages and abilities, with active frontages to enable natural surveillance.

KEY LOCAL POLICY & GUIDANCE

- HGGT Vision & Design Guide
- HGGT Healthy Town Framework

Harlow Council: Local Plan Policy:
- WE1: Strategic Green Infrastructure
- WE2: Green Wedges and Fingers
- WE3: Biodiversity and Geodiversity
- PL4: Green Wedges and Green Fingers
- PL5: Other Open Spaces
- PL6: Trees and Hedgerows
- PL7: Green Infrastructure and Landscaping
- PL8: Biodiversity and Geodiversity Assets
- Harlow Area Action Plan (TC AAP)

EFDC Local Plan Policy:
- SP 3 Place Shaping
- SP 7 The Natural Environment
- DM 1 Habitat protection and improving biodiversity
- DM 2 Epping Forest SAC and the Lee Valley SPA
- DM 3 Landscape Character
- DM 5 Green and Blue Infrastructure
- DM 6 Designated and undesignated open spaces
- DM9: High Quality Design
- DM 15 Managing and reducing flood risk
- DM 22 Air Quality
- EFDC Green Infrastructure Strategy

EHDC Local Plan Policy:
- DES1: Masterplanning
- DES2 Landscape Character
- DES3 Landscaping
- DES4: Design of Development (a) & (b)
- CFLR1 Open Space, Sport and Recreation
- CFLR2 Local Green Space
- CFLR4 Water Based Recreation
- CFLR9 Health and Wellbeing
- NE3 Species and Habitats
- NE4 Green Infrastructure
- CC1 Climate Change Adaption
- East Herts Gilston Area Charter SPD

Wider Area
- Green Essex Strategy
- Essex Biodiverstiy Action Plan
- Hertfordshire Strategic Green Infrastructure Plan 2011
- Stort Catchment Management Plan
- Green Arc Strategy

SOCIO-ECONOMIC CO-BENEFITS +

CASE STUDIES (click image to visit website)

Community cohesion: Drapers Field
Addresses issues of community cohesion and play, improving wellbeing.

Ecology in Architecture: Barratt Homes
A progressive approach to wildlife-friendly housing, with 'Swift Bricks' built into homes.

Collaboration: Teignmouth, Devon.
Partnership with third sector to deliver ongoing BNG and between the LPA & RSPB to deliver strategic compensation.

QUALITY CHECKLIST		Low Quality	Medium Quality	Garden Town High Quality
Gr.1	Has a Landscape-led approach been demonstrated, as set out in the HGGT Vision / Gilston Area Charter SPD / EFDC Green Infrastructure Strategy?	No ☐	Some landscape analysis undertaken ☐	Ecology, topography, vistas, landscape character & features leading design ☐
Gr.2	What % of Biodiversity Net Gain (BNG) will be delivered?	0-9% BNG ☐	10-15% BNG ☐	15%+ BNG ☐
Gr.3	Does Ecology Report show process of mitigation and location hierarchy, with Stewardship and Maintenance strategy provided for green infrastructure and BNG?	No strategy ☐	Yes - Outline strategy provided ☐	Yes - hierarchies followed, and 30 year strategy with input from community ☐
Gr.4	Have play, community amenity and food production opportunities been maximised? All new homes should be within 800m of allotments, and Fields in Trust distances should be followed for play spaces.	No ☐	Yes - locations mapped with walking isochromes ☐	Yes - locations mapped, character of spaces defined, strategies for play / food / active frontages ☐
Gr.5	Have you used recognised tools to assess the value/ quality of green infrastructure? E.g. Natural Capital Tool/ Ecometric/ Building With Nature/ Green Flag Award/ Social Value Calculator	No ☐	Yes - qualitative assessment undertaken ☐	Yes - qualitative assessment/ value calculated with exemplary score ☐
Gr.6	Has an overheating assessment or modelling been provided, as set out in UKGBC's Housing Standards Playbook, taking into account impact of green infrastructure?	No ☐	Yes - some assessment ☐	Yes - UKGBC Playbook followed ☐
Gr.7	Has green infrastructure been proposed at different scales to reinforce the Garden Town Vision indicators, access and inclusive design principles?	Different scales not explored ☐	Yes - Different scales shown, roles/ function undeveloped ☐	Yes - Different scales designed, with qualities and roles defined, and inclusively designed ☐
	Please attach your BNG Report / Biodiversity Impact Assessment with Stewardship & Maintenance Strategy Please use 'Sustainability Summary' pages where you are adding any further information			

SUSTAINABLE MOVEMENT

OBJECTIVES & REQUIREMENTS

Sustainable movement and active transport infrastructure are key to the success of sustainable growth in the Garden Town. Positive travel choices that enable sustainable living lie at the heart of the Garden Town's Vision, Transport Strategy, and Healthy Town Framework. The three overarching objectives of the HGGT Transport Strategy are:

1. 50% of all trips originating from and ending within the whole Garden Town should be by active and sustainable travel modes. Within the new Garden Communities, 60% of trips originating from and ending within them should be by active and sustainable travel modes.

2. Mobility options will be based on a hierarchy of importance: Reduce the need to travel > walking and cycling > public transport > private vehicle use.

3. Support and encourage a culture of active and sustainable travel ensuring all journeys will be efficient and safe.

Masterplanning for Sustainable Movement should address: walkable low traffic neighbourhoods, sociable streets and placemaking; cycling, walking and public transport network; behaviour change programmes; rebalancing car use and parking design (including carpooling and car sharing); futureproofing with adaptable technology; deliveries and servicing; and construction impacts.

Sustainable Transport Corridors (STCs) will be a series of strategic public travel routes through the Garden Town providing inclusive, coherent, safe, direct, convenient and attractive public and active travel options that will connect neighbourhoods quickly with key destinations such as the town centre and Harlow Town railway station. The design of these should follow the HGGT STC Placeshaping Principles and Transport User Hierarchy.

'Mobility Hubs' provide transport interchange as well as social and community focal points. All new homes should be within 800m (10 minute walk) of a hub and within 400m of a bus stop.

Designs must futureproof for change in travel habits, including reallocating parking and road space, innovation in travel technology, last mile deliveries and appropriate provision for electric charging .

SOCIO-ECONOMIC CO-BENEFITS +

KEY LOCAL POLICY & GUIDANCE

- HGGT Vision & Design Guide
- HGGT Transport Strategy (draft)
- HGGT Healthy Town Framework (draft)
- HGGT Local Cycling & Walking Infrastructure Plan (LCWIP) (emerging)
- HGGT STC Placeshaping Principles (draft)
- HGGT Hubs 'How To' Guide (draft)
- HGGT Parking Strategy (emerging)

Essex County Council
- Local Transport Plan 3
- Sustainable Modes of Travel, Speed & Traffic Management Strategies
- Essex Design Guide
- Harlow Cycling Action Plan

Hertfordshire Council Council
- Local Transport Plan 4
- Hertfordshire Active Travel Strategy/Sustainable Modes of Travel Strategy
- Roads in Hertfordshire: A Design Guide

Harlow Local Plan Policy:
- HGT1 Dev & Delivery of the Garden Town
- PL3 Sust. Design, Construction & Energy Use
- IN1 Development and Sustainable Modes of Travel
- WE2 Green Wedges and Green Fingers
- Harlow Town Centre Area Action Plan (emerging)

EFDC Local Plan Policy:
- SP 3 Place Shaping
- SP 4 Garden Communities in HGGT
- T 1 Sustainable transport choices
- T 2 Safeguarding of routes and facilities
- DM 9 High Quality Design
- DM 22 Air Quality

East Herts Local Plan Policy:
- GA1 The Gilston Area
- TRA1 Sustainable Development
- TRA3 Vehicle Parking Provision
- DES4 Design of Development
- CFLR9 Health and Wellbeing
- DEL2 Planning Obligations
- EHDC Sustainability SPD

Other:
- UK Government Policy Paper: Gear Change
- Sport England Active Design Principles
- Sustrans Cycling For Everyone

CASE STUDIES (click image to visit website)

Dunsfold Park Masterplan, Surrey
Designing a walkable village entirely within 10 minutes' walk of the Market Square.

