EPOA
Essex Planning Officers Association

Embodied Carbon & Circular Economy (GE2)

Planning Policy Statement - October 2025

Revision v1.1 – April 2026

Delivering healthy, efficient, climate resilient homes and buildings in Greater Essex.

This **Embodied Carbon and Circular Economy Planning Policy Statement** is published by the Essex Planning Officers Association on the Essex Design Guide and **Policy GE2: Embodied Carbon and Circular Economy in Homes and Buildings** is recommended for Local Authorities in Greater Essex to embed in their Local Plans and other policy, strategy and guidance documents.

The preparation of the Policy Statement has been led by the Built Environment Planning Unit at Essex County Council, under the guidance of the Essex Planning Officers Association, and in collaboration with officers from the Local Authorities in Greater Essex.

It provides a consistent policy approach to delivering healthy, climate resilient, resource efficient homes and buildings in Essex built through a construction process focussed on **lowering embodied carbon emissions, making efficient use of resources and minimising waste.** In doing so, it responds to the work of the Essex Climate Action Commission and aims, objectives and targets of Essex County Council and other Greater Essex Local Authorities.

The Policy is underpinned by strong and robust evidence established for Greater Essex and published on the Essex Design Guide. The Policy is based on the recommendations of the **Essex Embodied Carbon Policy Study**. Much of the evidence is also relevant, and therefore can be used and relied upon, by local authorities outside Essex.

The Policy Statement replaces the 'placeholder' Embodied Carbon Policy NZ2 included in the *'Planning Policy Position for Net Zero Carbon Homes and Buildings in Greater Essex November 2023'* and takes forward the *draft Essex Embodied Carbon Policy* published for consultation in July 2025. The policy sits alongside **Policy GE1** set out in the **Operational Energy and Carbon Planning Policy Statement (October 2025).**

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Website: Essex Built Environment Quality | Essex Design Guide

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1. Planning for resource efficient, sustainable and healthy communities

To deliver sustainable and healthy communities in Greater Essex, we need to make sure homes and buildings are designed to be highly energy-efficient, have low running costs, incorporate renewable energy technologies, use materials and resources efficiently and are resilient to changes in climate.

They should be built using high quality, natural and local materials where possible, and be designed to be re-used and adaptable in future. Building in this way means that we deliver wider objectives including energy security, reducing fuel poverty, stimulating local economic growth, minimising waste, and improving the health, comfort, and wellbeing of people living and working in Essex.

Context

Essex is increasingly exposed to environmental pressures. For example:

- Flooding: The number of homes at risk could double by 2050.
- Water scarcity: Demand is rising while supply is under pressure.
- Heatwaves: Urban areas are vulnerable to overheating and poor air quality.

Essex County Council (ECC), the Greater Essex Local Authorities and the Essex Climate Action Commission recognise that urgent action through planning policy is needed to address these risks and support the development of homes and places that are affordable, resilient, and future-ready. The local planning authorities, through the Essex Planning Officers Association (EPOA) led by the Built Environment Planning unit at ECC, have worked together to establish evidence-led planning policies, guidance and advice, which is all published on the Essex Design Guide.

So far we have developed the following policies:

- GE1: Operational Energy and Carbon in homes and buildings; and
- GE2 Embodied Carbon and Circular Economy in homes and buildings (presented in this document).

The policies are recommended to be embedded in local plans, strategies and other planning documents that guide development in Greater Essex.

Why Resource-Efficient Construction Is Essential

Policy GE2 addresses embodied carbon and circular economy. These help drive the efficient use of materials. The materials and methods used to construct buildings have long-term impacts. Essex's planning approach encourages:

- Reuse and retrofit over demolition, preserving embodied energy and carbon.
- Efficient use of materials, reducing waste and environmental impact.
- Embodied carbon assessments in major developments.

This supports:

- A circular economy, keeping resources in use for longer.
- Sustainable growth, aligned with Essex's environmental and economic goals.
- Innovation in construction, creating opportunities for local green jobs.

Supporting Health, Comfort and Wellbeing

Well-designed, energy-efficient homes, that use natural, local, healthy materials where possible, contribute directly to residents' wellbeing:

- Consistent indoor temperatures reduce stress and illness, especially for older people and young children.
- Superior ventilation and air quality lower the risk of respiratory conditions.
- Maintained thermal comfort which improves mental health and productivity.
- Reduced noise and overheating, enhancing quality of life in urban areas.

