



**London Borough of Merton**

**Explanatory Note: Approaches to Sustainable Design and Construction**

June 2017

Version 1.0

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## 1. PURPOSE OF THIS EXPLANATORY NOTE

The purpose of this note is to provide guidance on the approach for sustainable design and construction for residential, non-residential and mixed-use developments, in accordance with the requirements set out in Policy CS15 (Climate Change) of Merton's Core Strategy (2011)<sup>1</sup>, and Chapter 5 of the Greater London Authority's (GLA) London Plan (2016)<sup>2</sup>.

## 2. BACKGROUND

Merton's Core Planning Strategy (2011) is underpinned by a robust evidence base<sup>3</sup>, including the Sustainable Design and Construction Evidence Base and Code for Sustainable Homes Level 4 in Merton - Viability Study 2010<sup>4</sup> undertaken by Adams Integra.

Merton's Core Strategy was the subject of extensive consultation throughout its preparation and an independent examination in February 2011. In June 2011 the council received the Inspector's binding Report which found Merton's Core Strategy sound.

## 3. POLICY CONTEXT

Policy CS15 (Climate Change) states as follows:

All minor and major development, including major refurbishment, will be required to demonstrate the following unless developers can robustly justify why full compliance with the policy requirements is not viable:

- a. How it makes effective use of resources and materials, minimises water use and CO<sub>2</sub> emissions;
- b. How development proposals are making the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:
  - i. Be lean: use less energy
  - ii. Be clean: supply energy efficiently
  - iii. Be green: use renewable energy
- c. How it is sited and designed to withstand the long term impacts of climate change, particularly the effect of rising temperatures on mechanical cooling requirements;
- d. Regeneration plan in town centre are an excellent opportunity to implement District Heat and Power networks, and all major development would be strongly encourage to be 'Multi Utility Services Company (MUSCo) ready where viable and actively contribute to the networks where possible;
- ~~e. We will require all new development comprising the creation of new dwellings to achieve Code for Sustainable Homes Level 4;~~
- f. All non-domestic development over 500m<sup>2</sup> which does not qualify for assessment under Code for Sustainable Homes will be expected to be built to a minimum of BREEAM (Building Research Establishment Assessment Method) Very Good standard, and meet CO<sub>2</sub> reduction targets in line with the requirements of the London Plan or national policy, whichever is the greater.

<sup>1</sup> London Borough of Merton Core Planning Strategy (2011) - [https://www.merton.gov.uk/2011-07-13\\_merton\\_core\\_strategy\\_adopted.pdf](https://www.merton.gov.uk/2011-07-13_merton_core_strategy_adopted.pdf)

<sup>2</sup> London Plan (2016): Chapter 5: London's Response to Climate Change - <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-five-londons-response>

<sup>3</sup> Local Plan Evidence Base - <http://www.merton.gov.uk/environment/planning/planningpolicy/localplan/planningresearch.htm>

<sup>4</sup> Code for Sustainable Homes Viability Study: Merton - [http://www.merton.gov.uk/2010-05-01\\_viability\\_of\\_code\\_for\\_sustainable\\_homes.pdf](http://www.merton.gov.uk/2010-05-01_viability_of_code_for_sustainable_homes.pdf)

## 4. APPLICATION OF THE POLICY

Variable targets and policy requirements are applied to new development in Merton in accordance with the type and quantum of development to be delivered. The requirements for the main development types are outlined in sections 4.1 to 4.3, below.

All information and carbon dioxide emissions calculations should be calculated and submitted in accordance with the methodology outlined in the GLA's [Energy Planning guidance](#) (2016)<sup>5</sup> and the published guidance within the GLA's [Sustainable Design and Construction SPG](#) (2014)<sup>6</sup>.

### 4.1 Residential

All new developments comprising the creation of new dwellings must include a Sustainable Design and Construction Statement or standalone Strategy (depending on the size of the development) that details how the development proposal will comply with Merton's Core Planning Strategy Policy CS15 Climate Change (parts a-e) and the policies outlined in Chapter 5 of the London Plan.

The submitted sustainable design and construction statement/strategy should detail how the development will:

- Achieve internal water usage rates not in excess of 105 litres per person per day, equivalent to the former Code for Sustainable Homes Level 4 standard.
- Demonstrate that it has been designed in accordance with the Mayor's energy hierarchy (be lean; be clean; be green) outlined in Policy 5.2 of the London Plan, and Policy CS15 part b of Merton's Core Planning Strategy. This advocates a 'fabric first' approach to maximising energy efficiency before seeking to address any shortfall in performance through the use of renewable technologies.
- Achieve onsite carbon dioxide emissions reduction targets, in accordance with the relevant emissions reduction target (see below). The emissions data should be displayed in accordance with the GLA's [Energy Planning guidance](#) and include:
  - a) a breakdown of the percentage reduction in regulated carbon dioxide emissions achieved at each level of the energy hierarchy; and
  - b) SAP/BRUKL output documentation demonstrating that the development has achieved the required on-site regulated carbon dioxide emissions reductions.
- Be designed to withstand the long term impacts of climate change, particularly the risk of overheating.

