Pre-Submission Draft
Kent Minerals and Waste Local Plan
2024-39

Regulation 19 Publication

Circular Economy Topic Paper

Updated January 2024

Contents

1.0 Introduction

1.1 This topic paper sets out background information that underpins proposed changes to policies in the adopted Kent Minerals and Waste Local Plan related to the aim of achieving a more 'circular economy'. The topic paper considers what a circular economy is, its benefits and its impact on the built environment and climate change, and, in particular, how updated planning policy in the Kent Minerals and Waste Local Plan can help facilitate a move to a more circular economy.

1.2 The emphasis on achieving a circular economy is consistent with the Kent County Council Strategy 2022 to 2026: 'Framing Kent's Future'. This strategy includes the following aim: *'We will…Continue to work with our commissioning partners to create the infrastructure and jobs that enable us to reprocess waste materials and produce energy within the county, in order to maintain a closed loop local economy.'*

What is a Circular Economy?

1.3 The implications of a traditional linear economy, which constantly takes, makes, uses and disposes of resources, are becoming clearer as the impacts of climate change and damage to the environment are realised both locally and globally. A circular economy approach seeks to address these problems as an alternative economic model which looks beyond accepting the wasteful processes associated with growth in most of the world's economies.

1.4 The World Economic Forum's definition of a Circular Economy is as follows:

> *'A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems, and business models.'*

A circular economy is underpinned by the following three main principles:

- Designing out waste and pollution as far as possible;
- keeping products and materials in use for longer; and,
- regenerating and recovering natural systems.

1.5 By adopting these principles, the impacts of climate change and environmental damage can be reduced or, ideally, eliminated through a transition to an economy that is more sustainable in that it provides ongoing environmental and societal benefits, while still achieving traditional economic objectives (such as economic growth) through innovation, opportunities and growth[1]. The Green Alliance estimates that a move to a more circular economy in the UK would result in 450,000 jobs by 2035[2].

[1] https://www.ellenmacarthurfoundation.org/circular-economy/concept
[2] https://green-alliance.org.uk/resources/Levelling_up_through_circular_economy_jobs.pdf

1.6 According to the UK government's 2021 final greenhouse gas emissions statistical release[3], the waste management sector contributed around 4% of the UK's greenhouse gas emissions. This is a significant reduction from the previous year's figure of 6% and 74% below 1990 levels due to reductions in biodegradable waste being landfilled (and associated methane emission reductions). Emissions from the mineral industry result from mineral extraction but mainly from the manufacture of cement and ceramics. The Mineral Products Association estimates that its members' production activities are responsible for around 2% of UK GHG emissions, with cement and concrete representing around three quarters of that[4].

1.7 Emissions from both sectors, particularly waste, are indirectly influenced by the mechanisms of other sectors. For example, the refurbishment and construction of buildings accounts for 11% of the GHG emissions in major cities and a key driver of these emissions is the production of cement, steel, aluminium and plastic. 15% of these materials are wasted during the construction process and resources may be lost to landfill when a building is demolished[5]. These wasteful practices result in increased GHG emissions associated with the production of the building materials which arise from the extraction of raw materials and their conversion into products[6].

1.8 Ensuring planning policy in Kent is aligned with and informed by circular economy principles will help to ensure development comes forward in a manner that reduces waste, protects the environment and makes Kent a more sustainable place.

2.0 Policy Background

National Policy

Resources and Waste Strategy, 2018

2.1 The UK Government has published various policy and strategy documents which are aligned with achieving a more circular economy, and a key one is the 2018 Resources and Waste Strategy. The 2018 Resources and Waste Strategy (RWS)[7] sets out current Government thinking on waste management in England, including how the country must minimise waste and manage it more effectively through maximising opportunities to generate value from material prevented from entering, and that extracted from, waste streams. RWS provides a useful illustration of the circular economy which is shown overleaf:

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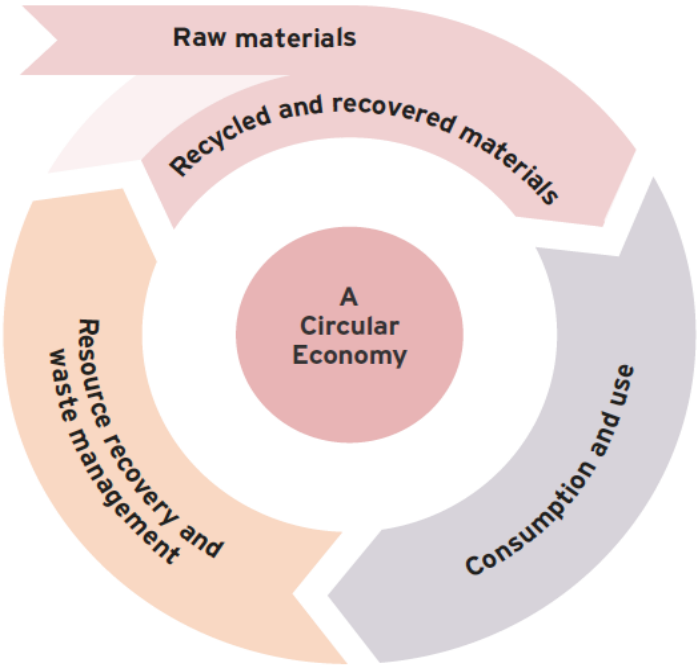
[3] https://assets.publishing.service.gov.uk/media/63e131dde90e07626846bdf9/greenhouse-gas-emissions-statistical-release-2021.pdf

4 MPA Briefing August 2021. In Focus: Climate Change Progress, COP and UK Policy Plans

[5] https://www.ellenmacarthurfoundation.org/assets/downloads/Completing_The_Picture_How_The_Circular_Economy-_Tackles_Climate_Change_V3_26_September.pdf

[6] Acuff, K., & Kaffine, D. T. (2013). Greenhouse gas emissions, waste and recycling policy. *Journal of Environmental Economics and Management*, *65*(1), 74-86.

