Guidance Note – Calculation of Carbon Off-setting Costs for Major Developments (July 2025)

From July 1st, 2025, carbon offset payments for major development proposals in Hammersmith & Fulham will be encouraged to use the Local Carbon Pricing Mechanism set out below and not the GLA default cost of £95/tonne when calculating payments in lieu to enable developments to achieve net zero carbon.

Developments should maximise carbon savings through on-site measures before resorting to use of the offset payment. The "sliding scale" approach adopted by the council is designed to encourage this approach.

Vision

The H&F Local Plan (2018)[1] sets out the council's vision of being the greenest borough and delivering an environmentally sustainable borough by 2035.

As part of this vision, new development will be required to minimise energy use and the use of other non-renewable resources, as well as facilitating an increase in the use of low and zero carbon technologies to help minimise carbon dioxide emissions and air pollutants harmful to health. This will particularly be required of major developments as buildings are the main source of carbon emissions in H&F. According to the latest available data from the London Energy and Greenhouse Gas Inventory (LEGGI), buildings are responsible for 78% of the borough's total emissions[2].

In 2019, the council declared a Climate and Ecological Emergency and subsequently adopted a Climate and Ecology Strategy in 2021[3] which sets out the route to net zero greenhouse gas emissions by 2030 for the borough.

Policy Background

Policy SI 2 of the London Plan (2021)[4] on Minimising Greenhouse Gas Emissions Requires that major developments should achieve net zero-carbon performance. This is to be achieved by following the London Plan Energy Hierarchy of:

1**) Be Lean**: using less energy and managing demand during operation
2) **Be Clean**: using local energy resources where available and supplying energy efficiently and cleanly
3) **Be Green**: maximising opportunities for on-site renewable energy generation
4) **Be Seen**: monitoring, verifying and reporting on energy performance

Major new developments are expected to get as close as possible to net zero-carbon through on-site measures, meeting the GLA's and London Plan's carbon reduction

[1] local_plan_2018_web_version.pdf
[2] London Energy and Greenhouse Gas Inventory (LEGGI) - London Datastore.
[3] H&F Climate and Ecology Strategy
[4] the_london_plan_2021.pdf

targets. A minimum on-site reduction of at least 35 per cent beyond Building Regulations is required. For major residential developments, the GLA Energy Assessment Guidance[5] set a 50% benchmark for carbon reduction.

Where it is clearly demonstrated that net-zero carbon cannot be fully achieved on-site, any shortfall can be provided either:

1) through a cash in lieu contribution to the borough's carbon offset fund, or
2) off-site provided that an alternative proposal is identified and delivery is certain.

Where a cash in lieu contribution is required, the London Plan suggests use of a price of £95/tonne to calculate carbon offset payments. These are used by the council to help implement local carbon reduction projects.

However, it is also states that:

"*Boroughs should develop a price for offsetting carbon using either a nationally recognised carbon pricing mechanism or a price based on the cost of offsetting carbon across the borough*".

Justification for a New Local Carbon Pricing Mechanism

The council has carried out an internal review of the costs incurred when implementing carbon reduction measures in the borough using funds collected from developers' carbon offset payments. This showed consistently that the costs of offsetting 1 tonne of CO2 through these projects was much higher than £95/tonne.

In addition, the "Delivering Net Zero" report[6] published in 2023 has found that calculating carbon offset payments using a higher cost of carbon than £95/tonne would incentivise developers to include more on-site carbon reduction measures.

In 2024, the council commissioned a Carbon Pricing Viability Assessment[7] to assess and test the viability of different development types to accommodate a range of carbon offset rates in order to better reflect the costs of implementing local carbon reduction measures and encourage maximisation of on-site carbon reduction measures. This assessment looked at 2 approaches: (i) increasing the cost through setting a single increased cost of carbon per tonne and (ii) using a "sliding scale" of costs with higher cost of carbon per tonne used where a greater proportion of carbon emissions are being offset but progressively lowering the costs/tonne for sites achieving higher carbon reductions through on-site measures.

Both of these approaches have been found to provide developers with a financial incentive to adopt on-site carbon reduction measures in preference to offsetting. The council has decided that the sliding scale approach provides the most effective incentive. The viability assessment also concluded that such an approach would result in developers benefitting from higher residual land values if carbon emissions are reduced using on-site solutions in comparison to full offsetting.

[5] Energy Planning Guidance | London City Hall
[6] Delivering Net Zero - Main Report.
[7] BNP REPORT (see website)

Full details on the viability assessment can be found in the report including information on ability of different development typologies to accommodate a range of carbon offset rates ranging from £200 to £880.

Calculation of Carbon Off-setting Costs using the New Local Carbon Pricing Mechanism

It is recommended that the GLA's Energy Assessment Guidance[8] is used to calculate a development's CO2 emissions. Where a major development scheme cannot meet the London Plan net zero carbon target through on-site measures alone and there are no off-site carbon reduction measures offered as an alternative method of meeting this target, then the council will require a financial contribution to offset the remaining, residual carbon emissions for the lifetime of the development, which is still set at 30 years.

Offset payments are to be calculated in line with the costs presented below. The carbon reduction percentages referenced in the table are based on % reductions achieved beyond Part L Building Regulations (2021) requirements.