Planning policies that prioritise these outcomes help create homes that support physical and mental health, reduce healthcare costs, support economic productivity, and foster stronger, more resilient communities.

Benefits for Essex Communities include:

- Homes that are affordable to run, with no future retrofit burden.
- Healthier living environments, especially for vulnerable residents.
- Resilient neighbourhoods that can adapt to future climate and energy challenges.
- Local economic benefits through investment in sustainable design and construction skills.

Alignment with Essex's Strategic Goals

These planning policies support:

- The Essex Climate Action Commission's recommendations.
- Local Development Plans, Climate Strategies and other planning strategies and documents.
- National objectives around energy efficiency, fuel poverty, housing affordability, and climate resilience.

They are:

- technically achievable, financially sound, and legally justified;
- designed to be consistent across Greater Essex using evidence and advice published on the Essex Design Guide, helping developers and planners deliver high-quality outcomes; and
- in line with national and international standards.

2. Legislative and Technical Evidence Context

The greenhouse gas emissions from operational energy used to heat, cool and power buildings accounted for 17% of total UK emissions, 76 MtCO2e (76 million tonnes of carbon dioxide equivalent) in 2022[1]. The proportion of emissions from the built environment is substantially higher when emissions embodied in the materials and construction process of new buildings are included.

The UK has a statutory target to reduce greenhouse gas emissions to net zero by 2050 (as set out in the Climate Change Act 2008, as amended). The Climate Change Act also sets, through the Carbon Budgets[2], a further legal target of a 78% reduction in emissions by 2035, which builds upon the commitment to reduce emissions by 68% from 1990 levels by 2030. These 'Carbon Budgets' seek to limit carbon in the atmosphere to levels needed to stabilise the climate. They also set out the changes that need to occur in each sector to achieve that target, for example, continuing the successful transition to a clean energy system, and heating homes with more efficient systems that use renewable energy.

The Climate Change Committee[3], however, warns that the UK is off target and rapid and deep cuts to emissions must be made in all sectors. It also highlights that data on the embodied carbon of buildings is not recorded making it difficult to track progress.

It is therefore imperative that new homes and buildings in Greater Essex are built in a way that minimises embodied carbon emissions through all stages of a building's life cycle. Embodied emissions include those related to raw material supply, manufacturing and transport, construction processes and demolition and disposal (see Figure 1).

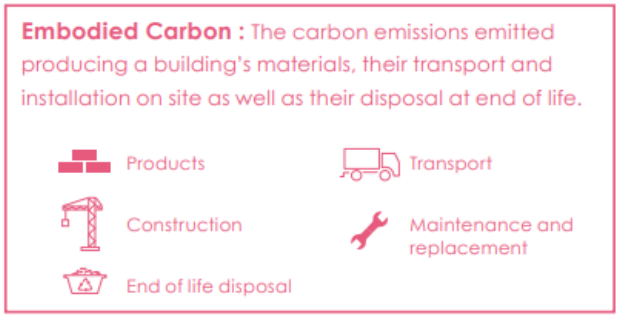


Figure 1 – Embodied Carbon in Buildings

Source: LETI Climate Emergency Design Guide

Furthermore, in Greater Essex, a target for all planning permissions for new buildings to be net zero carbon by 2025 and carbon positive by 2030 was recommended by the Essex Climate Action Commission (ECAC) in July 2021[4] and endorsed by Essex County Council

[1] Climate Change Committee - Progress in reducing UK emissions - 2023 Report to Parliament (page 140)
[2] Carbon Budget order 2021 - https://www.gov.uk/guidance/carbon-budgets#setting-of-the-sixth-carbon-budget-2033-2037
[3] https://www.theccc.org.uk/wp-content/uploads/2022/06/Progress-in-reducing-emissions-2022-Report-to-Parliament.pdf
[4] https://www.essexclimate.org.uk/sites/default/files/DS21_7178%20ECAC_Commission_Report-Final.pdf

(ECC) in November 2021. The ECAC recommendations form the basis of the ECC Climate Action Plan[5] and are relevant to all Essex Local Planning Authorities (LPAs).