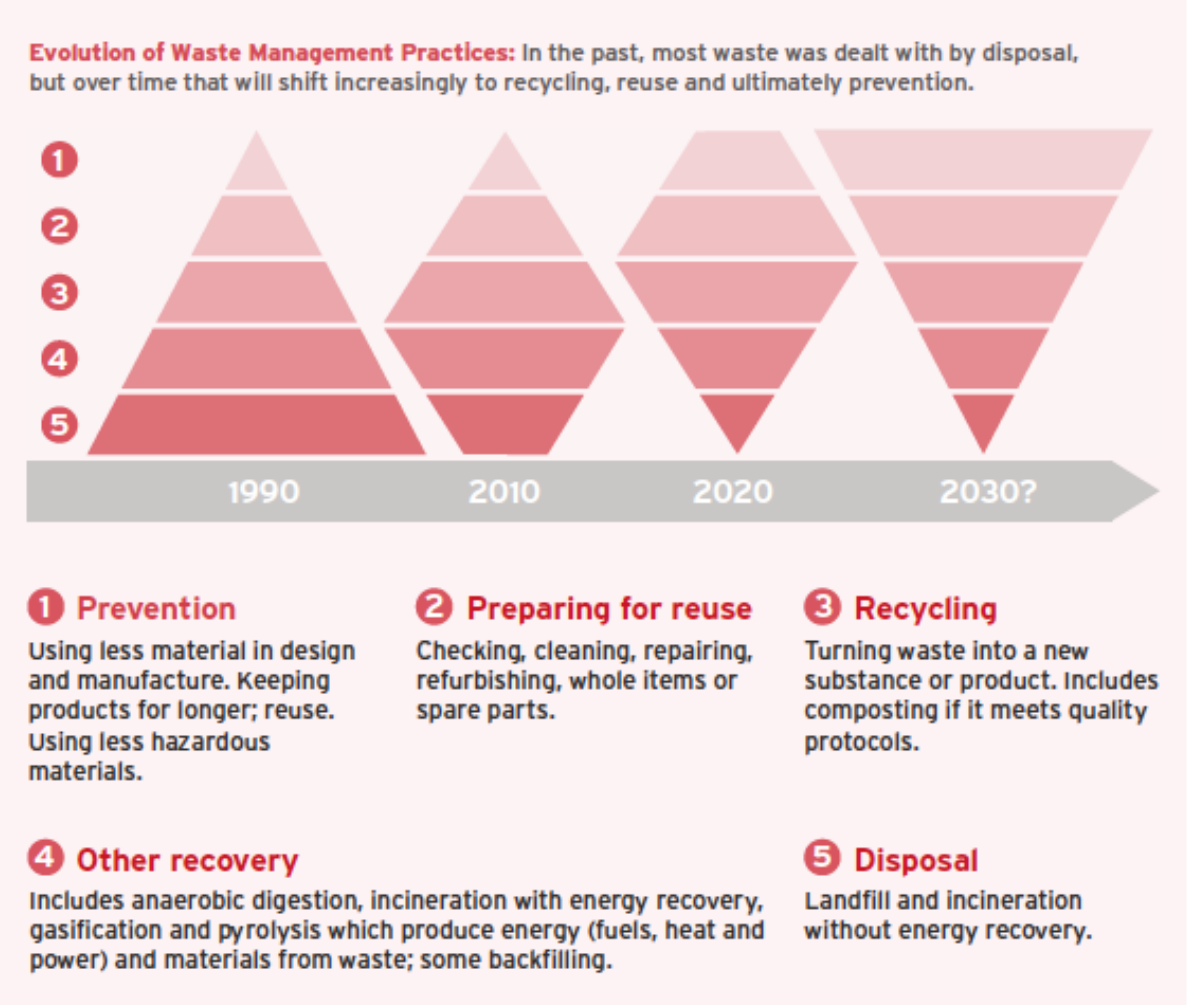
[7] Our Waste, Our Resources: A Strategy for England, DEFRA, 2018 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf



2.2 The RWS identifies five strategic ambitions:

- To work towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025;
- To work towards eliminating food waste going to landfill by 2030;
- To eliminate avoidable plastic waste over the lifetime of the 25 Year Environment Plan (by 2042);
- To double resource productivity by 2050; and
- To eliminate avoidable waste of all kinds by 2050.

2.3 Naturally, the Government's objective of managing waste more efficiently through a circular economy leads to the RWS identifying the waste hierarchy as a key principle to be applied when promoting a more circular economy. The waste hierarchy provides a framework on how to deal with waste efficiently and requires that waste is prevented from occurring in the first place and resources are reused and recovered as much as possible. Implementing the waste hierarchy is essential if resources are to be managed in a more efficient way and a circular economy is to be established. RWS includes the following illustration of how England is moving towards the management of waste in accordance with the waste hierarchy.



2.4 The RWS identifies the construction sector as a key area where resource efficiency needs to be improved to maximise resource productivity and meet targets related to waste production and management. RWS considers that the construction industry is on the brink of fundamental change with the increasing adoption of innovative construction materials and techniques. The implementation of Extended Producer Responsibility (EPR) for certain materials used in the construction sector is seen as a particular way of improving resource use though this has not yet been implemented.

2.5 As part of the RWS, DEFRA launched three consultations on 18 February 2019:

- Introducing a Deposit Return Scheme for drinks containers (DRS) in England, Wales and Northern Ireland;
- consistency in Household and Business Recycling Collections in England; and,
- reforming the UK packaging producer responsibility system by introducing EPR.

2.6 The aim of a DRS would be to reduce the amount of littering, increase recycling rates for related materials, improve collection of high quality materials in greater quantities and promote recycling through clear labelling and consumer messaging.

Government has indicated that the DRS for England will be implemented from 2025 though this may be further delayed.

2.7 The EPR scheme for packaging will require packaging producers to pay the full cost of managing packaging once it becomes waste. The scheme will encourage producers to use less packaging (e.g. by 'light weighting') and use more recyclable materials, reducing the amount of hard to recycle packaging placed on the market. The main requirement of the EPR Regulations is that no one responsible for packing or filling products into packaging or importing packed or filled packaging into the United Kingdom, may place that packaging on the market unless it fulfils the 'essential requirements' and is within the heavy metal concentration limits. The essential requirements are as follows:

- Packaging must be manufactured in such a way that it can be reused or recovered;
- packaging must not contain any hazardous substances above the permitted levels;
- packaging must be marked with the appropriate identification codes; and, packaging must be designed and manufactured to meet the requirements of the essential requirements.

2.8 In 2023 the UK government confirmed that implementation of the EPR scheme had been delayed for a year until October 2025.

2.9 The consultation on consistency was concerned with measures to improve the quantity and quality of what is recycled. It is intended that this will help increase recycling rates significantly above 50%, towards the much higher recycling rate of 65% (by 2035). The proposals consulted on were for all local authorities to:

- collect the same core set of dry recyclable materials from households
- have separate weekly food waste collections from households, including flats

2.10 In 2023 The UK government announced a new, but related, initiative called 'Simpler Recycling'. The initiative aims to reform the waste system by introducing a simpler, and 'common-sense' approach to recycling. The approach means that people across England will be able to recycle the same materials, whether at home, work, or school regardless of where they live. This will include weekly collections of food waste for most households by 2026[8].

Waste (Circular Economy) (Amendment) Regulations 2020[9]

2.11 The Waste (Circular Economy) (Amendment) Regulations 2020 (*SI 2020/904*), transposed the EU's 2020 Circular Economy Package (2020 CEP) in England, and were made on 25 August 2020. These Regulations implement six amending EU Directives in the field of waste concerning:

- The Waste Framework Directive;
- packaging and packaging waste;
- landfill of waste;

[8] https://www.gov.uk/government/news/simpler-recycling-collections-and-tougher-regulation-to-reform-waste-system
[9] https://www.legislation.gov.uk/uksi/2020/904/made

- end-of life vehicles;
- batteries and accumulators and waste batteries and accumulators; and,
- waste electrical and electronic equipment.

2.12 The changes are intended to increase the prevention, reuse and recycling of waste e.g. by strengthening requirements for the separate collection of paper, metal, plastic or glass. The Regulations also put the Government commitments in the 2018 Resources and Waste Strategy to recycle 65% of municipal waste and to have no more than 10% of municipal waste going to landfill by 2035 into law.

2.13 The bulk of substantive changes to laws, regulations and administrative provisions made under the CEP affect two Directives:

- The Waste Framework Directive
- The Landfill Directive

2.14 Measures are to be taken to prevent waste generation and to monitor and assess the implementation of those measures. These measures must be included in waste prevention programmes prepared by 'appropriate authorities'[10].

