Merton's Draft Local Plan Climate Change Policies

A Note on Viability Testing

Purpose

The purpose of this note is to clarify the approach to viability testing carried out on Merton's Draft Local Plan Climate Change Policies.

Background

In July 2019, Merton Council declared a Climate Emergency and committed to working towards becoming a net-zero carbon council by 2030 and a net-zero carbon borough by 2050. In line with Merton's Climate Strategy and Action Plan[1], Merton's Draft Local Plan Climate Change Policies have been reviewed and updated to reflect the standards required for new development in Merton to achieve net zero carbon emissions in Merton by 2050, in order to minimise Merton's future retrofit burden.

To achieve our carbon reduction target as cost effectively as possible, all new development must be fit for the future and capable of operating at net zero carbon by 2050 without requiring significant retrofit (i.e. has ultra-high energy efficiency, does not burn fossil fuels, is 100% powered by renewable energy and is climate resilient) [2,3]. Any new buildings which are not built to this standard will require expensive retrofit in the next 30 years, and the costs of achieving higher standards via retrofit are three to five times higher than for new buildings and the carbon impact of delayed action is significant[4]. Policy must therefore ensure that new development in Merton does not create a legacy of poor performance that will require remedial action in the future and add to Merton's retrofit burden.

However, national and regional policies do not go far enough to deliver the standards required by 2050[5]. Merton's Draft Local Plan Climate Change Policies are therefore intended to go beyond

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[1] Merton Council (2020) Merton's Climate Strategy and Action Plan (available at: https://www.merton.gov.uk/planning-and-buildings/sustainability-and-climate-change/climate-emergency).

[2] LETI (2020) Climate Emergency Design Guide (https://www.leti.london/cedg).

[3] CCC (2019) UK Housing: Fit for the future? (https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf).

[4] Currie & Brown (2019) A Report for the Committee on Climate Change – The costs and benefits of tighter standards for new buildings (https://www.theccc.org.uk/wp-content/uploads/2019/07/The-costs-and-benefits-of-tighter-standards-for-new-buildings-Currie-Brown-and-AECOM.pdf).

[5] Etude et al (2020) Towards Net Zero Carbon – Achieving greater carbon reductions on site: The role of carbon pricing (Available at: https://www.haringey.gov.uk/environment-and-waste/going-green/reducing-co2-emissions). This study found that the London Plan on-site carbon reduction targets and cost of carbon are inadequate for delivering the savings required to achieve net-zero carbon. The study demonstrated that, using more up to date carbon emissions factors than those used in Building Regulations 2013 (SAP 10 and SAP 10.1), with an efficient low carbon heating system (e.g. a heat pump) and reasonable levels of fabric and ventilation performance, new build residential and non-residential developments can and should achieve at least a 60% and 50% improvement against Building Regulations 2013 respectively. The decarbonisation of the electricity grid means that, for the same specifications, a greater improvement over Part L is achieved with no extra effort/ cost.

Building Regulations and the London Plan requirements to drive building energy performance which is compatible with our 2050 net-zero carbon target[6].

Viability assessment

In 2019/ 2020, Merton commissioned BNP Paribas to test the viability of Merton's Draft Housing policies in the context of the other Local Plan policy requirements, including Merton's Draft Climate Change Policies.

The Merton Local Plan Housing Viability Study[7] tested the potential impact of five scenarios relating to Merton's Draft Local Plan Climate Change Policies. The cost uplift associated with these scenarios ranged from 1.16% to 4.89% of build costs for houses and from 1.48% to 6.52% of build costs for flats. These costs were based on work carried out by Currie & Brown on behalf of several London boroughs investigating the Role of Carbon Pricing in achieving greater carbon reductions on site[8] which informed the targets proposed in Merton's Draft Local Plan Climate Change Policies.

The viability study concluded that the impact of these additional costs would vary between schemes and sites across the borough. However, the tested scenarios represent a spectrum of design solutions combining different fabric and heating system specifications, ranging from good to best practice, which were all compatible with Merton's new targets. Therefore if the best practice solution with the highest cost uplift is not viable on a given site, other good practice options with a lower cost uplift can still be considered in order to meet Merton's minimum requirements.

In the past 5 years, non-residential development in Merton has included everything from a football stadium, to a hotel development, to a mixed-use development comprising a community gym/ retail space, hostel and residential development. Given the range of non-residential developments that could come forward in Merton over the lifetime of this Local Plan, the council will work with applicants towards achieving targets on a case by case basis for non-residential development.

Merton's Draft Local Plan Climate Change policies include a provision that if the developer cannot meet the requirement for viability reasons, this will be considered on a case by case basis on the submission of a viability assessment.

Policy update

When Merton's policies were initially viability tested by BNP Paribas, Merton was proposing to use a tiered approach to carbon offsetting[9] based on recommendations from the study on the Role of

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[6] See Merton's Draft Climate Change Policies for more details on the proposed changes.