Table 1: Sliding scale of carbon offset prices

% on-site Carbon Reduction achieved	Tranche 1 cost/tonne (0 to 34% of carbon)	Tranche 2 cost/tonne (35 to 50% of carbon	Tranche 3 cost/tonne (51 – 80% of carbon	Tranche 4 cost/tonne (81 – 100% of carbon
0 – 34	£880	£680	£480	£280
35 – 50	-	£680	£480	£280
51 – 80	-	-	£480	£280
81 – 100	-	-	-	£280
Full net zero	-	-	-	-

It should be noted that:

- **Schemes achieving net zero carbon** through on-site measures alone are not required to calculate any offset payment.
- **Schemes achieving 81-100% carbon emissions reduction on-site**, should calculate their payment using the cost of £280 for every tonne of CO2 to be offset to achieve net zero for the lifetime of the development (30 years).
- **Schemes achieving a reduction between 51-80% on-site** will need to do 2 calculations: 1 calculation using a cost of £480/tonne to calculate the offset amount required to achieve an 81% reduction and a second calculation using a cost of £280/tonne to offset the remaining carbon required to achieve 100% net zero for the lifetime of the building. Major residential schemes are expected to be capable of achieving CO2 emissions reductions in this range.
- **Schemes achieving a reduction between 35-50% on-site** will need to do 3 calculations: the first calculation should use a cost of £680/tonne to work out the offset required to achieve a 51% reduction; then calculate the offset

[8] Energy Planning Guidance | London City Hall

required to achieve an 81% reduction (at £480 per tonne) and then make a final calculation using a cost of £280/tonne to offset the remaining carbon required to achieve net zero. All of these calculations should be carried out for the lifetime of the building and added together to give the final offset payment amount.

- **Schemes achieving a reduction less than 35% on-site** will need to do 4 calculations: In addition to the calculations set out above for the 35-50% scenario a calculation will need to be done cover the cost of offsetting the carbon at a cost of £880/tonne to reach the 35% reduction level.

Example Calculations:

A major development provides an Energy Assessment showing that it has Building Regulations baseline CO2 emissions of 50 tonnes a year. The proposed on-site measures will achieve a 35% (17.5 tonnes) reduction in CO2 emissions beyond Part L of the Building Regulations. In order to achieve net zero carbon, 65% (32.5 tonnes) of CO2 need to be offset. The offset payment calculation would be as follows:

Tranche 1 calculation: The scheme meets 35%, so no payment required.

Tranche 2 calculation: To go from 35% to a 50% reduction in CO2, an additional 15% of CO2 needs to be offset a year which is the equivalent to 7.5 tonnes (50 tonnes/100 x 15). The carbon price for each tonne offset is £680. The lifetime of the building is taken as 30 years.

- 7.5 (tonnes) x £680 (cost per tonne) x 30 (years) = £153,000

Tranche 3 calculation: To achieve a total of 80% reduction in CO2, an additional 30% of CO2 needs to be offset a year which is the equivalent to 15 tonnes (50 tonnes/100 x 30). The carbon price for each tonne offset is £480. The lifetime of the building is taken as 30 years.

- 15 (tonnes) x £480 (cost per tonne) x 30 (years) = £216,000

Tranche 4 calculation: To achieve full net zero, a final 20% reduction in CO2 needs to be offset a year which is equivalent to 10 tonnes (50 tonnes/100 x 20). The carbon price for each tonne offset is £280. The lifetime of the building is taken as 30 years.

- 10 (tonnes) x £280 (cost per tonne) x 30 (years) = £84,000

Offset payment total: £453,000

In this scenario, the scheme has achieved to minimum 35% CO2 reduction target through its initial design. If the developer could find additional ways of reducing CO2 through on-site measures, e.g. by improving energy efficiency levels or by increasing renewable energy generation, then this could significantly reduce the required offset payment. For example, if CO2 emissions could be reduced by an additional 10 tonnes of CO2 to a total of 27.5 tonnes (equivalent to 55% CO2 reduction via on-site measures), that would leave 22.5 tonnes or 45% of CO2 emissions to be offset and the offset payment calculation could be revised as follows:

Tranche 1 calculation: The scheme meets 35%, so no payment required.

Tranche 2 calculation: The additional on-site measures now mean that the scheme meets 50%, so no payment required.

Tranche 3 calculation: To go from 55% to 80% reduction in CO2, an additional 25% of CO2 needs to be offset a year which is equivalent to 12.5 tonnes (50 tonnes/100 x 25). The carbon price for each tonne offset is £480. The lifetime of the building is taken as 30 years.

- 12.5 (tonnes) x £480 (cost per tonne) x 30 (years) = £180,000

Tranche 4 calculation: To achieve full net zero, a final additional 20% of CO2 needs to be offset a year, equivalent to 10 tonnes (50 tonnes/100 x 20). The carbon price for each tonne offset is £280. The lifetime of the building is taken as 30 years.

- 10 (tonnes) x £280 (cost per tonne) x 30 (years) = £84,000

Offset payment required: £264,000 – reduced by £189,000 by increasing on-site CO2 reductions by 10 tonnes.