#### 4.1.1 Code for Sustainable Homes

In accordance with the Government Ministerial Statement of 25 March 2015, new residential developments in the borough granted planning permission after 25 March 2015 are no longer required to achieve a specified level of the Code for Sustainable Homes. However, Merton will continue to enforce mandatory minimum requirements for energy performance and water efficiency for the delivery of new residential units across the borough.

#### 4.1.2 New build – minor (1-9 units)

Minor development proposals should include a Sustainable Design and Construction statement within their Design & Access statement outlining how the development will achieve no less than a **19% reduction** in regulated carbon dioxide emissions (beyond Buildings Regulations Part L 2013) on-site.

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<sup>5</sup> GLA Energy Planning: guidance on preparing energy statements (2016) -

[https://www.london.gov.uk/sites/default/files/gla\\_energy\\_planning\\_guidance\\_-\\_march\\_2016\\_for\\_web.pdf](https://www.london.gov.uk/sites/default/files/gla_energy_planning_guidance_-_march_2016_for_web.pdf)

<sup>6</sup> GLA Sustainable Design and Construction SPG: <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and>

#### 4.1.3 New build – major (>9 units)

Major development proposals should submit a standalone Sustainable Design and Construction Strategy, inclusive of an energy assessment, detailing how the development will achieve no less than a **35% reduction** in regulated carbon dioxide emissions (beyond Buildings Regulations Part L 2013) on-site.

#### 4.1.4 Zero carbon homes target

All major (>9 units) residential development proposals valid from 1 October 2016 will also need to demonstrate compliance with the zero emissions target outlined in Policy 5.2 of the London Plan. All such development proposals must:

- a) Achieve a **minimum** 35% reduction in regulated carbon dioxide emissions (beyond Part L 2013) on-site.
- b) Offset the remaining regulated carbon dioxide emissions (up to **100% improvement** on Part L 2013) through cash in lieu contribution, to be secured via Section 106 agreement. See [section 4.4](#) of this guidance note for further information on the methodology for calculating cash in lieu contributions.

#### 4.1.5 Multi-residential schemes

All development proposals that include multiple residential units must include a clear explanation of the dwellings that have been modelled (i.e. ground floor, mid floor, top floor units). The approach to calculating the average Target Emissions Rate (TER)<sup>7</sup> must be based on a representative sample of the dwelling types contained within the development, and an explanation of the approach adopted must be provided as part of the planning application, or upon request.

#### 4.1.6 Domestic refurbishment

All development proposals that comprise the refurbishment of an existing building or group of buildings should provide an energy assessment demonstrating how the individual elements of the energy hierarchy have been implemented and how reductions in regulated carbon dioxide emissions have been achieved.

For development proposals consisting of a refurbishment with a new build extension, the carbon dioxide savings for the new and refurbished elements should be presented separately within the sustainable design and construction statement/strategy. This should clearly detail how the new build element is performing against current standards.

Further guidance on the methodology for demonstrating compliance with the regulated carbon dioxide emissions requirements are detailed in Section 9 of the GLA's [Energy Planning guidance](#).

#### 4.1.7 Conversions to create new dwellings

For applications where an existing building is being converted to create a new dwelling or dwellings, the applicant should include a Sustainable Design and Construction statement within their Design & Access statement outlining how the development will achieve no less than a **19% reduction** in regulated carbon dioxide emissions (beyond Buildings Regulations **Part LB 2013** – existing buildings) on-site.

This approach may be applied to alterations to existing dwellings and extensions, and to domestic conversions and change of use projects (e.g. where a new dwelling is formed by change of use from a building that was not previously used for domestic purpose; the conversion of a single dwelling into multiple dwellings, or where several dwellings are converted into a single dwelling).

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<sup>7</sup> The methodology for calculating the average TER is given in the building regulations Part L1A paragraph 2.7.