[7] BNP Paribas Real Estate (2020) Merton Local Plan Housing Viability Study (Available at: https://www.merton.gov.uk/assets/Documents/Merton%20Local%20Plan%20Housing%20Viability%20Study%202020.pdf)

[8] Etude et al (2020) Towards Net Zero Carbon – Achieving greater carbon reductions on site: The role of carbon pricing (Available at: https://www.haringey.gov.uk/environment-and-waste/going-green/reducing-co2-emissions).

[9] The tiered approach originally proposed was as follows: For residential developments, any residual regulated emissions up to a 60% improvement against Building Regulations 2013 are offset at a rate of £1,000/tCO2 over 30 years, any residual regulated emissions between 60-80% are offset at a rate of £300/tCO2 over 30 years, and any residual regulated emissions between 80-100% are offset at a rate of £100/tCO2 over 30 years. The total carbon offset contribution will then be the sum of the above calculations (e.g. a residential application achieving a 58% improvement over Part L1A 2013 would offset 2% at £1,000/tCO2 + 20% at £300/tCO2 + £20%

Carbon Pricing commissioned by several London boroughs[10]. However, following further consideration and discussion with industry and other local authorities, Merton has modified its approach to carbon offsetting to use a set rate of £300/tCO2 instead of the tiered approach. This change was adopted for the following reasons:

- Etude et al. found that it would cost a local authority at least £300/tCO2 to save carbon in a sustainable way so using this set rate ensures that any carbon shortfall from development can be offset elsewhere in Merton;
- Using a tiered approach to carbon offsetting is not necessary given that Merton is proposing to implement higher minimum onsite targets through the Draft Local Plan Climate Change Policies which removes the need for the lowest tier of the tiered approach (all residential development is expected to exceed a 60% improvement against Building Regulations on site and all non-residential development is expected to exceed a 50% improvement against Building Regulations on site, so the higher cost of £1,000/tCO2 included in the tiered approach to carbon offsetting is not relevant).

Merton therefore concluded that it would be more robust and straightforward to use a set rate of £300/tCO2 to offset any carbon shortfall from development.

This change in approach to carbon offsetting has resulted in slight changes to the cost uplifts previously tested in the Housing Viability Study. Appendix 1 shows the cost uplift calculations for both the tiered approach and the set rate of £300/tCO2 based on the outputs from the Role of Carbon Pricing study[11]. The cost uplifts using the set rate are very similar for houses apart from one scenario which increases from 1.16% to 2.05% but stays within the cost range which was tested (1.16-4.89). For flats, the costs increase slightly for all the scenarios, but all scenarios apart from the 'gold standard' (scenario 5) stay within the cost range which was previously tested (1.48-6.52). Scenario 5 (i.e. the upper price limit) for flats increases from a 6.52% cost uplift to a 6.70% cost uplift.

View was sought from a chartered RICS Surveyor to determine whether the viability testing needed to be updated. The Surveyor advised that a 0.2% cost uplift, would in reality be built into the contingency (i.e. for unforeseen costs etc.) in the viability model which typically ranges from a 5% to 10% allowance.

As such it was advised that updating the Local Plan Housing Viability Study based on a relatively minor cost uplift concerning one scenario which is covered by the model's contingency allowance was not considered justified. The Viability Study is therefore considered to be representative of the updated Local Plan Draft Climate Change Policies. It should be noted that the Local Plan viability study does not consider the benefits of the avoided costs of retrofit that will be achieved by

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at £100/tCO2). For non-residential developments, any residual regulated emissions up to a 50% improvement against Building Regulations 2013 are offset at a rate of £1,000/tCO2 over 30 years, and any residual regulated emissions between 50-100% are offset at a rate of £300/tCO2 over 30 years. The total carbon offset contribution will then be the sum of the above calculations (e.g. a non-residential application achieving a 40% improvement over Part L2A 2013 would offset 10% at £1,000/tCO2 + 50% at £300/tCO2).

[10] Etude et al (2020) Towards Net Zero Carbon – Achieving greater carbon reductions on site: The role of carbon pricing (Available at: https://www.haringey.gov.uk/environment-and-waste/going-green/reducing-co2-emissions).

[11] Etude et al (2020) Towards Net Zero Carbon – Achieving greater carbon reductions on site: The role of carbon pricing (Available at: https://www.haringey.gov.uk/environment-and-waste/going-green/reducing-co2-emissions).

Merton’s Draft Local Plan Climate Change Policies as these aren’t traditionally captured in viability testing.

Appendix 1 – Calculating the cost uplifts associated with the tiered approach and the set rate of £300/tCO2

Tiered Approach to Carbon Offsetting

The table below shows how the figures from the Role of Carbon Pricing study (https://www.haringey.gov.uk/sites/haringeygovuk/files/202005-towards-net-zero-carbon-report-revm.pdf) were used to calculate the % uplift against the baseline construction cost used in the viability study. The % uplift against the baseline cost including external works (i.e. £1900/m2 for houses and £2300/m2 for flats) was calculated in order to compare like for like with BNP Paribas' baseline costs which include external costs.

