APPDENDIX D

DARTFORD BOROUGH COUNCIL

Climate Change Impact Assessment

1. This form should be completed for all committee decisions except planning (see below).

2. This assessment is not required to be carried out for planning applications as these are the subject of national regulations which determine the necessity or otherwise for Environment Statements to be submitted in support of planning applications under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

3. For the purposes of this form, we refer to your policy, function, project or service as a proposal. It is not intended to be a detailed, quantified analysis of emissions – but an overview of the likely impact of your proposals.

4. Please note that a negative impact on climate change does not necessarily mean the proposal will not get approval. However, members need to be able to take the likely impact into account when considering your report, in line with climate change objectives.

For assistance in completing this form, please contact Peter Dosad, Director of Housing and Public Protection.

Please provide an assessment of the impact on the proposal under each of the headings below. If none, please say so.

1. Climate change impacts

	Impact of proposal Positive/ Neutral/ Negative	**Explanation of impact** If you have any relevant data, please include that in the explanation and reference the source	**Mitigation**
Impact on the council's target of being carbon neutral by 2030 This applies to emissions of carbon dioxide as a direct result of our **own** activities and services. Please consider the whole life impact of your proposals.	Neutral	N/a – The Local Plan is Borough-wide and concerned with all development within Dartford, rather than the detail of Council services and activities.	N/a
Impact on carbon emissions in the Dartford Borough. This applies to the carbon dioxide emissions in the district as a result of your proposal. Please consider the whole life impact of your proposals.	Positive	Traffic is the principal source of the Borough's carbon emissions, which are higher per capita than the regional average. Industry, commercial and residential development are also sources of carbon pollution. Government targets mean there will inevitably be an increase in development and associated risks of increased emissions.	Local Plan objectives and policies aim to reduce carbon emissions. The Plan incorporates the vision that 'Neighbourhoods across the Borough will be attractive, healthy, secure, low-carbon and environmentally resilient' and the objective 'G3 Ensuring the Borough is able to adapt to the effects of climate change and contributes towards reducing Dartford's carbon footprint through an increase in the proportion of water efficient buildings, the uptake of domestic and small scale renewable energy, and promoting environmental resilience, new greenspace and tree planting'. The Local Plan Development strategy has a key role to play in this, and therefore most of the Local Plan

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			policies include relevant actions. It is expected that developments will design in flexibility, infrastructure and space for current, new and emerging technologies and adaptations. In particular, the Plan's land use strategy is based around locating new development in areas well-served by facilities and sustainable travel modes, and seeking to improve public transport services as well as walking and cycling routes, including via the Green Grid network. It aims to reduce the frequency and duration of private car use and thereby reduce Dartford Borough's carbon emissions. Development can also facilitate the take up of zero or low carbon technology, for instance through electric vehicle charging provision or promoting domestic renewable energy installations. The Local Plan contains a Climate Change Strategy (Policy S3) which prioritises sustainable and active travel modes, sustainable patterns of development, green and blue infrastructure, flood risk management and sustainable design/technology. Police M3 'Sustainable Technology, Construction and Performance' seeks to reduce embodied and operational carbon emissions via the design, construction and whole life carbon cost of development. In addition Policies M13 (Green and Blue Infrastructure) and M14 (Biodiversity and Landscape) recognise, amongst other interventions, that trees absorb carbon and tree planting is strongly encouraged.

	Impact of proposal Positive/ Neutral/ Negative	**Explanation of impact** If you have any relevant data, please include that in the explanation and reference the source	**Mitigation**
Emission of other climate changing gases. Including methane, Chlorofluorocarbons (CFCs), nitrous oxide	Positive	The largest source of methane emissions is agriculture, responsible for around one quarter of emissions, closely followed by the energy sector, which includes emissions from coal, oil, natural gas and biofuels. Chlorofluorocarbons (CFCs) are found in air-conditioning, refrigeration, blowing agents in foams, insulations and packing materials, propellants in aerosol cans and solvents. Nitrous oxide is emitted during agricultural, land use, and industrial activities; combustion of fossil fuels and solid waste; as well as during treatment of waste water.	Some of the activities generating these gases are outside the control of planning (e.g. agricultural practises), or are for other legislation, for instance under environmental health controls, etc. However, Local Plan objectives and policies can help address emissions of other climate changing gases to some extent, in particular, methane and nitrous oxide. This may be via encouragement of the uptake of domestic and small scale renewable energy as well as development that is designed to reduce energy consumption. Local Plan policies cover sustainable technology, construction and performance. The Plan encourages development to pay careful attention to passive design measures, the aspect of dwellings and designing internal layouts to provide natural ventilation. These may positively impact the demands for energy. The Local Plan also requires a higher energy efficiency level in the Borough than before i.e. in line with Building Regulations Part L for major development. (Planning policy is legally not expected to duplicate Building Control requirements). The Local Plan expects there will be significant uptake of larger scale/more advanced low or zero carbon technologies on residential schemes of 100 units or more (additional measures required to achieve performance outlined in the paragraph above); achieved consistent with latest sustainable technology solutions, and development scale and feasible options. This could include, for example, use of grey water