2.15 Requirements for separate collection of waste are amended to provide more detail on the circumstances under which separate collection of waste is not necessary to ensure that waste undergoes preparing for reuse, recycling, or other recovery. Amendments to regulations are intended to ensure that waste collected separately for preparing for re-use or recycling is not incinerated (whether with or without energy recovery) or landfilled, except for waste resulting from subsequent treatment operations of the separately collected waste for which incineration or landfilling delivers the best environmental outcome in accordance with the waste hierarchy.

National Planning Policy Framework

2.16 While the NPPF does not explicitly reference the transition towards a circular economy, it does state that *'planning policies and decisions must also reflect relevant international obligations and statutory requirements'* (paragraph 1). This leaves room for later, and/or other policy, strategy and obligations to be included in plan making and decision-making by confirming that planning policy and decisions should be aligned with legislation and policy e.g. the RWS. Moreover, the central objective of the NPPF is sustainable development. The Framework summarises this as *'meeting the needs of the present without compromising the ability of future generations to meet their own needs'* (paragraph 7). While this is a broad statement it is nonetheless aligned with circular economy principles.

2.17 The environmental objective of the NPPF calls for *'using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy'* (paragraph 8) all of which can

[10] The Waste (England and Wales) Regulations 2011, define "appropriate authorities" as "the Environment Agency, a waste collection authority, a waste disposal authority, a waste regulation authority or a local authority"

be helped by the transition to a circular economy. The other two objectives of the NPPF (economic and social) are interdependent and so must also be considered. Circular approaches to development are consistent with the economic objective of building a *'strong, responsive and competitive economy… to support growth, innovation and improved productivity'.* The social objective focuses primarily on homes, but calls for a 'well-designed and safe built environment' which circular economy practices can also help deliver.

2.18 The NPPF expects planning policy and decisions on planning applications to support the transition to a low carbon future, noting that the planning system should help *'shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience;* ***encourage the reuse of existing resources, including the conversion of existing buildings****; and support renewable and low carbon energy and associated infrastructure'* (paragraph 152 - emphasis added). This provides clear encouragement to circular approaches in development by promoting reuse.

2.19 Specifically on planning for minerals supply, paragraph 210 of the NPPF expects that planning policies should:

> *'b) so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously;'*

2.20 The revision of the NPPF in 2021 was accompanied by a new National Model Design Code. The Design Code provides tools and guidance for local planning authorities to help ensure developments respond to the impacts of climate change, are energy efficient, embed circular economy principles, and reduce carbon emissions.

2.21 In its October 2021 Net Zero Strategy[11], the Government has reconfirmed its commitment to updating the NPPF to take account of its target to reduce carbon emissions. It is likely that such an update will include further requirements that will be consistent with the achievement of a circular economy.

National Planning Policy for Waste

2.22 The NPPF should be read in conjunction with the National Planning Policy for Waste (NPPW) (2014) when considering planning for waste. The NPPW sets out the Government's ambition for a more sustainable and efficient approach to resource use and management. The NPPW sets the framework within which Waste Planning Authorities, such as Kent County Council, prepare Waste Local Plans and determine waste related planning applications.

2.23 Direct reference to the transition to a circular economy is not made within the NPPW as when it was published in 2014 the concept was still emerging. However,

[11] The UK Net Zero Strategy is a government plan to achieve net-zero greenhouse gas emissions by 2050.

that does not mean the policy within the NPPW does not support circularity[12]. The Government recognises, within the NPPW, that in order to meet its sustainability and resource efficiency ambitions, planning for waste has a key role in *the 'delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits'* (paragraph 1). This supports the sustainable development objectives of the NPPF and encourages circular approaches which guarantee resource efficiency.

The Waste Management Plan for England (2021)

2.24 The Waste Management Plan for England provides an overview of waste management in England including the policy landscape. The Plan was updated in 2021 to reflect changes made by the transposition of the EU Circular Economy Package into law in England which includes the requirement for specific legislation for arrangements for waste containing significant amounts of critical raw materials; and an assessment of existing waste collection schemes with a view to improving the separate collection. These additions support the circular economy by providing legislation for managing raw materials and improving the collection of separated waste making it easier for waste to be re-used and recycled.

2.25 The Ministerial Foreword to the Waste Management Plan for England 2021 states:

'The government's overall approach to resources and waste is one of moving away from the current linear economic model of take, make, use, throw, towards a more circular economy which keeps resources in use for longer so that we can extract maximum value from them.'

Waste Prevention Programme for England (2023)

2.26 The Waste Prevention Programme for England: Maximising Resources[13], Minimising Waste is a cross-departmental programme that sets out the UK government's priorities for managing resources and waste in line with the RWS. The programme aims to move towards a circular economy by keeping goods in circulation for as long as possible and at their highest value. This includes increasing the reuse, repair, and remanufacture of goods. The programme also aims to reduce the amount of waste produced in England and increase the amount of waste that is recycled.

2.27 The programme includes the following three cross-cutting themes:

1. Designing out waste: Including ecodesign and consumer information requirements, and Extended Producer Responsibility schemes.
2. Systems and services: Including collection and take-back services, encouraging reuse, repair, leasing businesses and facilities.

[12] 'Circularity' refers to the concept of keeping products and materials in circulation for as long as possible and at their highest value.

[13] https://www.gov.uk/government/publications/waste-prevention-programme-for-england-maximising-resources-minimising-waste

3. Data and information: including materials databases, product passports (sets of data, unique to the specific product that can be accessed online and give detailed information on, for example, contained materials, components and history, to support improved outcomes such as higher quality recycling) and voluntary corporate reporting.

2.28 The following seven key sectors have been identified for action, based on available data on the amount of waste arisings or known carbon emissions from production:

- construction
- textiles
- furniture
- electronics
- vehicles
- plastic and packaging
- food

2.29 The Programme notes the role of planning as follows:

'The Department for Levelling Up, Housing and Communities will continue to support local authorities to promote sustainable resource use through planning. The National Planning Policy for Waste requires that when determining planning applications for non-waste development, local planning authorities should, to the extent appropriate to their responsibilities, ensure that the handling of waste arising from the construction and operation of development maximises reuse and recovery opportunities, and minimises off-site disposal. Additionally, chapter 2 of the National Planning Policy Framework (NPPF) recognises the need for the planning system to consider the prudent use of natural resources and waste minimisation in the pursuit of sustainable development. The National Planning Policy Framework and the National Planning Policy for Waste are material considerations for local planning authorities when making decisions on planning applications and when preparing their local plans.'

The programme is required to be reviewed by the UK government every six years. The latest version of the programme was published on 28th July 2023.

Local Policy

Kent Environment Strategy (2016) (KES)[14]

2.30 The KES is a strategy concerned with the environment, health and economy in Kent which includes three main themes:

- Building the foundation for delivery;
- making best use of existing resources; and,
- avoiding or minimising negative impacts and working towards a sustainable future.