Typology	Scenario	Baseline construction cost excluding external works (£/m2)	Baseline construction cost including external works (£/m2)	Cost uplift against baseline construction cost (including construction cost uplift and carbon offsetting) (£/m2)	Total cost including baseline construction cost, construction uplift & carbon offsetting (£/m2)	Percentage uplift against baseline construction cost (including uplift in construction cost and carbon offsetting) (%)
Terrace house	House Baseline – BAU scenario with carbon offset at £100/t	1800	1900	23	**1923**	**1.21**
	House Scenario 1 - Ultra-low energy fabric & Direct electric with tiered carbon offset cost	1800	1900	22	**1922**	**1.16**
	House Scenario 2 - Good practice fabric & Heat pump with tiered carbon offset cost	1800	1900	37	**1937**	**1.95**
	House Scenario 3 - Ultra-low energy fabric & Heat pump with tiered carbon offset cost	1800	1900	80	**1980**	**4.21**
	House Scenario 4 – Good practice fabric & Better heat pump with tiered carbon offset cost	1800	1900	50	**1950**	**2.63**
	House Scenario 5 - Ultra-low energy fabric & Better heat pump with tiered carbon offset cost	1800	1900	93	**1993**	**4.89**
Mid-rise apartment building	Flat Baseline - BAU Scenario with carbon offset at £100/t	2200	2300	34	**2334**	**1.48**
	Flat Scenario 1 - Ultra-low energy fabric & Direct electric with tiered carbon offset cost	2200	2300	38	**2338**	**1.65**
	Flat Scenario 2 - Good practice fabric & Heat pump with tiered carbon offset cost	2200	2300	89	**2389**	**3.87**
	Flat Scenario 3 - Ultra-low energy fabric & Heat pump with tiered carbon offset cost	2200	2300	110	**2410**	**4.78**
	Flat Scenario 4 – Good practice fabric & Better heat pump with tiered carbon offset cost	2200	2300	124	**2424**	**5.39**
	Flat Scenario 5 - Ultra-low energy fabric & Better heat pump with tiered carbon offset cost	2200	2300	150	**2450**	**6.52**

Set Rate of £300/ tCO2

The table below shows how the figures from the Role of Carbon Pricing study (https://www.haringey.gov.uk/sites/haringeygovuk/files/202005-towards-net-zero-carbon-report-revm.pdf) were used to calculate the % uplift against the baseline construction cost used in the viability study. The % uplift against the baseline cost including external works (i.e. £1900/m2 for houses and £2300/m2 for flats) was calculated in order to compare like for like with BNP Paribas' baseline costs which include external costs.

Typology	Scenario	Baseline construction cost excluding external works (£/m2)	Baseline construction cost including external works (£/m2)	Cost uplift against baseline construction cost (including construction cost uplift and carbon offsetting) (£/m2)	Total cost including baseline construction cost, construction uplift & carbon offsetting (£/m2)	Percentage uplift against baseline construction cost (including uplift in construction cost and carbon offsetting) (%)
Terrace house	House Baseline – BAU scenario with carbon offset at £100/t	1800	1900	23	**1923**	**1.21**
	House Scenario 1 - Ultra-low energy fabric & Direct electric with carbon offset at £300/t	1800	1900	39	**1939**	**2.05**
	House Scenario 2 - Good practice fabric & Heat pump with carbon offset at £300/t	1800	1900	37	**1937**	**1.95**
	House Scenario 3 - Ultra-low energy fabric & Heat pump with carbon offset at £300/t	1800	1900	80	**1980**	**4.21**
	House Scenario 4 – Good practice fabric & Better heat pump with carbon offset at £300/t	1800	1900	50	**1950**	**2.63**
	House Scenario 5 - Ultra-low energy fabric & Better heat pump with carbon offset at £300/t	1800	1900	93	**1993**	**4.89**
Mid-rise apartment building	Flat Baseline - BAU Scenario with carbon offset at £100/t	2200	2300	34	**2334**	**1.48**
	Flat Scenario 1 - Ultra-low energy fabric & Direct electric with carbon offset at £300/t	2200	2300	55	**2355**	**2.39**
	Flat Scenario 2 - Good practice fabric & Heat pump with carbon offset at £300/t	2200	2300	106	**2406**	**4.61**
	Flat Scenario 3 - Ultra-low energy fabric & Heat pump with carbon offset at £300/t	2200	2300	123	**2423**	**5.35**
	Flat Scenario 4 – Good practice fabric & Better heat pump with carbon offset at £300/t	2200	2300	132	**2432**	**5.74**
	Flat Scenario 5 - Ultra-low energy fabric & Better heat pump with carbon offset at £300/t	2200	2300	154	**2454**	**6.70**