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			recycling, combined heat and power connection/ networks, and/or other systems taking significant advantage of the opportunities of designing or delivering at scale. In order to achieve improved energy performance and water preservation, non-residential development over 1,000sqm will also be required to achieve BREEAM excellent standard. As the Borough lies within a water stressed area, development will need to promote and incorporate water efficiency measures, which may have beneficial effects in reducing waste water, reducing nitrous oxide emissions from treatment.

2. Adaptation to climate change

Impact on our resilience to the effects of climate change.

The greatest risks posed by climate change to the UK are:

- Flooding and coastal changes including erosion from extreme events
- Risks to health caused by high temperatures.
- Water shortages and drought
- Risk to natural environments & services – landscape, wildlife, pollinators, timber etc.
- Risk to food production & trade
- Emergence of new pests and diseases affecting people, plants and animals

What impact do your proposals have on our ability to resist or tackle these problems in the future?

Impact of proposal **Positive/Neutral/Negative**	Explanation of impact	Mitigation
Positive	**Flooding and coastal changes including erosion from extreme events** Parts of the Borough are currently in flood risk zones. Fluvial and tidal flooding are the main sources of risk in the Borough, though surface water, groundwater and sewer flooding are also a potential risk. The fluvial flood risk mainly arises from the River Darent, and the tidal flood risk mainly arises from the River Thames and extends into the lower reaches of the River Darent. The Borough includes areas which fall within flood risk zones 2 (medium probability) and 3 (high probability). Without the effective policies within the Local Plan that prevent and mitigate impacts, development would have the potential to increase the risk from flooding.	Areas of the Borough that are at risk of flooding are largely protected by flood defence infrastructure which will be protected and enhanced through policies in the Local Plan. In line with national planning policy, most development is directed at sites which are not within flood risk areas. The exception is the sustainable development of Central Dartford where growth will provide regeneration benefits but will need to be designed to mitigate flood risk (particularly in the currently modelled climate change scenario). Specific Local Plan objectives and policies of relevance include Objective G5, Policy M4: 'Flood Risk and Riverside Design' and Policy S3 'Climate Change Strategy',

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		Objective G5 includes '*Acting to ensure no increase in flood risk in the Borough'*. Policy S3 states that '*Development will be sequentially located in areas at lower risk of flooding, from any source unless the development demonstrably provides specific wider sustainability benefits and will be safe for its lifetime. Planned development in flood risk areas will fully mitigate flood risk impacts';* and also *'Development will be planned to deliver/ maintain existing and future local and strategic flood defences, and major development will provide sustainable drainage systems which reduce surface water flood risk and benefit the green infrastructure network'.* Policy M4 includes several measures to address and mitigate this issue. It ensures that new development doesn't constrain the future management, maintenance and upgrading of flood defences. It also stipulates that planning permission for development will only be granted where: a) It can be demonstrated that the site is safe from all types of flooding, now and for the lifetime of the development, taking into account the effects of climate change; and b) It does not materially displace flood water or worsen flood risk elsewhere.

Impact of proposal **Positive/Neutral/Negative**	Explanation of impact	Mitigation
		In addition, Policy M4 requires that all major development must incorporate multi-functional Sustainable Drainage Systems (SuDS) to reduce surface water run-off and ensure that it does not increase flood risk elsewhere. The installation within developments of SuDS measures such as green roofs, rainwater harvesting, ponds and underground storage can reduce the impacts of urbanisation on flooding and reduce pollution of watercourses from run-off. In addition, specific site and area policies contain policy elements to reduce and mitigate flood risk; including: • Policy D2 Central Dartford Development Principles • Policy D7: Station Surrounds/ River Darent Area • Policy E6: North of London Road Area, Swanscombe • Policy M11: Gypsy, Traveller and Travelling Showpeople Accommodation.
Positive	**Risks to health caused by high temperatures** Rapid rises in heat gain due to exposure to hotter than average conditions can compromise the body's ability to regulate temperature and can result in a number of illnesses, including heat cramps, heat exhaustion, heatstroke, and hyperthermia. Nothing in the Local Plan would cause this impact, however planning policies may help mitigate it and address it, should it occur.	Maintenance of a Green Grid, and the provision of parks, open spaces and green infrastructure can help mitigate the urban heat island effect by reducing temperatures and providing respite from the heat and improving health. Local Plan Objective G4 promotes sustainable local environments and habitats, and active and healthy living, at new developments and through

