

Review of Carbon Offsetting Approaches in London

**A NEF research report
commissioned by the GLA**

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Date: 1 June 2016
Version: 4
Status: Final

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Date: 1 June 2016

Version: 4

Status: Final

ACKNOWLEDGEMENTS

The National Energy Foundation would like to thank the London Planning Authorities for their responses to the survey, and assistance through follow up interviews, and to the case study participants for their contributions to this report.

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EXECUTIVE SUMMARY

The Greater London Authority (GLA) has sought to gain a more detailed understanding of the diversity of approaches that London planning authorities (LPAs) are currently taking to carbon offsetting. This is in light of the London Plan and the Mayor's Sustainable Design and Construction Supplementary Planning Guidance 2014 (SD&C SPG) which require LPAs to establish a carbon dioxide offset fund (COF) and identify suitable projects to be funded.

Additionally, the GLA is aware of the rapidly changing policy environment around the use of offset funds following the change of Government last year, which has led to the removal of many national drivers towards zero carbon homes, the effective abandonment of allowable solutions, and the changes to s106 and Community Infrastructure Levy Regulations. It is in this context that the GLA are seeking to understand the key issues that the LPAs are facing in order for the GLA to inform any future actions or guidance, as well as to gain insight from Local Planning Authorities in England that are already implementing an offset policy. Furthermore, the GLA wants to use the results of the study to develop their understanding of the potential implications of the implementation of the EU Nearly Zero Energy Buildings on London Plan policy.

Section 1 provides the background to the study. To ascertain progress of the offset policy requirement, the GLA distributed a carbon offsetting survey in February 2016 to all 32 London Boroughs, the City of London Corporation and two Mayoral Development Corporations. The survey includes 16 questions divided into four themed sections: the first seeking to identify current policy stance and justification; the second, the nature of the fund and projects; third, monitoring and reporting processes, and fourth, alternatives to COF and the LPA's views on what the GLA should consider in a review of the carbon offsetting arrangements for London.

Section 2 summarises the results of a literature review of the National and European policy context for zero carbon development and offsetting policy. This concludes with an assessment of the impact that policy changes have made to offsetting policy. It highlights that as a result of the government's change in policy on zero carbon homes and allowable solutions, and the removal of Local Planning Authorities powers to set additional local standards for new buildings, Local Plan Inspectors are now reflecting this policy change in their assessment of the soundness of local plan policies.

Section 3 summarises the findings of an analysis of the 35 London Planning Authority responses to the GLA questionnaire. The key findings are summarised below:

- Figure 1 shows that 22 out of 35 London Planning Authorities (LPAs), i.e. 61%, currently apply carbon offsetting payments in lieu of any shortfall in on-site carbon dioxide reductions (shaded green). Two (6%) are not currently collecting payments but have imminent plans to do so (orange) and 11 (33%) are not collecting at this time (red).



Figure 1: Collection of Carbon Offset contributions in London

- The reasons given as to why LPAs are not collecting offset contributions include:
 - Uncertainty following changes to government policy on Allowable Solutions/Zero Carbon Homes
 - Council is at an early stage in the local plan review process
 - Development viability issues and greater priority for developer contributions for affordable housing
 - Council preference for on-site CO₂ reduction
 - Lack of identified projects to make use of any offset funding

- The carbon price of £1,800 per tonne of CO₂ offset, which was identified in the SD&C SPG [2014], is being applied by 15 out of the 22 LPAs (68%) collecting funds. Seven LPAs have set their own carbon prices, of which two are lower and five are higher.

- Islington holds the largest balance of offset payments currently standing at £1.4m, reflecting its status as the first fund to be established. Nine authorities have yet to collect any funds; of those that have done so, the smallest balance is held by Hammersmith & Fulham at £2,044 and the second highest is £700,000 (Westminster).

- Seven out of the 22 LPAs applying offsetting have spent funds on projects which range from fuel poverty energy efficiency initiatives, residential and community building retrofitting and low carbon and renewable technologies for public buildings.

Section 4 summarises the results of a literature review of three carbon offset funds in operation in England and two within London. The qualitative analysis provides an analysis of the approaches adopted by Ashford, Milton Keynes, Islington, Southampton and Tower Hamlets.

Section 5 provides a qualitative analysis of the operational issues that emerged from the assessments in Sections 3 and 4, commenting on approaches taken as solutions. The issues that emerged are as summarised as follows:

- Additionality
- Calculating the offset amount payable
- Carbon Offset Price
- Carbon Offset ratio
- Collecting payments
 - S106 & CIL (Community Infrastructure Levy)
 - Pooling contributions
 - Locality of offset projects
- Development viability
- London wide fund
- Management of the offset fund
- Policy change/uncertainty
 - EU Nearly Zero Energy Buildings (NZEBs)
 - Government changes to planning and building standards

Section 6 highlights the conclusions drawn from the study as described in Section 5 of this report and comments on potential solutions.