St Chads Development, Essex
Shared surface 'home zones' are designed to prioritise pedestrians and cyclists, while reducing vehicular speed.

VeloCity, National Infrastructure Commission. Enriching village life while creating new homes and employment in healthy and socially cohesive places.

QUALITY CHECKLIST		Low Quality	Medium Quality	High Quality	
Tr.1	Have walkable low traffic neighbourhoods been designed as a first principle, based on the HGGT Transport User Hierarchy?	No - vehicle access design prioritised ☐	Transport hierarchy considered ☐	Yes - desire lines, permeability, topography, user hierarchy leading design ☐	Outline Planning submission
Tr.2	Have safe and high quality connections to active travel networks beyond the development boundary been proposed with green infrastructure considered?	Ongoing connectivity not considered ☐	Some connectivity - lacks GI consideration ☐	Strong connections to networks, with clear relationship to GI/ ecology ☐	
Tr.3	Have you followed the STC Placeshaping Principles when designing the STC and its transport interchanges?	Not shown ☐	Some achieved ☐	Yes - all achieved ☐	
Tr.4	Are bus stops and hubs accessible and attractive for new and existing residents, offering appropriate shelter and including provision of a regular bus service?	Hubs and bus stops not meeting requirements ☐	STC hubs within 800m, bus stops within 400m of all new homes ☐	STC hubs co-located with facilities/sheltered bus stops within 800m/ 400m of all homes with regular service ☐	Reserved Matters / Full Planning
Tr.5	Has cycle parking designed to be high quality, safe and with ease of access?	Cycle parking not provided ☐	Suitable quantity of spaces provided ☐	Quantity and quality of environment provided ☐	
Tr.6	Have inclusive design principles / accessibility for all regarding sustainable movement routes been achieved?	Does not meet Equalities Act ☐	Inclusive Design Statement provided ☐	Exemplary inclusive design provided ☐	
Tr.7	Has a Transport Assessment been provided that clearly demonstrates how the mode split target is being achieved, as defined by HGGT?	Yes - minimum TA provided ☐	Yes - but multi modal modelling not included ☐	Yes - multi-modal modelling, and roadmap for achieving HGGT targets ☐	
Tr.8	Has a thorough Sustainable Travel Plan been provided? Has Modeshift Stars accreditation been explored?	No ☐	Sustainable Travel Plan provided ☐	Yes - including behaviour change programme, travel coordinator, monitoring ☐	
	Please use 'Sustainability Summary' pages where you are adding any further information				

WATER MANAGEMENT

OBJECTIVES & REQUIREMENTS

The combined challenges and opportunities of growing populations within the Garden Town, changing land uses, the finite supply of water, action is required now to ensure the availability of water for the future without having a detrimental impact on the environment. There is likely to be less water available for future generations and therefore a greater need for water demand management and water efficiency in the area. New development should therefore not lead to an overall increase in demand for water.

The strategy therefore looks for new developments to:

i) Reduce the risk of flood through the use of sustainable drainage infrastructure and robust green infrastructure design - including the use of biophillic design and permeable hard landscape.

ii) Minimise use of mains water by incorporating water saving measures and equipment, and, designing residential development so that mains water consumption is reduced in accordance with requirements found in the table overleaf.

iii) Promote the use of rainwater harvesting and using dual potable and grey water recycling measures

To avoid increased flood risk, and make the most effective use of the existing and planned drainage infrastructure, rainwater should be managed as a valuable resource, rather than a waste product and innovative ways of using water can be incorporated into community infrastructure.
There is a drive towards sustainable drainage systems that mimic the way nature manages rainwater. As a result, designing new developments for optimal sustainable water consumption has become even more important, with the Garden Town enabling ambitious targets for water efficiency in all new developments.

Existing homes and workplaces should become more water efficient through metering and water efficiency retrofits.

New developments should embrace carbon reduction systems such as a waste water heat recovery.

KEY LOCAL POLICY & GUIDANCE

HGGT Vision
- Placemaking and Homes: B9, B10, D3
- Landscape & Green Infrastructure: D1, D2, D3, D4
- Sustainable Movement: D6
- HGGT Watercycle Study 2018
- The emerging Garden Town Transport Strategy

HDC Local Plan Policy:
- HGT1: Development & Delivery of Garden Town
- PL3: Sustainable Design, Construction & Energy Use
- PL10: Water Quality, Water Management, Flooding and Sustainable Drainage Systems
- Harlow Area Action Plan (TC AAP)

EFDC Local Plan Policy:
- SP4(xvii): Highest standards of energy efficiency
- DM9: High Quality Design
- DM19: Sustainable Water Use
- DM20: Low Carbon and Renewable Energy

EHDC Local Plan Policy:
- CC3: Renewable and Low Carbon Energy
- DES4: Design of Development (a) & (b)
- Building Futures: Sustainable Design Toolkit
- WAT3 Water Quality and the Water Environment
- WAT4 Efficient Use of Water Resources
- WAT5 Sustainable Drainage

Essex:
- The Sustainable Drainage Systems Design Guide For Essex: Weblink Here

CASE STUDIES (click image to visit website)

Waltham Village Square | Rain Gardens
Full of native shrubs and flowers planted in a depression to temporarily hold and soak-in rain water runoff from roofs & driveways

Knostrop Weir, Leeds | Flood Management
Provides three new pneumatically moveable weirs that can be lowered to let floodwater discharge quickly downstream.

Ladywell Fields, Lewisham | SuDS
Creating sustainable drainage and reduce flooding by modifying the river channel with a naturalistic setting incorporating backwaters and wetlands.

QUALITY CHECKLIST		Minimum Requirement	Net Zero-Carbon by 2050	Net Zero-Carbon by 2030
W.1	What water collection or recycling measures are likley to be used?	100% provision of water butts ☐	Rainwater harvesting systems ☐	Grey water recycling & harvesting ☐
W.2	How much of the hard surfaces within the development and conveyance systems will be permeable (i.e streams, swales)	50% ☐	75% ☐	100% ☐
W.3	Potable Water: What is the expected internal water use (litres/person/day)?	110 ☐	95 ☐	75 ☐
W.4	Will water saving devices be installed in the development? e.g. low flush toilets, smaller baths , taps and showers with flow regulators	N/A	N/A	Yes ☐
W.5	What additional Sustainable Urban Drainage (SUDs) measures have been proposed? (i.e. permeable surfaces, rain gardens, green roofs, ponds/wetlands, soakaways)			
	Please use 'Sustainability Summary' pages where you are adding any further information			

Outline Planning submission & Reserved Matters App.

Reserved Matters / Full Planning Application

CIRCULAR ECONOMY

OBJECTIVES & REQUIREMENTS

New developments should promote circular economy outcomes and aim to be net zero waste. In the UK, the largest contributor to waste nationally is the construction and demolition industry where a third of all waste is generated.

The strategic sites in the Garden Town are to be designed to reduce construction & operational waste and enable ease of access for future occupants to recycle and reduce waste. This can be encouraged through adopting a circular economy approach (including the use of modern methods of construction (MMC) & Design for Manufacture and Assembly (DfMA)processes) and the Waste Hierarchy found in the DEFRA Guidance.

Building in Layers principles should be adopted to determine realistic lifetimes for the elements of a building, and adapt the structure and fabric. Homes should be designed to be adaptable and flexible by considering the intended lifespan of each independent building layer, optimising building longevity and maximising material reclamation at end-of-life.

3 Key Principles expand the Circular Economy process:
1. Conserve Resources, Increase Efficiency, Source Ethically:
- Minimise the quantities of materials used: by specifying low embodied carbon materials
- Minimise the quantities of other resources used: including energy, water, and land
- Source materials responsibly and sustainably: including all materials to be reusable

2. Eliminate waste and ease maintenance by:
- Long-life & Loose fit: build to adapt to changing social, physical and economic environments.
- Design for Disassembly: at the commencement of the project, set out deconstruction plan and capture asset value.