Evidence commissioned by ECC on behalf of the Greater Essex Local Authorities, and in response to the work of the ECAC, demonstrates that designing new buildings to reduce embodied carbon and move towards a more circular economy (as per Policy GE2), is technically feasible at minimal or no cost uplift when compared to a home of typical construction built to meet the operational energy ('net zero') requirements set out in Policy GE1.

Policy GE2 is a first step towards reducing upfront embodied carbon from the materials and construction of homes and buildings.

Policies GE1 and GE2 are designed to be implemented alongside each other, and together, make progress on reducing the whole life carbon emissions of homes and buildings.

The "*Essex Embodied Carbon Policy Study – Technical Evidence Base (Levitt Bernstein et al, 2025)"* underpins Policy GE2 and is available on the Essex Design Guide (EDG) . The Study also contains information and guidance on how embodied carbon can be minimised, particularly through choice of materials and the construction techniques.

To complement this evidence, further practical design advice is provided (and being added to) on the EDG which focuses on how to design developments (of all scales and types) to minimise embodied carbon emissions and move towards a more circular economy (where materials are used efficiently and waste is minimised). The advice also covers designing to meet operational energy and carbon standards (as required in Policy GE1) and addressing other inter-related sustainability issues, including the mitigation of potential overheating risk.

The Building Regulations 2021 and 2026 update (which includes the Future Homes Standard) do not currently address embodied carbon emissions from new development. It is for this reason that the planning system, and local planning authorities through their local plans, must ensure new development addresses embodied carbon emissions, in a way that aligns with local and national climate targets, mitigates and adapts to climate change and delivers the best outcomes for people. This is supported through primary legislation, including the Planning and Compulsory Purchase Act 2004, and national policy (including the NPPF) which require local plans to include policies to secure development that mitigates and adapts to climate change.

Taking forward Policy GE2, will enable LPAs to take a proactive approach to climate change which is in line with the objectives and provisions, and hence legally binding targets, of the Climate Change Act 2008 *(NPPF Dec 2024, para 162, Footnote 61)*.

[5] Essex Climate Action Plan

3. Policy GE2: Embodied Carbon and Circular Economy in Homes & Buildings

POLICY GE2: EMBODIED CARBON AND CIRCULAR ECONOMY IN HOMES AND BUILDINGS

All development proposals must demonstrate the measures taken to minimise embodied carbon (subject to meeting Policy GE1[6] requirements first) and how circular economy principles have been embedded into the design. In doing so:

1. **Re-using, renovating or retrofitting existing buildings and/or structures should be prioritised. Any demolition must be justified to the satisfaction of the Local Planning Authority.**

2. **Proposals for all new residential and non-residential buildings, and also proposals for extensions, renovations and conversions of existing buildings, must demonstrate that upfront embodied carbon* has been considered and reduced as far as possible through lean design, sustainable material procurement and waste minimisation.**

3. **Proposals for major residential and non-residential development are required to achieve the following set limits for upfront embodied carbon. This must be demonstrated through an embodied carbon assessment using a RICS and/or nationally recognised methodology which should be submitted at the same time as the full or reserved matters planning application (and with the outline planning application for residential schemes of 100 dwellings or more, and non-residential schemes of 5000m² or more):**

    a. **Low rise residential (up to 11m): ≤500 kgCO2e/m2 (GIA**) or subsequent update;**
    b. **Mid and high rise residential (over 11m): ≤500 kgCO2e/m2 (GIA) or follow NZCBS*** limits when available;**
    c. **Non-residential buildings: offices ≤600 kgCO2e/m2 (GIA); education ≤500 kgCO2e/m2 (GIA); and retail ≤550 kgCO2e/m2 (GIA); or follow NZCBS limits when available; and;**
    d. **For building services, meet the global warming potential refrigerant limits set out in NZCBS.**

** Upfront Embodied Carbon = emissions associated with the Building Life Cycle Stages A1-A5 and RIBA stages 2/3, 4 and 6) **GIA = Gross internal floor area ***NZCBS = UK Net Zero Carbon Building Standards (pilot launched September 2024).*

[6] Policy GE1: Operational Energy and Carbon in Homes and Buildings – available here: https://www.essexdesignguide.co.uk/climate-change/essex-energy-carbon-net-zero-policy/

4. Supporting Text/Reasoned Justification

The UK building construction industry is responsible for approximately 49% of total UK carbon emissions (Page 10, EECPS[7]). The whole life carbon emissions associated with buildings comes from the operational energy consumption in the day to day running of the building, and emissions that result from embodied carbon in the materials used, the construction process, and maintenance and demolition of the building. In terms of a building's whole life carbon, embodied carbon accounts for a significant proportion, between 40 and 70% (Page 10, EECPS), and therefore addressing embodied carbon is important to meet local and national climate targets.