[14] https://democracy.kent.gov.uk/documents/s61616/ANNEX%201%20FINAL%20KES%20Low%20Resolution.pdf

2.31 The KES recognises that Kent will experience unprecedented growth and change in the coming decades and circular economy practices are needed to ensure this growth is managed in a sustainable way. The KES acknowledges circular economy principles, such as minimising waste and careful management of resources including food production, water, energy and other raw materials that can benefit Kent's communities and provide opportunities for its residents.

Kent and Medway Energy and Low Emissions Strategy (2020)[15]

2.32 The Kent and Medway Energy and Low Emissions Strategy sets out how Kent County Council, in Partnership with Medway Council, and the other district and borough councils in Kent intend to respond to the UK climate emergency and drive clean, resilient economic recovery across the county.

2.33 The priorities set out in this Strategy include ensuring climate change and circular economy principles are integrated into Local Plans, including environmental considerations, reducing carbon emissions and ensuring sustainable management of resources. Note that the section below explains the link between climate change and circular economy. The Strategy includes the following related statement:

'Principles of Clean Growth (growing our economy whilst reducing greenhouse gas emissions), must be factored into all planning and development polices and decisions, whilst not becoming a barrier to new development.'

2.34 The Strategy also expects a clean growth and climate change strategic planning framework for Local Plans and development to be prepared in the short term (by 2023) and clean growth and climate change to be fully integrated into Local Plans in the long term (by 2030). Despite clear reductions in GHG emissions within Kent, including a 37% reduction in total CO2 emissions since 2005, the current rate of emission reductions is insufficient to meet the Government's target to achieve net-zero emissions by 2050. While emissions from sectors such as the industrial, commercial and domestic sectors have fallen significantly since 2005 (57% and 35% respectively) emissions from transport have fallen just 4.5% over the same period. As a result, to achieve net-zero, all sectors will need to increase the efficiency with which they use resources in line with circular economy principles while also switching to low-carbon fuels for electricity, heating and transport.

Other Local Plans in Kent

2.35 To a greater or lesser extent, all eleven district (including borough and city) councils within Kent include planning policy that is consistent with circular economy principles in their Local Plans. These policies include promoting sustainable design solutions for development which, for example, expect the use of recycled materials in development and inclusion of space for the storage and collection of waste. An analysis of relevant planning policies in local plans is referenced in Appendix B.

[15] https://www.kent.gov.uk/__data/assets/pdf_file/0009/112401/Kent-and-Medway-Energy-and-Low-Emissions-Strategy.pdf

3.0 Circular Economy and Climate Change

3.1 While the primary focus of the circular economy is delivering benefits for the wider environment while providing greater security in resource supply and boosting the economy, it also has a crucial role to play in mitigating the impacts of climate change. This is recognised in the Government's Net Zero Strategy[16] which includes a section on sustainable use of resources and notes: *'Net zero will mean maximising the value of resources within a more efficient circular economy.'*

3.2 Adoption of a circular economy involves a decoupling of growth from the wasteful consumerism culture predominant in the UK through the incorporation of sustainable measures through policy. By incorporating a more circular approach, GHG emissions can be significantly reduced.

3.3 Current climate strategies often place emphasis on transitioning to decarbonisation of energy supply and transport and striving for greater energy efficiency, as these areas account for 55% of GHG emissions[17]. However, while these emissions are of primary concern, decarbonising these sectors alone will not be enough if the UK is to meet its legal obligation and target of net-zero emissions by 2050.

3.4 The remaining 45% of GHG emissions arises from producing products we use every day such as cars, clothes and food (industrial, agricultural and land use processes) and these sectors must also decarbonise if the Government net zero target is to be met. It is projected that through technological innovation and a shift in consumption patterns, two thirds of the GHG emissions from these sectors can be reduced by 2050[18]. Increasing the use rate of assets, and recycling materials used to make them, will reduce the emissions resulting from their production.

3.5 Together, building and construction are responsible for 39% of all carbon emissions in the world, with operational emissions (from energy used to heat, cool and light buildings) accounting for 28%. The remaining 11% comes from embodied carbon emissions, or 'upfront' carbon that is associated with materials as well as construction processes[19]. According to a report by the Environmental Audit Committee[20], the built environment is responsible for 25% of the UK's total greenhouse gas emissions. The report also states that emissions from the built environment must be reduced if the UK is to meet net zero by 2050.

3.6 Within cities, 11% of all GHG emissions arise from refurbishing and constructing buildings which utilise materials such as aluminium, steel and concrete, of which 15% is wasted during construction with landfill of materials when buildings are demolished[21].

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[16] Net Zero Strategy: Build Back Greener, BEIS, October 2021
[17] https://www.ellenmacarthurfoundation.org/assets/downloads/Completing_The_Picture_How_The_Circular_Economy-_Tackles_Climate_Change_V3_26_September.pdf
[18] https://climate.ellenmacarthurfoundation.org/
[19] World Green Building Council
[20] https://publications.parliament.uk/pa/cm5803/cmselect/cmenvaud/103/report.html
[21] Ellen MacArthur Foundation

3.7 In Kent around 3 million tonnes of Construction, Demolition and Excavation waste is produced each year[22]. Reducing wastage in accordance with circular economy principles reduces the demand for primary raw materials (including minerals) which in turn reduces the GHG emissions associated with their extraction and production of construction materials such as aluminium, steel, and concrete.

3.8 Refurbishing existing development, instead of building new, can be a key way to reduce carbon emissions from construction. 40% of residential buildings in Europe were built before the 1960s and most of these buildings lack modern energy saving and use technologies[23]. However, instead of demolishing and replacing these buildings with modern ones incorporating energy efficiency and waste saving measures, refurbishment can incorporate these measures while also ensuring embodied carbon in materials arising from demolition is not lost. Therefore, transitioning to a circular economy through greater refurbishment of existing development instead of constructing new buildings, can help reduce GHG emissions from the construction sector.

3.9 Designing for deconstruction can also help reduce waste and carbon emissions in the construction industry. It involves designing buildings with the intention of being able to disassemble them at the end of their lifecycle, so that the materials can be reused or recycled. This approach help reduce waste production and the amount of energy required to produce new materials. Designing for deconstruction also helps reduce the carbon emissions associated with construction by minimising the need for new materials and reducing the amount of waste that needs to be transported and disposed of. Some ways to design for deconstruction include:

- Designing buildings such that they can change their use over time – minimising the need for refurbishments and redevelopment and considering how or where buildings can be repurposed or their life extended;
- using systems and products that have long lifespans; and,
- ensuring that materials can easily be recovered for reuse at the end of a building's life.