3. Manage waste sustainably and at the highest value:
- Construction, demolition & excavation waste
- Operation & Municipal waste

A Circular Economy Statement should be provided to demonstrate chosen strategy.

KEY LOCAL POLICY & GUIDANCE

HGGT Vision
- Placemaking and Homes: B9, B10, D3
- Landscape & Green Infrastructure: D1, D2, D3, D4
- Sustainable Movement: D6

HDC Local Plan Policy:
- HGT1: Development & Delivery of the Garden Town
- PL3: Sustainable Design, Construction & Energy Use
- PL9: Pollution and Contamination
- Harlow Area Action Plan (TC AAP)

EFDC Local Plan Policy:
- SP4(xvii): Highest standards of energy efficiency
- DM9: High Quality Design
- DM19: Sustainable Water Use
- DM20: Low Carbon and Renewable Energy
- DM 7 Heritage Assets
- DM 8 Heritage at Risk
- DM 11 Waste recycling facilities on new development
- DM 18 On site management of waste water and water supply

EHDC Local Plan Policy:
- CC3: Renewable and Low Carbon Energy
- DES4: Design of Development (a) & (b)
- HA1 Designated Heritage Assets
- HA2 Non-Designated Heritage Assets
- HA3 Archaeology
- HA4 Conservation Areas
- HA7 Listed Buildings
- HA9 Enabling Development

SOCIO-ECONOMIC CO-BENEFITS +

CASE STUDIES (click image to visit website)

Illford Community Market, London
Designed for five year and will be dismantled and reconfigured on future meanwhile sites.

London Olympic Park, London
A waste target of 90% diversion from landfill of demolition waste by weight

Clarion Housing, Merton Regeneration
Zero-carbon development of 208 homes, achieving Code for Sustainable Homes Level 5.

QUALITY CHECKLIST		Minimum Requirement	Net Zero-Carbon by 2050	Net Zero-Waste by 2030	
CE.1	How much of the materials used are expected to be 'reusable'	10% ☐	50% ☐	>80% ☐	Outline Planning submission
CE.2	How much of the materials used are expected to be 'reused'	10% ☐	30% ☐	>50% ☐	
CE.3	How much of the materials used on site are sourced from ethical and responsible supply chains?	80% ☐	95% ☐	100% ☐	Reserved Matters / Full Planning Application
CE.4	How much of the materials used are non-toxic?	☐	☐	100% ☐	
CE.5	How much of the materials used can be easily extracted, recycled, and manufactured?	80% ☐	90% ☐	95% ☐	
CE.6	The new buildings are circular-by-design to what amount?	20% ☐	40% ☐	65% ☐	
CE.7	How much biodegradable and recyclable waste will be diverted to landfill?	☐	☐	0 ☐	
	Please attach Circular Economy Statement (see guidance Here)				
	Please use 'Sustainability Summary' pages where you are adding any further information				

WASTE MANAGEMENT

OBJECTIVES & REQUIREMENTS

In line with becoming net zero carbon by 2030, the Garden Town want to ensure that the amount of waste produced by residents and visitors, as well as landfill waste, will be significantly reduced. There is also the ambition for waste to be recycled and used as a resource.

Developments should therefore be designed to ensure that residents and visitors to the Garden Town reduce the amount of waste they produce; with an overall ambition that no waste will end up in landfill.

This section ties strongly to the circular economy section regarding the necessity of designing buildings and places in a way that maximises the lifespan of a building and its' components, before its' components can be reused.

Innovative solutions for recyclable waste management including underground refuse systems are encouraged and applicants are expected to work closely with county councils in encouraging use.

While both Essex and Hertfordshire County Councils are responsible for making decisions on how waste is managed, the Garden Town have a clear ambition to prevent waste going to landfill, therefore applicants are expected to explore innovate ways to reduce waste at design and operational stages, increase efficient recycling opportunities, and reduce residual household waste (including designing-in opportunities for local food production through allotments); and, the waste strategies should consider the Essex Waste Local Plan, Hertfordshire Waste Local Plan, and, the emerging Hertfordshire Circular Economy Guidance should be referred to.

Developers are expected to provide Operational Waste Strategies including management of recyclable waste, residual waste, and food waste. Alongside this, developers are encouraged to be innovative in contributing towards waste reduction campaigns (i.e. collaborating with education providers such as Harlow College)

KEY LOCAL POLICY & GUIDANCE

Hertfordshire County Council
- Waste Local Plan, consisting of:
- Waste Core Strategy and Development Management Policies document
- Waste Site Allocations document

Essex County Council
- Waste Local Plan:

CASE STUDIES

Eddington, Cambridge
Underground chutes replace thousands of traditional wheelie bins in an innovative waste disposal system.

London Olympic Park, London
A waste target of 90% diversion from landfill of demolition waste by weight

Millerhill, Midlothian
Residual waste recycling and energy recovery facility

QUALITY CHECKLIST		Minimum Requirement	Net Zero-Carbon by 2050	Net Zero-Waste by 2030	
W.1	Has early engagement been undertaken with LPA waste management teams to ensure due processes are taken into consideration?	No: LPA not engaged ☐		Yes: demonstrated ☐	Outline Planning submission
W.2	Have developments been designed to encourage ease in waste recycling?	No ☐		Yes ☐	
W.3	How much construction, demolition and excavation (CD&E) waste will be recycled? This is to be incorporated in your Construction Management Plan	☐		≥ 95% ☐	Reserved Matters / Full Planning Application
W.4	How much municipal waste (operational waste) will be recycled or composted vs sent to landfill or energy recovery?	☐		65% : 35% ☐	
	Please attach: - Construction, Demolition and Excavation Waste Strategy - Operational Waste Strategy				
	Please use 'Sustainability Summary' pages where you are adding any further information				

AIR QUALITY

OBJECTIVES & REQUIREMENTS

In this section, pollution focuses on air pollution as it acts as the single largest influence on air quality to human health in the districts. This section should not be used as a substitute for work otherwise undertaken in any normal full planning application.

Every new development will have an impact on air quality, usually by increasing emissions from buildings or from traffic generation. The links between poor air quality, human health, and the environment are well documented and is classed by Public Health England as a major public health risk alongside cancer, heart disease and obesity.

Air pollution causes more harm than passive smoking and is responsible for the early deaths of an estimated 40,000 people in the UK.

Air Pollution arises from sources and activities including; traffic and transport, industrial processes, domestic and commercial premises, energy generation, agriculture, waste storage/treatment and construction sites.

This section adopts Public Health England's 2019 "net health gain" principles to improve outdoor air quality and public health. New developments should adopt a strategic approach, in line with each Boroughs' Air quality policy and guidance, including any requirements on Air Quality Management Areas, Local Air Quality Action Plan, and development Air Quality Assessments.