Currently, embodied carbon is not covered by Building Regulations and there is no specific or emerging Government policy to date requiring the assessment or control of embodied carbon emissions from buildings. The Environmental Audit Committee[8] (EAC) reported to Parliament in 2022 on this issue. The EAC highlighted that due to the lack of Government Policy, no progress has been made in reducing these emissions within the built environment. They advise that the UK is slipping behind comparator countries in Europe in monitoring and controlling the embodied carbon in construction and if this continues the UK will not meet its 'net zero' 2050 target or the limits set in the carbon budgets which aim to stabilise the climate.

Local planning authorities are beginning to fill this gap in national policy and regulation by using their powers through the planning system to tackle embodied carbon emissions arising from new developments. They are mandating assessments and setting targets to steer development towards minimising carbon emissions. The EAC reported that evidence so far shows that policies are achievable and are being implemented, with few barriers to introduction (EAC Report, Paragraph 73). The EAC encourages local authorities to include a requirement for embodied carbon assessments in their Local Plans ahead of the introduction of national planning requirements.

In Essex, policies are already adopted and in place which are relevant to reducing embodied carbon emissions from new developments. These are Policy 11 of the Essex Waste Local Plan, which seeks to reduce the impact from waste management activities to climate change, whilst adapting to its potential effects, Policy 12 concerns transport and access, and seeks to minimise the impact of transporting waste, and Policy S4 of the Essex Minerals Local Plan, which seeks to ensure mineral waste is minimised and minerals on development/redevelopment sites are re-used and recycled. Furthermore, this policy framework is supplemented in some areas where district Local Plans include policies that focus on aspects of embodied carbon in new development, such as resource efficiency.

[7] EECPS – Essex Embodied Carbon Policy Study (June 2024 re-issued September 2025), Levitt Bernstein et al. https://www.essexdesignguide.co.uk/climate-change/essex-embodied-carbon-policy-study/

[8] Building to net zero: costing carbon in construction: Government Response to the Committee's First Report - Environmental Audit Committee (parliament.uk)

However, there is still a way to go before embodied carbon from new development proposals is fully assessed, considered and steps taken to reduce radically these emissions. Therefore, in response to the work of the Essex Climate Action Commission, Essex County Council on behalf of the Greater Essex Local Authorities, commissioned an evidence study to support the development of an embodied carbon planning policy approach for Greater Essex that can be recommended to be embedded into district Local Plans.

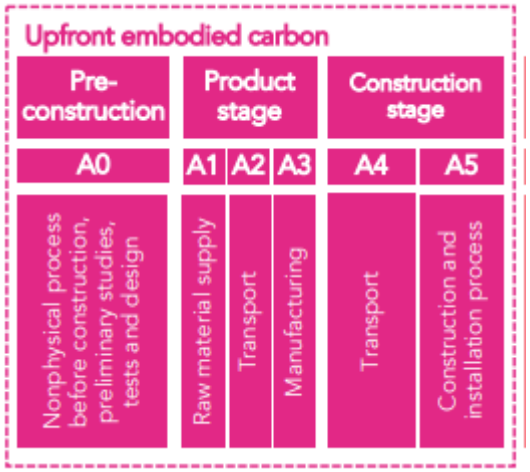
The Essex Embodied Carbon Policy Study (EECPS) was completed in June 2024 and re-issued in September 2025, and it underpins Policy GE2. The Study is available on the Essex Design Guide and provides the technical feasibility, cost analysis and practical design guidance, to support the policy requirements.

Policy GE2 and supporting evidence has been prepared to align carefully with Policy GE1 on operational energy and carbon. Both policies work together, and to be clear, Policy GE1 requirements should be met first, and then measures to minimise embodied carbon should be taken in accordance with Policy GE2. This is to prevent operational energy and carbon being 'played off' against embodied carbon and provides a clear steer on what is expected from new development proposals.