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		greenspace and landscape protection and provision, enhancing the green grid of footpaths, public rights of way, cycle routes, wildlife corridors, rivers and countryside links. Under Policy S3 'Climate Change Strategy', 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; incorporate renewable or low/ zero carbon energy sources; and allow for other new sustainable technologies to be provided or readily incorporated in the future. Policy M14 seeks to ensure The Borough is served by sufficient Green and blue infrastructure and open space provision.
Positive	**Water shortages and drought** Nothing in the Local Plan would cause this impact, however planning policies may help mitigate it and address it, should it occur.	As the Borough lies within a water stressed area, development will need to incorporate water efficiency measures. Policy M3 requires all new residential dwellings to achieve 110 litres per person per day in accordance with Part G2 of the Building Regulations 2015. All developments should seek to make a contribution to challenging water scarcity. It is possible to achieve this in a number of ways, including installing water efficiency fittings within

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		converted buildings or through incorporating water conserving planting into landscaping plans. Therefore this policy is not restricted to new build dwellings and will apply to all homes created. It is expected that information will be provided as part of planning applications to confirm how requirements will be satisfied. In addition, it is expected that good sustainable design and construction will fully explore the potential to build in features such as grey water recycling systems, particularly in large new development where scale and viability should allow. Policy M3 also stipulates that *'In order to demonstrate high levels of energy performance and water efficiency, non-residential development over 1,000sqmmust achieve the BREEAM excellent standard, showing that available water credits have been met.3.Developmentshouldaim to increase a building's length of life and its adaptability for future uses'*. As well as Policy M3, the issue is addressed in Policy S3 'Climate Change Strategy'. This requires sustainable design and technology. This stipulates that '*Development will efficiently manage and re-use natural resources and waste, including through the use of water efficiency measures'.*

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Positive	**Risk to natural environments & services - landscape, wildlife, pollinators, timber etc** The Local Plan is required to allocate land for a significant level of development. This will necessitate a significant land take, and associated pressures on the natural environment. Without effective Local Plan policies to guide this development to sustainable locations and mitigate impacts there would be a risk of negative impacts on natural environments and services.	Developments will be expected to protect and enhance biodiversity. In the event that development adversely affects any existing habitats, this must be replaced by compensatory habitat of a similar type, size and condition in close proximity to that which is being lost. New legislation will be applied to optimise biodiversity net gain in Dartford, potentially assisted by the identified Biodiversity Opportunity Areas. The new national biodiversity net gain requirements will apply to all applicable developments. Protections and enhancements to the natural environment are principally achieved through policies M13 (Green and Blue Infrastructure) and M14 (Biodiversity and Landscape). Policy M1 'Good Design for Dartford' requires reinforcing and enhancing good design by providing biodiversity gain and natural features including rivers and lakes/ponds. The principles are carried through to specific site and area policies. Policies D1 and D7 seek to naturalise the River Darent, providing ecological benefits. Similarly, under Policy E4, a first class public realm, urban greenspace and a public park along the River Ebbsfleet, which protects and enhances its ecological interest and creates a naturalised river and banks, will be created. Policy E1 aims to enhance the Swanscombe

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		Peninsula Site of Special Scientific Interest (SSSI) for the benefit of wildlife and people as part of the wider Green Grid network. In addition, there will be substantial improvements to natural and open spaces across the Garden City and at Swanscombe as part of the wider Green Grid network, including at Craylands Gorge, Eastern Quarry Lakes and the River Ebbsfleet.
Positive	**Risk to food production & trade** Nearly all the Borough's countryside and agricultural land lies within the Green Belt. The key Green Belt principles are to resist inappropriate development and protect agricultural uses in line with national policy.	Policy M12 resists inappropriate development within the Green Belt and therefore has a role in protecting valuable agricultural land. It specifies that '*Development must not result in the loss of the best and most versatile agricultural land, disturb or damage soils of high environmental value, or impede the continuation of a lawfully existing agricultural development and/ or land use.'*
Neutral	**Emergence of new pests and diseases affecting people, plants & animals** This impact is neither affected, influenced by, nor mitigated by the Local Plan.	This impact is neither affected, influenced by, nor mitigated by the Local Plan. Outside of planning legal controls.