Clean by Design: Better by Design:

The following net health gain principles should be incorporated in design to reduce emissions and contribute to better air quality management; applicable irrespective of air quality assessments:

1. Reduce the need to travel by car to destinations
2. Provide zero and low-emission travel options (EV's)
3. Not siting buildings with vulnerable users (i.e. schools, nurseries, care homes) in areas where pollution levels are likely to be higher.
4. Incorporate Clean Air Zones in larger developments
5. Avoid creating 'street canyons' which encourage pollution to build up
6. Incorporate green infrastructure to promote carbon and pollution sequestration
7. Orientate and design buildings to rely less on heating and cooling systems
8. Siting living accommodation away from roadsides
9. Incorporate whole-house ventilation systems for good indoor air quality

KEY LOCAL POLICY & GUIDANCE

HDC Local Plan Policy:
- HGT1: Development & Delivery of the Garden Town
- PL3: Sustainable Design, Construction & Energy Use
- PL9: Pollution and Contamination
- Harlow Area Action Plan (TC AAP)

EFDC Local Plan Policy:
- SP4(xvii): Highest standards of energy efficiency
- DM9: High Quality Design
- DM19: Sustainable Water Use
- DM20: Low Carbon and Renewable Energy
- DM 22 Air Quality

EHDC Local Plan Policy:
- CC3: Renewable and Low Carbon Energy
- DES4: Design of Development (a) & (b)
- Building Futures: Sustainable Design Toolkit
- EQ4 Air Quality

QUALITY CHECK-LIST		Minimum Requirement	Best Practice	
A.1	Have mitigation measures as described in each relevant District's Air Pollution Mitigation Strategy been adhered to?	No: LPA not engaged ☐	Yes: demonstrated ☐	Outline Planning submission
A.2	Where the development has the potential to impact on air quality, has an air quality assessment been undertaken to ensure present and future occupants are not exposed to unacceptable levels of air pollution?	No: assessment not undertaken ☐	Yes: demonstrated ☐	Outline Planning submission
A.3	Have tree species been chosen based on their ability to reduce air pollution in line with requirements from the Woodland Trust Urban Air Quality Report?	No: tree species not identified ☐	Yes: demonstrated ☐	Reserved Matters / Full Planning Application
	Please attach relevant documentation, and use 'Sustainability Summary' pages where you are adding any further information			Reserved Matters / Full Planning Application

ASSURING PERFORMANCE

OBJECTIVES & REQUIREMENTS

Post-construction energy and quality monitoring is required to bridge the 'performance gap' found in new developments and achieve net zero-carbon .
Achieving this requires a true understanding of a buildings' operational energy .
The performance gap is the difference between predicted design and as-built performance of a building.

Addressing the performance gap in new homes and buildings is critical, as this affects both the 'happiness' of residents, as well as the performance quality of through; residents comfort in terms of poor thermal comfort, indoor air quality, health challenges such as respiratory issues. Furthermore, a poor performing building leads to higher energy bills due to poor building fabric, and exasperating challenging health conditions.

Findings from studies undertaken by Innovate UK and the Zero Carbon Hub consisting over 300 homes, results showed that none met their intended performance targets when tested, with the majority falling even short of Part L and Part F of the Building Regulations by a margin of over 50% post-completion.

The main challenges found in the studies are highlighted in the green box, and design teams and applicants are therefore required to undertake Post Occupancy Evaluation (PoE); assessing both performance standards and quality of life, to address these issues.

All major developments will therefore be required to monitor and report on residents' wellbeing, and the actual operational energy performance in order to close this performance gap and meet the net zero carbon by 2030 targets committed to by each partner authority.

A template PoE form can be found in Appendix 8 and should be used to show compliance. Broadly; evaluation will be required at the following stages:

1. Planning: predicted performance assessment
2. As-built: performance assessment
3. In-use: quality of life / happiness assessment

Further information can be found on the GLA website and the Zero Carbon Hub website.

PRIORITY ISSUES

1. Energy Literacy
2. Improving Quality Output
3. Demonstrating Performance
4. Evidence Gathering & Dissemination

QUALITY STANDARD

In line with the RIBA **Post Occupancy Evaluation** is expected for submission and should cover these key areas of Building in Quality:

1. **Build Quality**: performance of the completed buildings
2. **Functionality**: how useful the building and places is in achieving its purpose
3. **Impact**: how well these developments adds social, economic, cultural, and environmental value and improves human wellbeing

DIGITAL SUSTAINABILITY

OBJECTIVES & REQUIREMENTS

Sustainable and future digital infrastructure will be a key component to the success of Harlow and Gilston Garden Town.

Future proof and wide-ranging digital infrastructure to enable HGGT to achieve its sustainability goals is crucial and an opportunity for HGGT to champion new delivery models and achieving the 60% modal shift goal. It will also enable HGGT to achieve the Garden Town principles of becoming net zero-carbon by 2030, with strong and connected communities. The opportunity to use sensor and 5G technology will make wireless internet possible everywhere, from smart cars to the Internet of Things (IoT).

The speed, capacity and connectivity of 5G will also provide many opportunities to enhance, protect and preserve the environment through increasing energy efficiency, reducing greenhouse gas emissions, minimising waste and enabling more use of renewable energy. It can also expand our understanding of, and hence improve, decision-making about weather, agriculture, pests, industry, waste reduction and much more.

COVID-19 pandemic has tested (and demonstrated) the importance of efficient, fast and reliable communications networks and other digital infrastructure. However, there is a clear challenge to ensure residents have the access and skills to enable them to take advantage and use new technologies. Focus must be given to ensure the reduction of the digital divide and ensure access by all residents.

HGGT also is part of the Essex & Hertfordshire Digital Innovation Zone (DIZ), which has one of its aims to ensure future digital infrastructure in new developments.

A Digital Vision has been produced, setting out the opportunities and challenges including a set of principles to achieve the sustainability by ensuring future proof digital infrastructure.

Developers are invited to present their plans for the individual sites and are encouraged to sign up the Vision and its principles to be used in their procurement of telecom providers.

PRINCIPLES

Health and Wellbeing - Using digital technologies to provide excellent access to services to helping people helping themselves through self-testing and monitoring.

Sustainable Movement - Utilising appropriate digital technology to enable deployment of innovative technologies and public transport solutions in order to minimising greenhouse gas emissions and local traffic congestion. Also, to ensure the connectivity with Harlow town centre and the wider connectivity.

Promoting a Circular Economy - Developing a Circular economy aimed at eliminating waste and the continual use of resources.

Smart energy and utilities - Utilising appropriate digital technology to minimise the use of natural non-renewable resources and maximise the use of renewable resources, to protect the environment

Smart Public Realm - Utilising appropriate Smart technology to maximise the safe, inclusive and enjoyment use of the public realm; to make it safe and enrich people's lives, and to minimise energy use.

Economy - To ensure the latest digital technology is available in all new homes to facilitate working from home and in new flexible workplaces to maximise productivity. Also, to ensure ease of movement of goods through smart transport infrastructure and monitoring.

Community and Social Infrastructure - To digitally connect people across HGGT to create a strong sense of community, enrich people's lives, and empower residents and businesses to harness digital opportunities for social mobility and equality.

Smart Data Sharing - Utilising appropriate Smart technology to digitally collect/monitor data to manage and maintain the function and quality of the village for the users and protect the wider environment.

Social & Economic Sustainability

Goal: Enabling integrated communities

INTRODUCTION

OBJECTIVES & REQUIREMENTS

This section looks at the direct impacts of places and people. Specifically, dealing with how new strategic sites (The East of Harlow site, Gilston Villages 1-7, Waterlane, Latton Priory) will affect the existing diverse communities they connect to.

Designing for Social Sustainability requires a collaborative approach between the private and public sector in order to create new communities that thrive. With the scale and pace of new development, communities must be socially, and economically, as well as environmentally sustainable, and critically, reflect the needs of existing communities. The Draft Harlow Town Centre Area Action Plan should be referred to in knitting existing community requirements with new development.

Addressing social sustainability at the beginning of development, helps manage the long-term costs and consequences of decline and failure in new settlements - an issue of public value and political accountability.

The issues raised in the HGGT Healthy Towns Framework must be addressed; as these highlight that significant proportions of the adult population in Harlow, East Herts, and Epping Forest are not physically active enough, are overweight, or have diabetes - with Harlow having the third highest rate of diabetes in the country.
All three districts have ageing population with an increasing number of people living with dementia. Child poverty and poor outcomes for children and young people are significant issues in Harlow and parts of Epping Forest.

It is therefore essential that all developments create opportunities for daily physical activity for all members of the community; as well as opportunities for supporting a healthier food environment.

Community Ingredients cut across different stages of developments including:
1. Planning & Design
2. Construction & Occupation
3. Long-term Stewardship

In implementing the high-quality Socio-Economic Sustainability Principles, developments ready themselves for strong communities that are well-integrated to the existing Harlow socio-economic fabric.