Policy GE2 introduces a requirement for all new build developments (residential and non-residential) to demonstrate the measures taken to minimise upfront embodied carbon and to embed circular economy principles into the design.

Guidance on how to minimise embodied carbon can be found in the EECPS which presents 'set menus' for three residential typologies. The set menus compare a low carbon scenario with a high carbon scenario and one where both cost and carbon are optimised. The EECPS shows that effective carbon reduction is possible at little or no impact on capital costs through good decision-making at design stage and materials choices.

Upfront embodied carbon refers to the greenhouse gas emissions associated with material and construction stages: raw material supply, manufacture, transport and construction of all building elements.



The GE2 Policy focuses on upfront embodied carbon emissions as these are more directly controlled by developers and will work towards reducing whole life carbon emissions over life the building.

Resources providing guidance on designing for a circular economy have been developed by industry organisations such as LETI. A circular economy offers an alternative to a traditional linear economy where things are made, used and disposed of as waste. A Circular Economy is one which:

1. Keeps resources in use for as long as possible;
2. Extracts the maximum value from them whilst in use;
3. Then recovers and regenerates products and materials at the end of each service life. (Source: LETI)

A Circular Economy is an alternative to a traditional linear economy (make, use, dispose).

The difference between linear and circular economy (Source: Circular Flanders).

The GE2 Policy requires Circular Economy principles to be embedded into the design of Buildings, ensuring the best use of materials and products is made, and designing for re-use rather than disposal.

4.1 Clause 1: Presumption against demolition & promoting circular economy

Clause 1 applies to situations where demolition forms part of the planning application. The clause seeks to ensure that appropriate consideration is given to proposals that result in the substantial and/or total demolition of existing buildings by requiring justification to be provided. The aim is to ensure that consideration is given to the re-use of existing buildings and their materials, so they are not automatically demolished and disposed of without further considered thought as to their potential re-use, on or as near to the site as is feasible.

Applicants will need to evaluate the feasibility and viability of refurbishment before considering substantial or total demolition and will need to carefully consider whether all or parts of the building could be retained and where demolition is justified, ensuring that materials are re-used as far as practicable on site and opportunities for re-use off site explored.

Applications which include demolition must be accompanied by a robust justification. The LPA may seek expert advice to help reach a judgement on the information provided to justify demolition.

The information that should be included as part of any justification by the applicant should include as a minimum:

- The use of the existing building, how long it has been in this use, its age, and the purpose of the new building; and whether this constitutes a change of use.
- How much demolition is proposed:

  - Percentage of envelope and structure to be retained by area
  - Percentage of internals to be retained by area
- Justification of substantial or total demolition by building layer (skin/shell, structure/frame, building services, and space plan/interior).
- Explanation and evidence for why the existing building cannot be retained. This should go beyond saying a building is 'low quality' or 'not fit for purpose' and include an assessment of:
  - Structural condition - by means of a structural engineer's report
  - Materials from which it is constructed
  - Contamination (e.g. asbestos)
  - Visual/importance of the architecture in streetscape/location
- Whether the development will deliver significant public benefits which could not be delivered through a retrofitting option:
  - Are there bespoke operational requirements which could not be provided through the repurposing, adaptation and/or extension of the existing building(s)?
- Information on the service life/maintenance of fabric and systems – by means of an architectural and building services report.

In cases where the justification is considered weak or unclear, additional information may be required by the LPA, for example, for major developments, a pre-demolition and reclamation audit and a report of where materials are to be used on and off site. Further advice and guidance can be found at pages 51-53 of the EECPS and additional planning guidance will be prepared if necessary.

4.2 Clause 2: Lean building design & material efficiency

The clause applies to proposals for all new residential and non-residential buildings and proposals for extensions, renovations and conversions of existing buildings. It seeks to ensure that resource use is reduced by creating a building that is efficient in its material use, form and design. For example, the sub and superstructure of a building should be optimised through 'lean design'[9] so the building form does not result in excess structure and material use, and material choices represent the lowest upfront embodied carbon options. Sourcing materials locally helps reduce transportation impacts and supports local economic growth. Designing for deconstruction and a circular economy is important too, particularly for temporary buildings.