## 4.2 Non-Residential

All new developments comprising the creation of new non-residential floor space should be designed in accordance with Policy CS15 (parts a-d & f) of Merton's Core Planning Strategy and the policies outlined in Chapter 5 of the London Plan. The development should:

- Achieve a high standard of sustainability and make efficient use of resources and material and minimise water use and carbon dioxide emissions.
- Demonstrate that it has been designed in accordance with the Mayor's energy hierarchy (be lean; be clean; be green) outlined in Policy 5.2 of the London Plan 2015 and Policy CS15 part b of Merton's Core Planning Strategy. This advocates a 'fabric first' approach to maximising energy efficiency before seeking to address any performance shortfall through the use of renewable technologies.
- Achieve onsite carbon dioxide emissions reduction targets, in accordance with the relevant emissions reduction target (see below). The emissions data should be displayed in accordance with the GLA's Energy Planning guidance and include:
  - a) a breakdown of the percentage reduction in regulated and non-regulated carbon dioxide emissions achieved at each level of the energy hierarchy and;
  - b) SBEM/BRUKL output documentation demonstrating that the development has achieved the required on-site regulated carbon dioxide emissions reductions.
- Be designed to withstand the long term impacts of climate change, particularly the risk of overheating.

### 4.2.1.1 *New build – minor (<500m<sup>2</sup> GIA)*

Minor non-domestic developments in Merton are classified as those with less than 500m<sup>2</sup> gross internal area (GIA).

Minor development proposals should demonstrate policy compliance with the guidance detailed in [section 4.2](#), above. There are no specific energy requirements for non-domestic minor developments beyond the Building Regulations 2013 requirements, **unless** the non-domestic development comprises part of a major mixed-use scheme.

For further information please refer to [section 4.3](#) on Mixed Use developments.

### 4.2.2 *New build – major (>500m<sup>2</sup> GIA)*

Major non-domestic developments in Merton are classified as those with gross internal area (GIA) equal to or greater than 500m<sup>2</sup>.

All non-domestic development over 500m<sup>2</sup> will be expected to be built to a minimum of BREEAM New Construction (2014) 'Very Good' standard **and** meet CO<sub>2</sub> reduction targets in line with Policy 5.2 of the London Plan (2016). This equates to a **35% reduction** in regulated carbon dioxide emissions (over Buildings Regulations Part L 2013) on-site.

Please see Section 6 of the Mayor's [Sustainable Design and Construction SPG](#)<sup>8</sup> for further guidance.

## 4.3 Mixed Use

Mixed use developments that comprise more than nine residential units or over 500m<sup>2</sup> of non-domestic floor space (GIA) will be classified as a major mixed-use application. The respective domestic and non-domestic elements should therefore be designed in accordance with the requirements for major development proposals, as outlined in section 4.1.2 and 4.2.2 of this document.

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<sup>8</sup> GLA Sustainable Design and Construction SPG: <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and>

Carbon dioxide reductions calculations should therefore be provided for the domestic and non-domestic elements of the development, and for the site as a whole, for the application to be deemed compliant.

#### **4.4 Cash In Lieu Contributions**

Cash in lieu contributions may be collected by way of an offset payment for any development that fails to achieve the necessary onsite emission reductions, or in securing zero carbon performance for major residential development proposals, in accordance with the methodology outlined in the Mayor's [Sustainable Design and Construction SPG](#).

The methodology requires that each tonne of carbon dioxide shortfall is offset at a cost of £60 per tonne for a period of 30 years, as detailed in the below formula:

$$\text{Carbon shortfall (tonnes of CO}_2\text{e)} \times \text{£60 per tonne CO}_2\text{e} \times 30 \text{ years} = \text{Offset Payment}$$

The requirement to pay a financial contribution is subject to viability. If it is not viable to provide the required cash in lieu contribution the onus will lie with the applicant to demonstrate, through the submission of a viability appraisal, the level of contribution that is viable. Applicants will be required to submit all of the inputs and assumptions used to assess viability of the proposed scheme through an open book approach.

Where it is deemed appropriate the Council will subject proposals and applicants' submitted viability assessment(s) to independent examination and may seek payments from applicants for the costs of the independent examination.

#### **4.5 Opportunities for Decentralised Energy Networks**

Major development proposals (residential, mixed-use and non-residential) are encouraged to be 'Multi Utility Service Company' (MUSCo) ready and explore opportunities for connection to district heat networks, in accordance with Merton's Core Planning Strategy Policy CS15 (part d); Policy DM EP1 of Merton's Sites and Policies Plan (2014)<sup>9</sup>, and Policy 5.6 of the London Plan (2016).

Merton has identified broad district heat opportunity areas that provide increased opportunity for developments to connect to nearby current or planned district heat networks, within Merton's Sites and Policies Plan. Any development occurring within these identified opportunity areas should fully investigate the scope for connection to nearby or planned district heating networks, where viable, and should commit to providing a site wide heating network, suitable for connection to wider district networks now or in the future.

Further information on district heat potential is available via the GLA's interactive London Heat Map.

##### **4.5.1 Decentralised energy design considerations**

Any development proposing to utilise large scale decentralised energy, whether through the use of on-site combined heat and power (CHP) or by connection to large-scale district heat network, should demonstrate that they have referred and adhered to the technical design principles and concepts outlined in the GLA's London Heat Network Manual<sup>10</sup>.