KEY LOCAL DOCUMENTS

- HGGT Healthy Town Framework
- Essex Health & Wellbeing Strategy: priorities for planning, transport and housing
- Hertfordshire Health & Wellbeing Strategy: priorities for improving mental health and encouraging healthier lifestyles
- NHS Healthy New Towns: Design, Deliver and Manage

Harlow Council:
- Draft Harlow Town Centre Area Action Plan
- Harlow Health & Wellbeing Partnership Strategy
- Harlow Economic Development Strategy
- Livewell Essex
- Harlow Agewell Guide
- HGGT Infrastructure Delivery Plan (IDP)
- HGGT Vision
- HGGT Design Guide
- HGGT Transport Strategy
- HGGT Stewardship Commission
- Essex & Hertfordshire Digital Innovation Zone
- Gilston Area Charter
- Harlow Health and Wellbeing Strategy
- EFDC / HDC / EHDC Statement of Community Involvement (SCI)
- Harlow Sculpture Town
- EFDC Youth Projects interactive map
- Visit Epping Forest
- EFDC Green Infrastructure Strategy
- The Essex Map

Herts & Essex Community Farm.
Photo credit: H&E Community Farm

Herts & Essex Community Farm.
Photo credit: Harlow Livewell Campaign

TBC

TBC

HEALTH & WELLBEING

OBJECTIVES & REQUIREMENTS

To promote a **healthy lifestyle**, active travel should be encouraged and invested in, including ensuring good accessibility to sustainable transport and transportation; embedding the design of high-quality public and green spaces and blue infrastructure such as the River Stort; the use of green infrastructure and biodiversity to promote good mental and physical health; and investment in long-term resilient buildings and infrastructure.

The Harlow Health & Wellbeing Strategy highlights the following key priorities that should be embedded in new developments:
1. Early Help and Startwell
2. Bewell, Staywell, Workwell
3. Agewell
4. Physical Activity and Mental Health

Additional information on other partners in Essex can be found on the Livewell website and Agewell Guide.

The following actions are therefore required from all new developments:
- Look for how this new development can increase physical activity, active living, active travel, and sport - refer to the Green Infrastructure page in this Guidance.
- Promote mental health and wellbeing through clear connections to existing support services
- Encourage older people to "Agewell" by living independent lives through increased community support and reduced winter pressures
- Support children and young people through "Startwell" by incorporating access to affordable activities such as outdoor gyms, community allotments, travelling farms, and urban farming - helping to grow local fruits & vegetables - which also allow them to Eatwell.
- Incorporating flexible workspaces such as co-working, as part of the social infrastructure in new developments to help residents Workwell, particularly in light of pandemics like Covid-19 which will change the way we work moving forward.

VOICE & INFLUENCE

This involves governance structures to represent existing residents networks (such as the Canal & River Trust - a wellbeing charity) and engage new ones in shaping local decision-making and stewardship.

RESILIENCE & ADAPTABILITY

Provision of flexible forward-planning; including housing, infrastructure, and services that can adapt over time; and the incorporation of meanwhile use of buildings and public spaces.

COMMUNITY STRENGTH & SOCIAL INFRASTRUCTURE

OBJECTIVES & REQUIREMENTS

Ensuring the existing social fabric is protected from disruption, and can benefit from new neighbouring development through shared spaces, collective activities and social architecture to foster local networks, belonging and community identity. A strong sense of local ownership; ensuring new communities are well-integrated into the surrounding area, including utilising critical measures such as stakeholder engagement and post-development governance; ensuring the social infrastructure to promote thriving social networks; and a diversity of building and non-building uses and tenures.

Incorporating the right (formal and informal) amenities to enable social inclusion. This section focuses on applicants having a thorough understanding of the local community. Applicants are therefore expected to undertake meaningful engagement with the local communities, particularly those closest to the relevant strategic site, ensuring members, local charity groups, local networks' comments are taken on board and responded to. The applicant will need to demonstrate that a robust stakeholder engagement has been undertaken. The Garden Town undertook high-level engagement and an initial list of stakeholders to be engaged can be found using the The Essex Map.

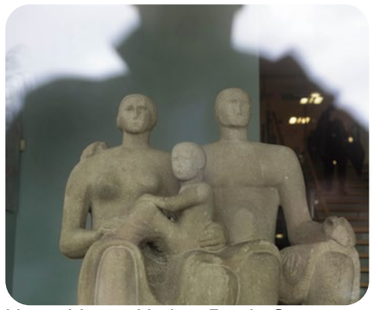
Development should tie into, and extend the rich art culture of Harlows' sculptural town - including engagement with the Harlow Art Trust.

Discover Harlow should be engaged through the development of communities; and can highlight key existing local businesses, organisations, and individuals who can share insight to the needs of Harlow residents.

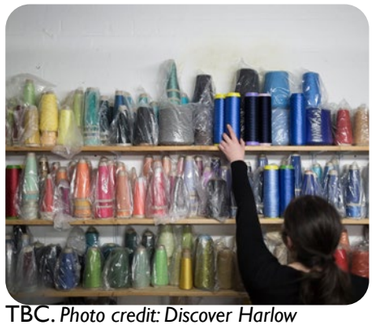
Additionally, documentation, including those found in the HGGT Infrastructure Delivery Plan (IDP), Harlow Infrastructure Delivery Plan, EFDC Infrastructure Delivery Plan, EHDC Infrastructure Delivery Plan; should be referred to and addressed in accordance with the infrastructure needs associated with planned housing and employment growth for each strategic site. Within the documents, these have been prioritised as:

- Critical
- Essential
- Desirable

Developments should therefore highlight what infrastructure will be provided alongside contributions to ensure a holistic approach to development.



Henry Moore; Harlow Family Group: part of the extensive public art collection in Harlow. *Photo credit: Discover Harlow*



TBC. *Photo credit: Discover Harlow*

Harlow community tree planting day. *Photo credit: Harlow Council*

Harlow hatches used during covid-19 to respond to community needs. TBC.

TBC. *Photo credit: Discover Harlow*

TBC. *Photo credit: Discover Harlow*

TBC. *Photo credit: Discover Harlow*

TBC. *Photo credit: Discover Harlow*

ECONOMIC GROWTH & JOB CREATION

OBJECTIVES & REQUIREMENTS

This theme focuses on outcomes including local residents having comfortable homes that are affordable to operate; thriving local businesses; decent jobs for local people, including hard to reach groups; long-term employments for skilled local labour. But also, embedding the fabric necessary to promote long-term growth and development opportunities and develop new skills, including the incorporation of principles found in the Essex & Hertfordshire Digital Innovation Zone (DIZ); and specifically, in the DIZ Strategy.

Developers can play a key role in supporting the success of the local economy and prosperity of the HGGT through both the planning, design and delivery phases of development.

HGGT needs to build upon and integrate with the existing local economy of Harlow and environs to support economic prosperity for residents, businesses and workers.
HGGT occupies a significant and well connected position in the UK Innovation Corridor extending between the global cities of London and Cambridge with significant strengths and innovation assets in key sectors such as digital and ICT, Life Sciences and Advanced Manufacturing.
Key investments in Harlow are being delivered and planned to ensure they both contribute to and benefit from the success of Harlow and the emerging HGGT bringing new employment and business. These include the Harlow Innovation Park with Anglia Ruskin University Innovation Centre, the new Princess Alexandra Hospital, Town centre regeneration and the relocation of Public Health England to Harlow.

Harlow Council has an existing Economic Development Strategy which outlines both the opportunities and challenges for economic success, including the need to support growing numbers of local businesses, ensure we generate quality employment that residents can access, ensuring the right type of accommodation for business and driving up the skills levels of local people.

SOCIO-ECONOMIC CHECKLIST

QUALITY CHECKLIST

For each response, describe design responses within the Sustainability Statement and/or identify details on your plans (250no. words / question max).