As per Policy GE1, 'residential buildings' means dwellinghouses and flats (C3), houses in multiple occupation (C4), and developments of self-contained residential units such as extra-care (C3). This also includes the residential element of any new mixed-use buildings. Non-residential buildings include Use Classes C1 (Hotels), C2 /C2A (Residential Institutions) and

[9] Lean design is a term used to describe the design of a building where materials and resources are used efficiently and waste is minimised. Further ideas can be found here https://www.istructe.org/IStructE/media/Public/TSE-Archive/2020/Lean-design-10-things-to-do-now.pdf

those falling within use classes B, E, F and Sui Generis. For any other residential and non-residential buildings, the policy should be applied in a proportionate manner where relevant and appropriate through the Development Management process.

Proposals that involve heritage assets and/or impact their setting have particular sensitivities and should also have regard to the specific advice and guidance provided on the Essex Design Guide - Climate Change and the Historic Environment | Essex Design Guide.

To demonstrate compliance with the clause, applicants are expected to submit an 'embodied carbon statement' setting out the efforts made to reduce upfront embodied carbon; for major development this would form part of the embodied carbon assessment. This should include:

- A summary of the steps taken to design a lean, low carbon structure and building design. This will take into account efficiency of material use as well as types of material used. Applicants should justify where large volumes of material are proposed to be used due to specific design features (such as basements, podiums, large cantilevers).
- A calculation of the building form factor (exposed external surface area/gross internal floor area). A lower form factor, which reflects a more efficient or 'simple' building design, almost always emits less upfront embodied carbon than a complex building form which has a higher form factor (page 18 EECPS). A building with a lower form factor would typically use less materials and have reduced exposed surfaces. It also is more likely to have reduced construction costs and is more efficient to run. An explanation on form factor can be found on page 6 of Essex Building Specifications Guide (Residential)[10].
- An elemental analysis of the upfront embodied carbon (kgCO2e/m2) associated with three external wall options and two superstructure design options; and include justification for the selected wall and structure type.
- A summary of steps taken to design for a circular economy. The LETI note on Circular Economy[11] provides some useful tips.

The EECPS (page 55) provides further advice and guidance will be prepared if necessary, including a 'light touch' template for the embodied carbon statement for minor developments to use.

[10] https://www.essexdesignguide.co.uk/climate-change/essex-building-net-zero-specification-guidance/
[11] https://www.leti.uk/circulareconomy1pager

4.3 Clause 3: Limiting upfront embodied carbon & refrigerant emissions

The clause applies to all major residential and non-residential development[12] proposals (including major renovation and rebuild developments[13]) and requires the assessment of upfront embodied carbon emissions (and building services refrigerant emissions) and introduces a limit for upfront embodied carbon for different building types. This will ensure that emissions have been reduced through efficient material use, material selection and design strategies.

Upfront embodied carbon includes emissions associated with the Building Life Cycle Stages A1-A5 and RIBA stages 2/3, 4 and 6. To clarify the embodied carbon that is within the scope of the policy includes the built aspect of a home / building and its services but does not include underground infrastructure that links to those buildings or external works such as landscaping and hardstanding.

The technical evidence presented in the EECPS (Section 8, Pages 69 - 125) demonstrates through detailed modelling of a typical net zero operational energy and carbon home for three low rise common residential typologies how both Policy GE1 and the limits set in Policy GE2 can be achieved. Different combinations of options (for example covering materials, building elements, and then 'set menus' per building typology) were modelled for embodied carbon and potential capital cost, including a 'balanced option' which optimises cost effectiveness with carbon reduction. This option can be achieved at a marginal cost uplift.

However, the evidence also demonstrates that a typical net zero operational energy and carbon home (i.e. one that meets Policy GE1) that uses commonly specified construction materials can achieve the limit set in Policy GE2 at zero cost uplift. Whilst the target is achievable on a cost neutral basis without necessarily considering steps to reduce embodied carbon emissions, the purpose of setting the target at the level selected is to achieve better building performance in terms of embodied carbon without excluding specific materials or home designs (e.g. detached homes).

The EECPS builds upon and refers to evidence collated elsewhere, for example, for Westminster City Council and the West of England Combined and Unitary Authorities. These studies also demonstrate that significant reductions in embodied carbon emissions are achievable in new buildings at little or no cost (Page 119, EECPS).