4.0 Circular economy, land use and the built environment - implications

4.1 Adopting circular economy principles in land use and development involves the following:

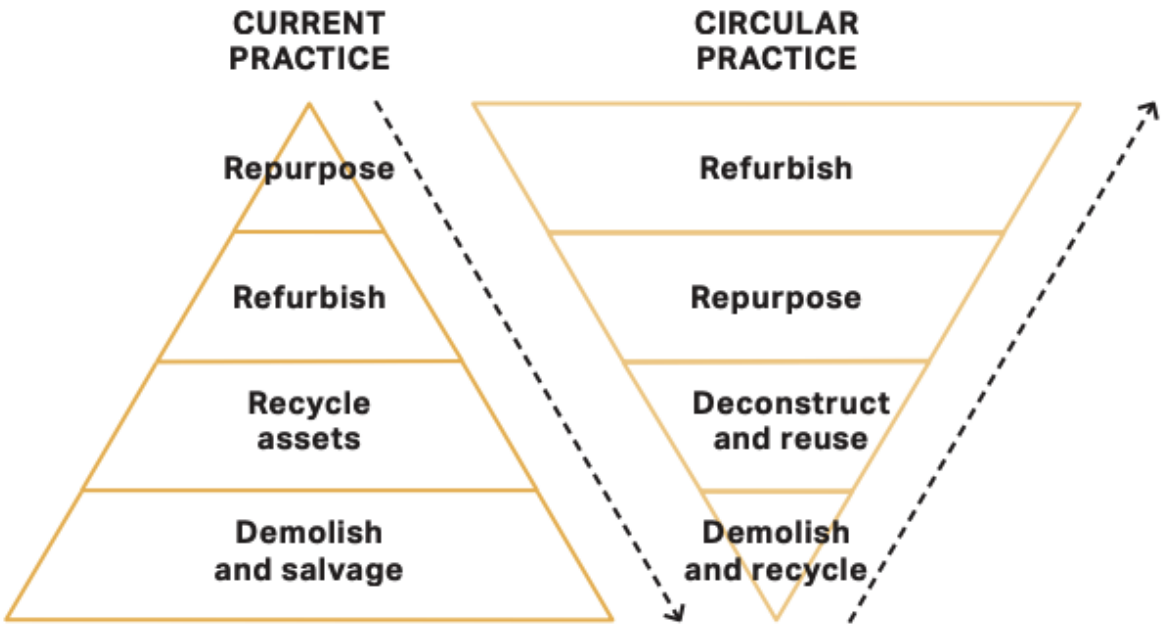
- Making better use of existing buildings and infrastructure through sharing and reuse so fewer new buildings need to be created;
- designing new buildings in such a way that their useful life is maximised e.g. by being easily adapted to a range of uses;
- moving away from 'demolition' and towards 'deconstruction' of buildings whereby buildings are dismantled at the end of their useful lives so that the materials used in their construction can easily be reused, repaired and refurbished;

[22] Kent Minerals and Waste Annual Monitoring Report 2019/20

[23] *Reyna, J L and Chester, M V 2015 'The Growth of Urban Building Stock: Unintended Lock-in and Embedded Environmental Effects'. Journal of Industrial Ecology, 19: 524-537.*

- use of materials and products (non hazardous) that are resilient to damage e.g. by use and weathering;
- eliminating waste in construction through pre-fabrication;
- elimination of the use of hazardous materials, which pose particular issues with end of life management;
- ensuring waste arising during the occupation of a development can easily be reused or recycled e.g. by allowing storage of separate recyclable materials and providing space to allow for reuse and repair and for the storage of reusable goods and materials; and,
- regenerative and resilient design which results in development which harnesses the resources it consumes e.g. solar gain, water harvesting, biodiversity net gain and is long lasting by working with natural processes;
- use of renewable energy during the construction and use of the building;
- maximising the efficient use of land;
- restoration of derelict land;
- developments which have, or incorporate, a communal (i.e. shared) use(s) such as laundries to avoid replication of consumer goods;
- development which incorporates facilities and space to allow circular activities e.g. sharing (Library of Things), hiring, repairing (e.g. workshops) and reusing.
- maximising low carbon shared/public transport; and,
- protection and enhancement of ecosystem services and natural capital.

4.2 The diagram overleaf attempts to demonstrate the changes in approaches needed within the development industry to achieve a more circular economy:



Source: Design for a Circular Economy Primer, GLA[24]

[24] https://www.london.gov.uk/sites/default/files/design_for_a_circular_economy_web_1.pdf

4.3 While recovering and recycling products such as aluminium and plastic has benefits for the environment, the process can be expensive depending on the material and it can often be cheaper and more practical to simply purchase new primary product[25].

4.4 Currently, there is a lack of suitable available products and incentives for developers and architects to pursue circular economy objectives. Additional taxes on landfilling waste, such as those brought in with the Landfill Directive can help dissuade wasteful practices. However, there is a need for more to be done to discourage wasteful practices and increase the benefits associated with the reuse and recovery of products in construction e.g. introduction of EPR in relation to construction materials.

4.5 Achieving a complete circular economy is not necessarily wholly achievable. The recycling of materials used in construction is finite, as some materials degrade and the removal of impurities becomes more difficult with each cycle of use.

4.6 Ensuring waste is handled appropriately and in-line with circular economy principles can be more expensive as additional space is required to allow separation and storage of waste prior to its reuse and recycling. Such space can often come at a premium in urban areas, and practices of sorting and other management[26] are potentially time intensive.

4.7 Organising the collection and storage of materials may also require additional administration as material reuse rates have to be monitored and recyclable materials may also need collecting by a vendor at appropriate times in order not to place a greater burden on the space required to sort and store materials.

4.8 Using more sustainable materials and reusing materials can also present challenges for workers on development sites. ‘New’ or innovative materials may not be widely available, meet specification standards for their intended use, and workers may be unfamiliar with them and how they should be installed. Workers may struggle to utilise new materials when constructing new buildings and disassembly can also often be difficult, particularly as currently demolition is far more common than dismantlement.

4.9 Lastly, the design of new buildings in accordance with circular economy principles may present challenges which requires particular expert input from architects and specialist building contractors. The availability of individuals with requisite skills and knowledge may also create a barrier to implementation unless appropriate training and guidance is available.

[25] https://www.circular.academy/circular-economy-critics-and-challenges/
[26] https://www.ellenmacarthurfoundation.org/assets/downloads/Built-Env-Co.Project.pdf

5.0 How can planning policy help facilitate a circular economy

5.1 As is demonstrated in Appendix B, many planning policies implemented through Local Plans adopted by councils in Kent already encourage developers to implement circular economy principles in new development.

5.2 The new London Plan[27] includes a requirement for Circular Economy Statements to be submitted with significant development proposals. Circular Economy Statements detail how new development will incorporate circular economy measures through its layout, construction and use. This policy ensures applicants consider strategies that facilitate the transition to a circular economy at the design stage, maximising opportunities for consideration of such matters.

5.3 The requirement for Circular Economy Statements is supported by a recent House of Commons Environmental Audit Committee report that examined how improvements to the sustainability of the built environment in the UK should be made[28]. The report included the following recommendation:

> *'circular economy statements including pre-demolition audits should be a requirement of planning applications which entail demolition of properties, as is already the case for certain applications which London boroughs are required to refer to the Mayor of London for consideration. The circular economy statement must explain why retrofit to match existing or new uses is not possible if demolition is proposed and be accompanied by a whole life carbon assessments of both new build and retrofit. This requirement should be introduced as soon as is practicable and not later than any package of reforms to the planning system which the Secretary of State for Levelling up, Housing and Communities is expected to introduce before the end of the current Parliament.'*

5.4 Applications for planning permission may also need to be accompanied by a 'site waste management plan'. An example of this is Policy 37 of the Westminster Council City Plan[29] which places obligations on developers to detail the amount and type of waste that will be produced, how it will be reused or recycled and how unauthorised disposal of waste will be prevented.

5.5 Local Plans may also expect refurbishment and retention of buildings rather than demolition such as Policy STR 7 within the Tunbridge Wells Local Plan (Appendix x), which notes that *'The embodied energy of existing buildings will be considered by prioritising restoration over demolition'*. In areas where this is not possible, incorporating recycled or more sustainable materials can be required by policy.