Se.1	Has an audit (social mapping) of existing local amenities (shops, parks, school, pubs, playspace) been undertaken? Demonstrate how the outcome informed the development of compact neighborhoods including provision of a wide range of amenities (employment & retail spaces, community facilities and spaces) designed to be accessible by walking and cycling and encourage community interaction, cultural and civic life. *Essex Map offers a good tool to assist with finding local services, groups, and activities available in the local area.*
Se.2	Demonstrate how proposals have been informed by key stakeholders (including: youth, unemployed, ethnically diverse groups, local support organisations) to contribute to a more integrated Harlow community. (include in response: the stakeholders you have engaged with, the findings from these sessions, and how you have implemented stakeholder recommendations). Include community activation strategy (Ref: HGGT Engagement Strategy) produced as part of planning process to secure community engagement and cohesion.
Se.3	Demonstrate how your proposal has provided health and care assets or support the delivery of health and care priorities as set out in the local Health & Wellbeing Strategies. (include the ease of accessibility for existing Harlow communities to use new facilities and networks). Use of the Essex Map offers a good tool to assist with finding local services, groups, and activities available in the local area.
Se.4	What early wins / meanwhile uses are planned for existing Harlow residents during construction stage of strategic sites? And how are they to be implemented?
Se.5	Demonstrate how your proposal includes allotments and community gardens that are easily accessible from homes and spaces for fresh food markets; and how your development has connected with local Harlow food partnerships to agree strategies and actions to enable community accessibility to these assets. *Due to opportunity for anti-social behaviour, applicants are encouraged to engage with Essex / Hertfordshire Police Design out Crime Teams around allotment allocations across new developments.*

QUALITY CHECKLIST

Se.6	Demonstrate how your proposal supports of deliver initiatives (physically and/or socially) which focus on integration between new and existing communities (including Harlow Town Centre, and network of existing local centres) - this to include your engagement with LPA Community Liaison Officers, and Community Representatives (i.e. Discover Harlow Ambassadors).
Se.7	Demonstrate how the HGGT Economic Growth Strategy have been incorporated in this scheme through; design stage, construction stage, and post-completion (identify what jobs have been created / will be created through this development)
Se.8	Demonstrate how the design enables business and workers to function? Is there good telecoms and digital infrastructure that support new business and work patterns.
Se.9	Demonstrate how spaces and buildings support the economic activity of businesses and workers. What type of business space contributes to the local economy? Can homes support working and learning? Can community spaces support economic activity, social enterprises, individual entrepreneurs and skills provision?
Se. 10	How will you work with the local authorities and local education providers to develop and deliver employment and skills plans that support local employment and skills activities through construction and where appropriate occupation phase?

Submission:

1. Quality Checklist

(SUBMISSION OF: ENVIRONMENTAL & SOCIO-ECONOMIC PAGES)

2. Sustainability Statement

(ANY ADDITIONAL INFORMATION)

SUBMISSION

1. Submit the following as evidence of the completed Quality Checklists at Outline, or, Reserved / Full Planning Application Stages as appropriate.

LIST OF SUBMISSION ATTACHMENTS	
DESIGN PRINCIPLES	
Daylight & Sunlight Assessment	☐
Noise Assessment	☐
ENVIRONMENTAL SUSTAINABILITY	
Energy Efficiency & Carbon Reduction	
Whole life carbon Assessment	☐
Overheating Design Assessment	☐
Renewable Energy	
Energy Assessment	☐
Sustainable Movement	☐
Sustainable Travel Plan	☐
Transport Assessment	☐
Water Efficiency	
Water Management / SUDs Strategy	☐
Green Infrastructure	
Ecological Report (to include Biodiversity Impact Assessment)	☐
Lighting Assessment	☐
Landscape Character and Tree Surveys	☐
Circular Economy	
Circular Economy Report (linked to Construction Management Statement)	☐
Construction Management Statement	☐
Waste Management	
Operational Waste Strategy	☐
Pollution: Air Quality	
Air Quality Impact Assessment	☐
Assuring Performance	
Post-Occupancy Evaluation	☐
SOCIO-ECONOMIC SUSTAINABILITY	
Health Impact Assessment (HIA) (Guidance Link)	☐
Health Framework Action Plan	☐
Community Engagement and co-creation strategy	☐
Stewardship Strategy / Long-term Maintenance Strategy	☐

2. Include any additional strategies that have not been covered by the Quality Checklists:

NB: all submitted assessments / reports will be conditioned as necessary to the LPA at post completion / pre-occupation stage to ensure that buildings and communities are being completed to the specified design standards; and in order to close the performance gap and create truly sustainable communities.

Appendix

APPENDIX 1: CLIMATE EMERGENCY DECLARATIONS

EPPING FOREST DISTRICT COUNCIL

Declaration: Climate Emergency
Date of Declaration: 19th September 2019
Motion Link: Here
Cllrs: S.Nevile + J.Phillip

Adopted Motion / Commitment:
1. Declare a 'Climate Emergency';

2. Pledge to do everything within the Council's power to make Epping Forest District Council area Carbon Neutral by 2030;

3. Call on Westminster to provide the powers and resources to make the 2030 target possible;

4. Work with other governments (both within the UK and internationally) to determine and implement best practice methods to limit Global Warming to less than 1.5°C;

5. Continue to work with partners across the district and region to deliver this new goal through all relevant strategies and plans;

6. In the special circumstances of this district, resolves to protect the Special Area of Conservation through the Local Plan and every other means;

7. Implement an Air Quality Strategy and bring forward Sustainability Guidance on planning; and

8. Engage with young people when considering the issue of climate change and appoint a 'Youth Ambassador' from the Epping Forest Youth Council."

EAST HERTS DISTRICT COUNCIL

Declaration: Climate Change Action
Date of Declaration: 24th July 2019
Motion Link: Here
Cllrs: Graham McAndrew

Adopted Motion / Commitment:
1. Join with other councils in recognising and declaring formally the necessity to do everything within the authority's power to reduce its impact on the climate and moreover do everything we can in supporting the whole of East Herts District to become carbon neutral by 2030,

2. Develop an ambitious sustainability strategy for reducing the council's own emissions, with an objective that the council becomes carbon neutral by 2030,

3. Work with national and regional partners to ensure that where at all possible we support climate friendly planning and building control regulations and seek where possible to include the very best measures into the Local Plan to minimise any negative impact on the environment,

4. Call on National Government for more powers and resources to make this pledge possible, and ask the council's Leader to write to the Secretary of state for Environment, Food and Rural Affairs to this effect,

5. Continue to work with partners across the district, county and region to deliver this new goal, through all relevant strategies and plans,

6. Take account of climate impacts within existing decision-making processes,

7. Set up an Environmental and Climate Forum, in line with the recommendations from the Task and Finish Group, which were approved by this Council on 5th March, 2019,

8. The Environmental Forum to monitor progress regularly, and to report back,
9. Commit to making available the appropriate training to members and officers to promote carbon neutral policies in order to achieve these aims.

HARLOW DISTRICT COUNCIL

Declaration: Climate Emergency
Date of Declaration: 11th July 2019
Motion Link: Here

Adopted Motion / Commitment:
1. Reducing the council's net carbon emissions as far as possible and reducing the carbon footprint at a greater rate than it is already committed to do so. Other actions include:

2. Planting 1,000 new trees and hedgerows across the town in the next year.

3. Encouraging the council's trading company HTS (Property & Environment) Ltd to switch over from petrol and diesel vehicles, plant and machinery to electric power vehicles, plant and machinery.

4. Encouraging HTS to source battery technology for its electric vehicles from companies who ensure environmentally friendly lithium mining techniques.

5. Reaffirming the council's commitment to the Garden Town development's principles of sustainable transport.

6. Eliminating the use of single use plastics across all public council buildings by January 2020 ahead of the national implementation date of April 2020.

7. Actively promote schemes to encourage children to walk to school such as the Walking Bus initiative and WOW (walk on Wednesdays).

8. Installing electric car charging points across all council car parks within the next five years where possible.

9. Developing a strategy which looks at the feasibility of:
i) Installing photovoltaic panels on all public council buildings within the next two years where possible; and
ii) New council built houses having a minimal carbon footprint; and
iii) An action plan is created to focus on reducing the impact of day-to-day living on the environment beyond that caused by greenhouse gas emissions.