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<sup>9</sup> Merton Sites and Policies Plan (2014): Policy DM EP1 Opportunities for Decentralised Heat Networks - [http://www.merton.gov.uk/merton\\_sites\\_and\\_policies\\_part\\_1\\_policies\\_jul14.pdf](http://www.merton.gov.uk/merton_sites_and_policies_part_1_policies_jul14.pdf)

<sup>10</sup> GLA London Heat Network Manual (2014) - [https://www.london.gov.uk/sites/default/files/london\\_heat\\_map\\_manual\\_2014.pdf](https://www.london.gov.uk/sites/default/files/london_heat_map_manual_2014.pdf)

## 5. EVIDENCE REQUIREMENTS

Sustainable design and construction performance requirements will typically be applied through the use of a planning condition(s). This is usually applied at the pre-occupation stage (although pre-commencement conditions may also be applied in certain instances) with evidence of performance standard being submitted to the Local Authority for approval before the condition can be discharged. The wording and associated evidence requirements of a condition will vary in accordance with the type of development proposal (e.g. major/minor domestic, non-domestic or mixed-use development).

The typical sustainable design and construction evidence requirements required have been summarised below for reference. Please note: applicants should refer to the specific condition(s) and informative(s) that have been applied to their development proposal, as detailed in the issued Decision Notice, following planning approval.

### 5.1 Domestic

- 5.1.1 Carbon emissions evidence requirements for domestic post construction stage assessments must provide:
- Detailed documentary evidence confirming the Target Emission Rate (TER), Dwelling Emission Rate (DER) and percentage improvement of DER over TER based on 'As Built' SAP outputs. The outputs must be dated and include the accredited energy assessor's name and registration number, the assessment status, plot number and development address.  
**OR**, where applicable:
  - A copy of revised/final calculations as detailed in the assessment methodology based on 'As Built' SAP outputs;  
**AND**
  - Confirmation of Fabric Energy Efficiency (FEE) performance where SAP section 16 allowances (i.e. CO<sub>2</sub> emissions associated with appliances and cooking, and site-wide electricity generation technologies) have been included in the calculation
- 5.1.2 Water efficiency evidence requirements for domestic post construction stage assessments must provide:
- Water Efficiency Calculator for New Dwellings, representing the dwellings 'As Built, demonstrating that ' the dwelling(s) has achieved no for greater than 105 litres per person per day; **AND**
  - Detailed documentary evidence representing the dwellings 'As Built'; showing:
    - the location, details and type of appliances/ fittings that use water in the dwelling (including any specific water reduction equipment with the capacity / flow rate of equipment); **AND**
    - the location, size and details of any rainwater and grey-water collection systems provided for use in the dwelling;



## 5.2 Non-domestic

5.2.1 Carbon emissions evidence requirements for non-domestic post construction stage assessments must provide:

- A copy of the Building Regulations Output Document from the approved software. The output documents must be based on the 'as built' stage of analysis and must account for any changes to the specification during construction;

### AND

- Evidence confirming :
  - The total carbon neutral energy generation (kWh/year)
  - Any sources of carbon neutral energy
  - Calculated estimate of energy consumption from unregulated systems/process (kWh/yr) (required only if confirming carbon negative status);

### AND, where applicable:

- A final BREEAM certificate demonstrating that the development has achieved a BREEAM rating of no less than 'Very Good' standard, for development proposals requiring a BREEAM Assessment.

## 6. FURTHER INFORMATION AND GUIDANCE

### GLA guidance:

- London Plan – Chapter 5: Climate Change (2015) - <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-five-londons-response>
- Energy Planning: guidance on preparing energy statements (2016) - [https://www.london.gov.uk/sites/default/files/gla\\_energy\\_planning\\_guidance\\_-\\_march\\_2016\\_for\\_web.pdf](https://www.london.gov.uk/sites/default/files/gla_energy_planning_guidance_-_march_2016_for_web.pdf)
- London Heat Network Manual (2014) - [https://www.london.gov.uk/sites/default/files/london\\_heat\\_map\\_manual\\_2014.pdf](https://www.london.gov.uk/sites/default/files/london_heat_map_manual_2014.pdf)
- Sustainable Design and Construction SPG (2014) - <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and>

### Merton guidance:

- Merton Core Planning Strategy (2011) – Policy CS15 (Climate Change)
- Merton Sites and Policies Plan (2014): Policy DM EP1 Opportunities for Decentralised Heat Networks - [http://www.merton.gov.uk/merton\\_sites\\_and\\_policies\\_part\\_1\\_policies\\_jul14.pdf](http://www.merton.gov.uk/merton_sites_and_policies_part_1_policies_jul14.pdf)

### Other guidance:

- BREEAM UK – [www.breeam.co.uk](http://www.breeam.co.uk)