5.6 Waste Local Plans normally include policies that aim to drive waste up the waste hierarchy. In doing so they promote development which facilitates the reuse and recycling (including composting) of waste, supporting the shift to a circular economy.

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[27] https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf
[28] House of Commons Environmental Audit Committee, Building to net zero: costing carbon in construction, First Report of Session 2022–23, May 2022 https://committees.parliament.uk/work/1147/sustainability-of-the-built-environment/publications/
[29] https://www.westminster.gov.uk/media/document/city-plan-2019-2040

In some cases, renewable energy may also result from the management of waste where it is biogenic in origin e.g. biogas produced by anaerobic digestion.

5.7 Changes to the Kent Minerals and Waste Local Plan are proposed which take the above into account. A particular change to Policy CSW3 is the proposed requirement for circular economy principles to be taken into account in proposals for all new development. For larger developments this would be demonstrated by the submission of a Circular Economy Statement to accompany a planning application as set out in paragraph 6.2.8:

> *'Proposals for major development[30] should be submitted with a Circular Economy Statement that demonstrates how the above matters have been taken into account. This will include a waste management audit setting out how waste is to be managed during construction (including any demolition and refurbishment) and during the occupation and use of the development. Guidance on the content of Circular Economy Statements will be prepared but in the meantime, developers should refer to related guidance published by the Greater London Authority in 2022.'[31]*

[30] Development requiring a Circular Economy Statement will have a total floor space of greater than 1000 square metres and/or comprise greater than 10no. units of housing and/or where the site is 1 hectare or more

[31] https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance/circular-economy-statement-guidance

Appendix A: Glossary

Abbreviations:

CE	Circular Economy
DRS	Deposit Return Scheme
EPR	Extended Producer Responsibility
GHG	Greenhouse Gases
LA	Local Authority
LPA	Local Planning Authority
RWS	Resources and Waste Strategy

Technical Terms:

Anaerobic Digestion	A natural process comprising the breakdown of organic material in the absence of air. It is carried out in an enclosed vessel and produces biogas (methane) that may either be used to produce electricity or cleaned up and supplied to the gas grid..
Climate Change	Climate change is a long-term change in the average weather patterns that have come to define Earth's local, regional and global climates.
Decarbonisation	Removal or reduction of carbon dioxide output into the atmosphere. Decarbonisation is achieved by switching to usage of low carbon energy sources.
Extended Producer Responsibility	Extended Producer Responsibility is a policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products.
Recycling	The collection and separation of materials from waste and subsequent processing to produce new products and materials.
Regenerative	Something that is able to or tending to regenerate—to regrow or be renewed or restored, especially after being damaged or lost.
Reuse	Reuse is the use of a product or material in its original form with minimal reprocessing (can be following repair), that would otherwise be managed as waste.

Appendix B: District and Borough Council Local Plans in Kent – Existing Planning Policies which Promote a Circular Economy (Position at July 2021)

A review of all District and Borough Council policies which might require development to come forward in accordance with circular economy principles including consideration of waste management has been undertaken.
This found variation between Local Plans but all were found to include policies which encouraged 'sustainable' construction. No Local Plans were found to specifically reference circular economy. Policies tend to include a clearer focus on water and energy efficiency rather than waste. The Councils and policies that particularly reflect circular economy principles are as follows:

- Ashford Borough Council: Strategic Objective i
- Canterbury City Council: Policy DBE1 Sustainable Design and Construction
- Dartford Borough Council: Policy S3 & Policy M3
- Folkestone and Hythe District Council: Policy CC2
- Swale Borough Council: Policy DM9
- Thanet District Council: Particularly Policy QD01 & Policy H019
- Tunbridge Wells Borough Council: Policy EN1

Details of relevant policies identified in Local Plans are set out below

Ashford Borough Council:

Ashford Local Plan 2019 – 2030 (Adopted 2019)

Link: **https://www.ashford.gov.uk/media/jw3nbvq1/adopted-ashford-local-plan-2030.pdf**

Policy SP1 –
Strategic Objective a:
To focus development at accessible and sustainable locations which utilise existing infrastructure, facilities and services wherever possible and makes best use of suitable brownfield opportunities;

Strategic Objective i:
To ensure new development is resilient to, and mitigates against the effects of climate change by reducing vulnerability to flooding, **promoting development that minimises natural resource and energy use, reduces pollution and incorporates sustainable construction practices, including water efficiency measures.**

Policy SP6 – Promoting High Quality Design:
Expects Development proposals to make '**Efficient use of natural resources'**.

Policy HOU6 – Self and Custom-Built development:
Development proposals must be of high-quality design and **demonstrate a positive response to sustainable development.**

Policy ENV11 – Sustainable Design and Construction, non-residential:

All major non-residential development will achieve BREEAM 'Very Good' standard, with at least a 40% improvement in water consumption against the baseline performance of the building (Wat1, 3 credits), unless demonstrated not to be practicable.

Canterbury City Council:

Canterbury District Local Plan 2011 – 2031 (Adopted 2017)

Link:https://www.canterbury.gov.uk/downloads/file/868/canterbury_district_local_plan_adopted_july_2017

Policy SP1 Sustainable development – Positive approach which reflects the NPPF's **presumption in favour of sustainable development.**

Policy CC2 Reducing Carbon Emissions from New Development:
Development in the Canterbury District should include **proportionate measures to reduce carbon and greenhouse gas emissions** (as outlined table D1 and Policy DBE1) As well as incorporating measures to reduce carbon emissions development proposals shall show how they have taken account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

Policy CC3 Local / District Renewable and Low Carbon Energy and Heat Production Schemes:
Strategic Sites (as shown on the Proposals Map) and other sites over 200 units, health facilities, education institutions and schools or substantial commercial developments **should provide site wide local renewable or low carbon energy and/or heat generation schemes** such as gas fired Combined Heat and Power (CHP). If a local renewable/low carbon scheme or district heating scheme is not proposed it will need to be demonstrated that the provision would not be viable or feasible, or it can be demonstrated that an alternative carbon reduction strategy would be more appropriate.

Policy DBE1 Sustainable Design and Construction: All development should respond to the objectives of sustainable development and reflect the need to safeguard and improve the quality of life for residents, **conserve resources such as energy, reduce/minimise waste** and protect and enhance the environment. The City Council will require development schemes to incorporate **sustainable design and construction measures,** to show how they respond to the objectives of sustainable development. Sustainability statements will be required for all applications for major developments and for the strategic housing sites identified in Policy SP3. They should demonstrate how the proposal has responded to the objectives of sustainable development and had regard to the measures outlined in table D1. Energy statements should be submitted for all strategic development sites. Non-residential developments should meet a 'very good' BREEAM rating and provide evidence as to why an 'excellent' rating cannot be achieved. Development proposals should also show how measures outlined in any sustainable design guidance or SPD adopted by the City Council have been considered. New developments will also need to be resilient to climate change. Appropriate climate

change adaptation measures, include flood resilient measures, solar shading and drought resistant planting, limiting water runoff, reducing water consumption and reducing air pollution.