HERTFORDSHIRE COUNTY COUNCIL

Declaration: Climate Emergency
Date of Declaration: 16th July 2019
Motion Link: Here
Cllrs: David Williams

Adopted Motion / Commitment:
Hertfordshire County Council's sphere of influence is broad with the ability to influence carbon emission reductions, improve air quality, promote energy efficiency, seek more sustainable sources of energy, reduce waste production, promote better land use practices, make links to health and wellbeing and influence procurement practices.

The Council's existing initiatives include an Air Quality Strategy, Energy Strategy, a Climate Change Resilient Communities Strategy, a Pollinator Strategy and the Leading by Example working group.

To fortify and coordinate the Council's existing initiatives, contribute to the national imperatives and provide local leadership:

• This Council agrees the declaration of a "Climate Emergency";
• Calls upon the Leader of the Council to commit to the development and implementation of an overarching Sustainable Hertfordshire Strategy. This will set out the policies, strategies, implementation plans and resourcing requirements to embed the values of sustainability into the Council's service delivery, operations, procurement and supplier management as well as the basis for engaging proactively with the County's many stakeholders, including the 10 Local Planning Authorities, who can contribute to a sustainable Hertfordshire; and
• Seek Cabinet approval of an ambitious Sustainable Hertfordshire Strategy by the end of 2019."

ESSEX COUNTY COUNCIL

Essex Climate Action Commission
Set up to tackle climate change making recommendations on how to improve the environment and economy of Essex. The Climate Action Commission will:

- Identify ways where we can mitigate the effects of climate change, improve air quality, reduce waste across Essex and increase the amount of green infrastructure and biodiversity in the county
- Explore how we attract investment in natural capital and low carbon growth

APPENDIX 2: PERFORMANCE STANDARDS

This list is not exhaustive and additional documents were used in the creation of this Guidance.

- Energiesprong
- Pasivhaus
- BREEAM Communities
- BREEAM Home Qualities Mark (HQM)
- UKGBC Net Zero Carbon Buildings
- First Steps Urban Air Quality
- Mayor of London Energy Assessment Guidance
- London Plan Energy Hierarchy
- RIBA Climate Challenge
- The Future Homes Standard
- National Design Guide
- London Plan: Monitoring - Be Seen
- Transport for New Homes
- GLA: Urban Greening Factor

APPENDICES LIST

Appendix 2a: Whole Life Carbon Assessment Flowchart
RICS Whole life Carbon Assessment Flowchart
https://www.rics.org/globalassets/rics-website/media/news/whole-life-carbon-assessment-for-the--built-environment-november-2017.pdf

Appendix 2b: Whole Life Carbon Assessment
RICS Whole life Carbon Assessment Tables 12 & 13
https://www.rics.org/globalassets/rics-website/media/news/whole-life-carbon-assessment-for-the--built-environment-november-2017.pdf

Appendix X: Overheating Design Assessment: Risk Tool
GHA Overheating in New Homes
https://goodhomes.org.uk/wp-content/uploads/2019/07/GHA-Overheating-in-New-Homes-Tool-and-Guidance.pdf

Appendix 8: Post Occupancy Evaluation Report
RIBA Sustainable Outcomes Report:
https://www.architecture.com/-/media/GatherContent/Test-resources-page/Additional-Documents/RIBASustainableOutcomesGuide2019pdf.pdf

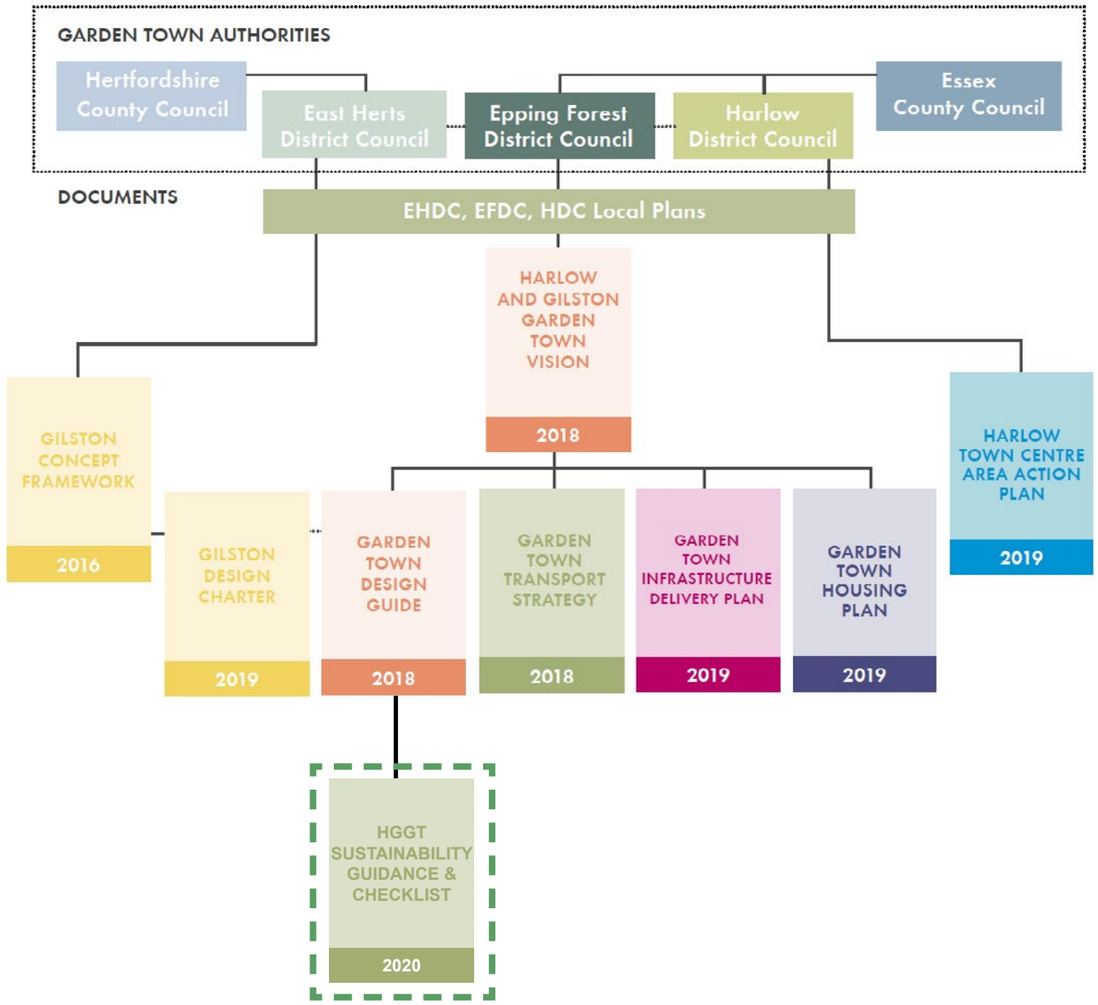
Appendix X: Circular Economy Statement
GLA Circular Economy Statement:
https://www.london.gov.uk/sites/default/files/ggbd_circular_economy_statement_guidance_2020_web.pdf

Appendix X: Draft Pre-Occupation Planning Condition / Obligation
Wording To Be Agreed

Appendix X: Heat Decision Tree
LETI Climate Emergency Design Guide: Heat Decision Tree (pgs 76 - 77)
https://b80d7a04-1c28-45e2-b904-e0715cface93.filesusr.com/ugd/252d09_3b0f2acf2bb24c019f5ed9173fc5d9f4.pdf

Appendix X: List of Net Zero Cost Reports
(See Architects App for list of documents)