The Study draws upon the work of Low Energy Transformation Initiative (LETI) and the Royal Institute of British Architects (RIBA) in setting limits for mid and high rise residential buildings and non-residential buildings (typologies – office, education and retail), and the limits set in the policy align with the LETI Band C[14]. The work of the UK Net Zero Carbon

[12]as defined in the Town and Country Planning (Development Management Procedure Order 2010 – as amended. For housing development major development is where 10 or more homes will be provided, or the site has an area of 0.5 hectares or more, and for Non-residential development - an additional floorspace of 1,000m2 or more, or a site of 1 hectare or more.
[13] Major renovation means a deep retrofit of a major development (as defined in footnote 6 above), and deep retrofit means that it impacts the material structure of the building.

[14] *Source:* LETI Embodied Carbon Target Alignment document

Building Standard (UKNZCBS) Initiative is referenced in the policy and a pilot version of the UKNZCBS[15] has been released. When the final version of the Standard is published then this may be used in place of the limits identified in Policy GE2 for upfront embodied carbon.

The limits for upfront embodied carbon identified in the policy, including for low rise residential, have been set at a practicable level because it has the advantage of ensuring there is some consideration of building form, typology and material selection, without seeking to exclude specific materials or designs. This is considered an appropriate first step whilst the industry comes to adopt the methodology as part of their own processes.

The advantage of the policy approach ensures that current good practice in relation to embodied carbon reduction becomes more common and conversely poor practice is eliminated. Further explanation of the considerations given to setting the limit in the policy is provided in Page 120 of the EECPS.

4.4 Reporting and Monitoring Policy Compliance

The assessment and reporting of embodied carbon for the purposes of compliance with Policy GE2 should follow a nationally recognised methodology. Until there is a recognised and adopted UK national methodology, the RICS Professional Statement on Whole Life Carbon Assessment (WLC) is the accepted industry methodology for WLC assessments (EAC Report, Para 70) and should be used for demonstrating policy compliance until a national methodology is in place. Further useful software tools have also been developed, such as one click LCA[16].

Policy compliance for major development will need to be demonstrated through the submission of an Embodied Carbon Assessment. The Section 7 (Pages 60-68) of the EECPS sets out reporting requirements, information checklists and templates (which are extracts from the RICS guidance) which should be included in a statement. Also, the Study (at page 56 EECPS) provides additional guidance on the type of information to provide, for example reporting on high carbon materials and circular economy metrics, and the global warming potential of refrigerants used in building services.

For minor development, policy compliance should be demonstrated through the provision of an embodied carbon statement which can follow the template under preparation and which will be available to download from the Essex Design Guide.

As a minimum the following indicators will be monitored on major development proposals:

i. If the development involves demolition, has this been adequately justified? (Clause 1)
ii. Has upfront embodied carbon been reduced through good design and material efficiency? (Clause 2)

[15] Pilot Version | UK Net Zero Carbon Buildings Standard (nzcbuildings.co.uk)
[16] https://www.oneclicklca.com/

iii. Have the limits for upfront embodied carbon been met for all major building types? (clause 3):
iv. Has this been demonstrated through an Embodied Carbon Assessment using the RICS (WLCA PS V2 2023 or later version) or nationally recognised methodology?
v. Have the top five highest greenhouse gas emitting materials (by absolute tonnes CO_2e, and report the normalised values of those materials in $kgCO_2e/m^2$) been reported together with circular economy metrics and disclosure on unusually low embodied carbon material data?
vi. Have embodied carbon calculations for building services (and where relevant refrigerants[17]) been carried out using CIBSE TM65 methodology?
vii. Have the NZCBS limits for global warming potential refrigerants been met? (Clause 3d)

For applicants seeking external support with carbon reporting, the ISEP (Institute of Sustainability and Environmental Professionals (formerly the IEMA)) is collating a list of companies that meet their standards and requirements.

[17] applicants will be expected to provide a statement describing how the design will minimise refrigerant-related emissions by targeting low-Global Warming Potential alternatives and incorporating measures for leak detection, containment, and ease of maintenance, including specific solutions where possible. A full TM65 refrigerant calculation must be submitted at the appropriate stage.

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