Table D1 require developers to minimise waste during construction

Policy DBE3 Principles of Design:
Proposal should have the following considerations:

e. The form and density of the development including: the efficient use of land, layout, landscape, density and mix, building heights, scale, massing, materials, finishing and architectural details including proposed lighting schemes;

Dartford Borough Council:

Dartford Local Plan 2021 – 2037 (Pre-submission)

Link: https://www.dartford.gov.uk/__data/assets/pdf_file/0016/1107052/Final-Publication-Plan.pdf

Policy S1: Borough Spatial Strategy:
Development is directed to brownfield land.

Policy S3: Climate Change Strategy:
Development in the borough should contribute to minimising carbon emissions from properties and processes, and reducing the need for unsustainable travel.

Development will efficiently manage and re-use natural resources and waste, including through the use of water efficiency measures.

And,

The design, location and construction of development will **minimise energy consumption**, regulate internal temperatures, provide appropriate natural shading on buildings, at street level and in open spaces, and **allow for renewable or low carbon energy sources and other new sustainable technologies to be provided or readily incorporated** in the future.

Policy M2: Good Design for Dartford:
3d) the principle of securing a mix of uses and residential types, achieving efficient re-use of land where appropriate, and delivering regeneration at urban locations well served by public transport services

Policy M3 Sustainable Technology, Construction and Performance:
The **design, construction and lifecycle of development must contribute to the mitigation of, and adaption to, climate change. This includes, but is not limited to, improving energy performance, reducing carbon emissions and preserving water'**

To achieve these aims, all residential development should:

a) Achieve a minimum on-site reduction in regulated carbon emissions of at least 19 per cent beyond Part L of the Building Regulations, unless it can be demonstrated that such provision is not feasible. This 109 Pre Submission Dartford Local Plan – February 2021 will be required for major development until such time that amendments are made to national legislation/ policy which have the effect of surpassing this level of performance;
b) Demonstrate delivery of the water efficiency requirement level of 110 litres per person per day for all dwellings created;
c) Use materials and design to increase energy efficiency and thermal performance, **increase a building's length of life and adaptability for future uses, with materials recycled or re-used from within the site**, or sourced locally, where possible; and
d) **Achieve a layout and design that allows for the efficient management/ re-use of natural resources, including securing waste reduction, reuse, recycling and composting for the future occupiers of development. Adequate and convenient arrangements for the storage of refuse and recyclable materials must be made.**

Large residential development of 100 dwellings or more should be demonstrated to feature additional significant zero and/or low carbon or sustainable technology features across the site. This could include for example, use of grey-water recycling and/ or a combined heat and power connection where scale and feasibility allows. In order to demonstrate high levels of energy performance and water efficiency, non-residential development over 1,000sqm must achieve the BREEAM excellent standard.

Dover District Council:

Dover District Local Development Framework 2010 - 2026 (Adopted 2010)

Link: https://www.dover.gov.uk/Planning/Planning-Policy-and-Regeneration/PDF/Adopted-Core-Strategy.pdf

District objectives:
11) Use natural resources more efficiently especially, land for housebuilding, water and energy, **produce less waste and increase recycling**

Policy CP 8 & 9 – Dover waterfront & Dover Mid Town:
Planning permission will be granted if: VII: The development includes a district heating system, non-residential buildings meet BREEAM excellent standard and residential buildings achieve at least 75% of the sound insulation credits under the Code for Sustainable Homes

Folkestone and Hythe District Council:

Places and policies Local Plan – Submission Draft 2018

Link: https://folkestone-hythe.gov.uk/media/770/Places-and-Policies-Local-Plan-Submission-Draft-February-2018/pdf/Places_and_Policies_Submission_Draft_Feb_2018.pdf?m=637284404859170000

Policy CC1 – Reducing Carbon Emissions:
Planning applications for all major new build housing developments and new non-residential buildings of 1,000sqm or more gross floorspace **will be required to reduce carbon emissions by a minimum of 10 per cent above the Target Emission Rate**, as defined in the Building Regulations for England approved document L1A: Conservation of Fuel and Power in Dwellings.
This should be through the use of on-site renewable and low-carbon energy technologies which could include an integrated system or site-wide solution involving the installation of a system that is not integrated within the new building.

Policy CC2 – Sustainable design and construction
Sustainable Design and Construction Proposals for all new dwellings or for new non-domestic buildings will be permitted where:

1. All new build housing is built to the higher water efficiency standard under Regulation 36(3) of the Building Regulations so as to achieve a maximum use of 110 litres per person per day including external water use where technically feasible and viable. Proposals should demonstrate that water efficiency and water re-use measures have been maximised;
2. For non-residential development, the development achieves BREEAM 'Very Good' standard including addressing maximum water efficiencies under the mandatory water credits, where technically feasible and viable;
3. **The development minimises energy demand through passive design and layout and landscape mitigation measures with an aspiration for new major residential developments to achieve zero carbon homes**;
4. The development is accessible to all and is designed to be flexible towards future adaptation in response to changing life needs;
5. **The development includes measures to adapt to climate change**, such as the provision of green infrastructure, sustainable drainage systems (SuDS) in accordance with Policy CC3, suitable shading of pedestrian routes and open spaces and drought resistant landscaping; and
6. **The development provides discretely designed and accessible storage for waste, recycling and composting**.

Gravesham Borough Council:

Gravesham Local Plan Core Strategy 2011 – 2028 (Adopted 2014)
Link: https://www.gravesham.gov.uk/home/planning-and-building/local-plan/gravesham-local-plan-core-strategy

Policy CS18: Climate Change – Carbon reduction:
Proposals should consider the potential and include proposals for low carbon and renewable energy generation, including combined heat and power. When choosing not to do so, applicants must submit evidence which demonstrates that compliance is not technically or financially feasible

Policy CS19: Development and Design Principles: Development criteria:
The design and layout of new development will take advantage of opportunities to build in resilience to the effects of climate change. This will include protection against flood risk, where relevant, **delivering carbon reduction, provision for low carbon and renewable energy, and minimising energy consumption** and water
New development will incorporate appropriate facilities for the storage and recycling of waste

Maidstone Borough Council:

Maidstone Borough Local Plan 2017 – 2031 (Adopted 2017)
Link: https://maidstone.gov.uk/__data/assets/pdf_file/0005/171149/Local-Plan-v2-November-2017.pdf

Policy DM 5 - Development on brownfield land

1. Proposals for development on previously developed land (brownfield land) in Maidstone urban area, rural service centres and larger villages that make effective and efficient use of land and which meet the following criteria will be permitted:
   i. The site is not of high environmental value; and
   ii. If the proposal is for residential development, the density of new housing proposals reflects the character and appearance of individual localities, and is consistent with policy DM12 unless there are justifiable planning reasons for a change in density.
2. Exceptionally, the residential redevelopment of brownfield sites in the countryside which are not residential gardens and which meet the above criteria will be permitted provided the redevelopment will also result in a significant environmental improvement and the site is, or can reasonably be made, accessible by sustainable modes to Maidstone urban area, a rural service centre or larger village.

Sevenoaks District Council:

Core Strategy 2011 – 2026 (Adopted 2011)

Link:https://www.sevenoaks.gov.uk/downloads/file/356/core_strategy_adopted_version_february_2011

Policy SP 2: sustainable development – construction and low-carbon energy generation:
The District will contribute to reducing the causes and effects of climate change by promoting best practice in sustainable design and construction to improve the energy and water efficiency of all new development and contribute to the goal of achieving zero carbon development as soon as possible.