APPENDIX X: FAMILY OF DOCUMENTS



Glossary

Air Quality Action Plan	A document produced by the Council with Natural England setting out the steps that will be taken to reduce pollution within an Air Quality Management Area (AQMA). This could include steps to reduce car usage and promote public transport.
Air Quality Management Areas	Air Quality Management Areas (AQMA) are designations used by DEFRA the Department for Environment, Food and Rural Affairs to manage areas with air pollution. that are unlikely to meet the Government's national air quality objectives.
Airtightness	lots of heat is lost through unintentional gaps in the walls, floors and roofs of buildings creating draughts and so it is extremely important to make sure these are eliminated. This down to good detailing and good site workmanship
Biodiversity	The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.
Blue Infrastructure	Infrastructure provision relating to water. This includes natural features such as rivers, streams and ponds, semi-natural features such as sustainable drainage systems, bio-swales and canals, and other engineering features such as dams, weirs and culverts. Blue and green infrastructure are often considered together, placing emphasis on the importance of biodiversity and flood risk mitigation.
BREEAM	Building Research Establishment Environmental Assessment Method: a widely recognised environmental assessment method and ratings system.
Carbon Footprint	The amount of carbon dioxide released into the atmosphere as a result of the particular individual, organisation or community. The carbon footprint of a development is counted over its lifetime i.e. the materials used and their sources, construction, lifetime use and demolition.
Carbon Neutral	Carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere in carbon sinks.
Circular Economy	The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.
Cold Bridge	Occurs when there is a thermal break in the insulating materials between the inside and outside of a building e.g. a gap in the wall or roof insulation, allowing heat to escape
Development	'Development' includes building operations (e.g. structural alterations, construction, rebuilding, most demolition); material changes of use of land and buildings; engineering operations (e.g. groundworks); mining operations; other operations normally carried out by a person operating a business as a builder; subdivision of a building (or any part of it) used as a dwelling house for the use as two or more separate dwelling houses. As defined by section 55 of the Town and Country Planning Act 1990

Embodied Energy

The sum of the energy requirements associated, directly or indirectly, with the delivery of a good or service. This includes: the energy required to initially produce the building (the processing and the manufacture of the materials of the building as well as their transportation and assembly on site), the energy needed to refurbish and maintain the building over its lifetime, and the energy necessary to demolish and dispose of the building at the end of its life.

Environmental Impact Assessment

A procedure to be followed for certain types of project to ensure that decisions are made in full knowledge of any likely significant effects on the environment.

Fossil Fuel

Fossil fuel is a general term for buried combustible geologic deposits of organic materials, formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust over hundreds of millions of years. The burning of fossil fuels by humans is the largest source of emissions of carbon dioxide, which is one of the greenhouse gases that allows radiative forcing and contributes to global warming

Green Belt

Land protected by a policy and land use designation to protect areas of largely undeveloped or agricultural land surrounding or neighbouring urban areas. Review of Green Belt boundaries is undertaken as part of the production of Local Plans where Green Belt exists.

Green Infrastructure

Green infrastructure is a network of high quality and multifunctional green spaces , both urban and rural, including environmental features such as parks, public open spaces, playing fields, sports pitches, woodlands, and allotments, which are capable of delivering a wide range of environmental and quality of life benefits for local communities. The provision of green infrastructure can provide social, economic and environmental benefits close to where people live and work.

HGGT

The Harlow & Gilston Garden Town; referring to all five partner authorities forming the Graden Town including; Essex County Council, Hertfordshire County Council, East Herts District Council, Epping Forest Dstrict Council, and, Harlow Council

Infrastructure Delivery Plan

This will contain the key infrastructure required to support the homes and commercial development in the Local Plan. This includes physical infrastructure such as transport energy and water, social and community infrastructure such as health, education and emergency services and green infrastructure such as open spaces and allotments. The Infrastructure Delivery Plan (IDP) sits alongside the Local Plan and will contain a programme identifying when items of infrastructure are expected to be in place, funding and costs. It will be regularly updated as more information becomes available.

Local Plan

The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community and stakeholders. Once adopted the Local Plan will legally form part of the Development Plan for the District, superseding the Replacement Local Plan (2006).

National Planning Policy Framework

National Planning Policy Framework (NPPF) sets out the Government's planning policies for England, and provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflects the needs and priorities of their communities.

Net Zero Carbon

net zero carbon building is a building that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources.

Operational Energy

Operational energy is the energy required during the entire service life of a structure such as lighting, heating, cooling, and ventilating systems; and operating building appliances.

Passivhaus

A Passivhaus is a building in which thermal comfort can be achieved solely by post-heating or post-cooling the fresh air flow required for a good indoor air quality, without the need for additional recirculation of air.

Performance Gap

The difference between predicted performance and the as-built performance of a building.

Post Occupancy Evaluation

Post-occupancy evaluation (POE) of a building demonstrates how well it is performing in use and how far it is achieving against its intended purpose. POE also highlights any gaps in communication and understanding amongst building managers and occupants that my hinder a building's operational performance.

Quality Review Panel

An independent panel of planning, architecture, urban design and construction experts set up by the Council to provide impartial expert advice to both applicants and local authorities on design issues in relation to important new development schemes and proposals for important public spaces including significant minor applications, major planning applications, pre-application development proposals, strategic masterplans and concept frameworks. The Quality Review Panel's feedback is a material consideration for local authorities and the planning inspectorate when determining planning applications. The purpose of the Quality Review Panel is to ensure that new development is of a high quality and contributes to place making.

Renewable Energy

Renewable energy is energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

Social Sustainability

The process for creating sustainable, successful places that promote well-being by understanding what people need from the places they live and work; combining design of the physical realm with design of the social world, to support citizen engagement and space for people and places to evolve. - Social Life

Special Area of Conservation

Area given special protection under the European Union's Habitats Directive which is transposed into UK law by the Habitats and Conservation of Species Regulations 2010.

Strategic Masterplan

A masterplan is the process by which organisations undertake analysis and prepare strategies, and the proposals that are needed to plan for major change in a defined physical area. It acts as a context from which development projects come forward for parts of the area.

Suitable Alternative Natural Greenspace

Suitable Alternative Natural Greenspace (SANG) is the name given to greenspace that is of a quality and type suitable to be used as mitigation to offset the impact of residential development and visitor pressure on Special Protection Areas (SPAs). The purpose of SANGs is to provide alternative greenspace to attract visitors away from SPAs.

Sustainable Drainage Systems	These are drainage systems designed to manage surface water and groundwater to sustainably reduce the potential impact of new and existing developments on flood risk
Sustainable Transport	Efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, low and ultra-low emission vehicles, car sharing and public transport.
Thermal bridging	It is important to make sure that the gap between the window frame and the wall is well sealed otherwise heat will be lost around the window even if the window itself is very energy efficient
Transport Assessment	A comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies what measures will be required to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport and what measures will need to be taken to deal with the anticipated transport impacts of the development.
Transport Statement	A simplified version of a transport assessment where it is agreed the transport issues arising out of development proposals are limited and a full transport assessment is not required.
UKGBC	The UK Green Building Council: a membership organisation concerned about the environmental impact of buildings and infrastructure on the environment, in particular the use of water, materials, energy, the impact of greenhouse gas emissions, and the health of building occupants.
Validation Requirements	The information that is required to be submitted with a planning application in order to be considered 'valid'. This includes particular plans or supporting documents that must be included with a planning application. It includes national requirements and local requirements which are specific to Epping Forest District. The up to date requirements are set out in the 'Epping Forest District Council Planning Application Validation Requirements Checklist' document.
Whole Life Carbon	Considering operational as well as embodied carbon emissions together over a project's expected life cycle constitutes the whole life approach.
Zero Carbon	Causing or resulting in no net loss of carbon dioxide into the atmosphere. A zero carbon building is one with zero net energy consumption or zero net carbon emissions on an annual basis.

Acknowledgements

This document has been developed with the assistance of HGGT partner authorities and industry experts, participating in workshops, focused sessions and reviews. HGGT would like to sincerely thank all participants, alongside all involved stakeholders and consultation respondents for their feedback, assistance and contributions to the HGGT Sustainability Guidance & Checklist.