1. New homes will be required to achieve at least Level 3 of the Code for Sustainable Homes, progressing to Level 4 from 2013 and will be encouraged to achieve Level 6 by 2016.
2. All new commercial (A1-A5, B1-2, B8, C1, D1) and institutional (C2, D1) development, (including conversions) and conversions to residential use will be required to achieve BREEAM 'Very Good' standards increasing to 'Excellent' standards from 2013 and must incorporate sustainable drainage systems (SUDS) where practical together with arrangements to secure their long-term maintenance.
3. Achievement of the Code levels and BREEAM standards must include at least a 10% reduction in the total carbon emissions through the on-site installation and implementation of decentralised, renewable or low-carbon energy sources.

Swale Borough Council:

Bearing Fruits 2030, The Swale Borough Local Plan 2014 – 2031 (Adopted 2017)
Link:
http://services.swale.gov.uk/media/files/localplan/adoptedlocalplanfinalwebversion.pdf

Policy ST 1: Delivering sustainable development in Swale:
10. **Meet the challenge of climate change, flooding and coastal change through:**
a. promotion of sustainable design and construction, the expansion of renewable energy, the efficient use of natural resources and the management of emissions;
11. **Conserve and enhance the natural environment by:**
h. applying national planning policy in respect of pollution, despoiled, degraded, derelict, contaminated, unstable and previously developed land; and

Policy DM3: The rural economy:
Development proposals for rural based employment will:

b**. firstly consider the appropriate re-use of existing buildings or the development of other previously developed land,** unless such sites are not available or it is demonstrated that a particular location is necessary to support the needs of rural communities or the active and sustainable management of the countryside;

Policy CP4 Requiring good design:
All development proposals will be of a high-quality design that is appropriate to its surroundings. Development proposals will, as appropriate:
4. **Make efficient and prudent use of natural resources** including sensitively utilising landscape features, landform, biodiversity and climate to maximise energy conservation and amenity;
13. Maximise opportunities for including sustainable design and construction techniques including the **use of recycled and recyclable materials**, sustainable drainage systems, carbon reduction **and minimising waste**;

Policy DM19 Sustainable design and construction:
Development proposals will **include measures to address and adapt to climate change in accordance with national planning policy and guidance and**, where appropriate, will incorporate the following:
a. **Use of materials and construction techniques which increase energy efficiency and thermal performance, and reduce carbon emissions in new development** over the long term unless considerations in respect of the conservation of heritage assets indicate otherwise;
b. Promotion of waste reduction, re-use, recycling and composting, where appropriate, during both construction and the lifetime of the development;
c. Recognition that retaining and upgrading existing structures may be more sustainable than building new whilst making the most of opportunities to improve water and energy efficiency in the existing stock;
d. Design of buildings which will be adaptable to change and reuse over the long term and which include features which enable energy efficient ways of living (e.g. adequate drying space, cycle storage, home working and good daylighting);

Thanet District Council:

Thanet District Council Local Plan 2020 – 2031 (Adopted 2020)
Link: https://www.thanet.gov.uk/wp-content/uploads/2018/03/Thanet-Local-Plan-July-2020-1-1.pdf

Policy SP37 - Climate Change:
New development must take account of the need to respond to climate change:
1) by minimising vulnerability and providing resilience to the impacts of climate change through the use of up-to-date technologies, efficient design and appropriate siting and positioning of buildings;
2) **mitigating against climate change by reducing emissions and energy demands through the use of up to date technologies;**

Policy QD01 – Sustainable Design:
All new buildings and conversions of existing buildings must be designed to reduce emissions of greenhouse gases and have resilience to function in a changing climate. All developments will be required to:
1) Achieve a high standard of energy efficiency to the equivalent of Level 4 of the Code for Sustainable Homes (subject to HE05 where applicable). Where viability is an issue, it will be incumbent on an applicant to demonstrate to the satisfaction of the Council why this standard cannot be achieved.
2) Make the best use of solar energy passive heating and cooling, natural light, natural ventilation and landscaping.
All new buildings and conversions of existing buildings must be designed to use resources sustainably. This includes, but is not limited to:
4) Re-using existing buildings and vacant floors wherever possible;
5) Designing buildings flexibly from the outset to allow a wide variety of possible uses;
6) Using sustainable materials wherever possible and making the most sustainable use of other materials;
7) Minimising waste and promoting recycling, during both construction and occupation.

Policy H019 – Houses in Multiple Occupation:
Elsewhere proposals will be permitted where the development:
4) **provides suitable arrangements for the storage and collection of waste**

Tonbridge and Malling Borough Council:

Tonbridge and Malling borough Council Local Development Framework 2007 – 2021 (Adopted 2007)
Link:https://www.tmbc.gov.uk/__data/assets/pdf_file/0005/618890/Local_Plan_Submission_January_2019.pdf

LP14: Achieving High Quality Sustainable Design:
Development must:
c. be well designed and of a high quality in terms of detailing and use of materials and through its scale, density, layout, siting, character and appearance be designed to respect the site and its surroundings.
Development should, where practicable and proportionate, be designed to:
a. maximise opportunities to reduce energy demands through the orientation of habitable rooms to harness natural light and through landscaping to prevent overheating;

Tunbridge Wells Borough Council:

Tunbridge Wells Borough Local Plan 2019 – 2038 Pre-submission.
Link: https://tunbridgewells.gov.uk/__data/assets/pdf_file/0010/387793/Pre-Submission-Local-Plan_final-compressed.pdf

Policy STR 2 Place Shaping and Design:
All new development must use the following principles relevant to its location, scale, and use:
8. Be based on measures to promote environmental sustainability, including energy and water efficiency measures, **sustainable design and construction techniques**, and provision of appropriate wastewater and flood mitigation measures;

Policy STR 7 – Climate Change:
Land use planning for the distribution of people and activities that allows for radical reductions in greenhouse gas emissions, including:
a. reducing the need to travel, especially by private car;
b. securing the maximum possible journeys made by active and sustainable transport for both people and freight;
c. delivering a step change in energy efficiency improvements.
2. Implementing proactive policy on climate change mitigation
A proactive policy for low carbon design and construction will be implemented that follows the energy hierarchy (see the Glossary at Appendix 4) and supports the delivery of appropriate renewable energy generation. **The embodied energy of existing buildings will be considered by prioritising restoration over demolition**, and decentralised heating and cooling networks will be given particular consideration in the largest strategic development locations.

Policy EN 1 – Sustainable Design:
5. **Where possible, materials should be used that are sustainably sourced by local suppliers and with low embodied carbon such as recycled or secondary aggregates and can be easily reused or recycled at the end of their life**;
8. Proposals should be designed for significant carbon dioxide emissions reductions and more sustainable energy sources, through energy efficiency improvements and facilitating low and zero carbon technology to ensure development supports a path to net zero emissions by 2030;

Policy STR 3- Brownfield Land:
3. Such proposals in the countryside (i.e. brownfield sites outside defined Limits to Built Development) will be supported where:
a. **first consideration is given to the re-use of existing buildings, including any suitable extensions**;