1. BACKGROUND AND CONTEXT TO THE STUDY

1.1 The Greater London Authority (GLA) has sought to gain a more detailed understanding of the diversity of approaches that London planning authorities (LPAs) are currently taking to carbon offsetting. This is in light of the London Plan and the Mayor's Sustainable Design and Construction Supplementary Planning Guidance 2014 (SD&C SPG) which require LPAs to establish a carbon dioxide offset fund (COF) and identify suitable projects to be funded.

1.2 Additionally, the GLA is aware of the rapidly changing policy environment around the use of offset funds following the change of Government last year, which has led to the removal of many national drivers towards zero carbon homes, the effective abandonment of allowable solutions¹, and the changes to s106 and Community Infrastructure Levy Regulations. It is in this context that the GLA are seeking to understand the key issues that the LPAs are facing in order for the GLA to inform any future actions or guidance, as well as to gain insight from Local Planning Authorities in England that are already implementing an offset policy. Furthermore, the GLA intends to use the results of the study to influence the development of the EU nearly zero carbon approach, and to lead policy in this area within London.

1.3 To ascertain progress of the offset policy requirement, the GLA distributed a carbon offsetting survey to all 35 of the LPAs in February 2016. The survey includes 16 questions divided into four themed sections: the first seeking to identify current policy stance and justification; the second, the nature of the fund and projects; third, monitoring and reporting processes, and fourth, alternatives to COF and the LPA's views on what the GLA should consider in a review of the carbon offsetting arrangements for London.

1.4 The GLA appointed the National Energy Foundation (NEF) to analyse the data gathered through the survey, summarise the findings and augment them with research findings on offsetting policy schemes from selected English local authorities. The analysis also required consideration of key developmental and operational considerations that a Local Planning Authority faces in the deployment of a COF. This is to help identify the level of variability in approach in London and compare these with the experiences of the English local authority case studies.

1.5 The report also provides conclusions based on the findings to inform the GLA on the need for further COF guidance or any other interventions required to add value to the carbon offsetting process on-going in London.

1.6 This report is presented in five further sections: 2 to 6. Section 2 provides the National and European policy context to zero carbon development and offsetting policy. Section 3 summarises the responses from the 35 London planning authorities to the GLA survey. Section 4 provides case study research findings from three English local authorities and two London Boroughs with operational carbon offset policies. Section 5 describes the research findings from the London survey and the case studies to highlight the key management issues that have emerged for local authorities in considering and operating a carbon offset policy. Section 6 draws together conclusions emerging from these key management issues, highlighting best practice options for the GLA to consider in a review of the carbon offsetting arrangements for London.

¹ See paragraphs 2.19-2.22 for an explanation of allowable solutions, which permit offsite carbon savings.

2. EU AND NATIONAL POLICY

Carbon emission reduction policy context

2.1 The London Plan carbon dioxide reduction target and carbon offset policies (5.2 & 5.4) were developed and adopted within a context of European and national policy requiring progressive carbon emission reductions from new development.

European legislation

2.2 Directive 2010/31/EU – the Energy Performance of Buildings ('EPBD') is the main legislative instrument at EU level for improving the energy efficiency of European buildings. A key element of the EPBD, especially for achieving its longer term objectives, is its requirements regarding nearly zero-energy building ('NZEBs').

2.3 Article 9(1) of the EPBD requires Member States to *"ensure that:*

(a) by 31 December 2020, all new buildings are nearly zero-energy buildings; and

(b) after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings."

EU Directive NZEB Definition

According to Article 2(2) of the EPBD a NZEB "means a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby".

2.4 Article 2, outlined above, is designed to be a 'broad' definition, allowing for member state autonomy, differences in regulations, climates and level of readiness. As indicated by the definition, the remaining portion of energy used by a NZEB is likely to be met by low carbon zero carbon energy sources, such as renewable energy, located either on-site or nearby. This would indicate that this is likely to be restricted to solutions directly linked to the new building itself². This is a different approach to the UK mechanism of Allowable Solutions, which focuses on attributable carbon (rather than energy) and allows for a more flexible offsetting of CO₂ by investing in carbon reduction projects off site.

2.5 National authorities are required to adapt their laws to meet the Directive's goals, but are free to decide how to do so. The European Commission requires countries to report their methodologies and approaches, explaining both the logic and processes behind their reported targets and national plans. In 2014, the Commission examined progress across EU countries towards the nearly zero-energy buildings target. Analysis of the policy responses collated and published by the Commission does not show any member states, apart from the UK, advocating or using the allowable solutions model at this time.

Requirements on Member States

2.6 Member States must draw up national plans for increasing the number of NZEBs, which may include targets differentiated according to the category of building.

² Zero Carbon Homes And Nearly Zero Energy Buildings – UK Building Regulations and EU Directives (Zero Carbon Hub)

2.7 The national plans should include the Member State's:

(a) definition of nearly zero-energy buildings, reflecting their national, regional or local conditions, and including a numerical indicator of primary energy use expressed in kWh/m² per year...

(b) intermediate targets for improving the energy performance of new buildings, by 2015...

(c) information on policies, financial or other measures.

The UK has met these requirements in a piecemeal manner through Regulations and primary legislation, as well as reported published by the form Zero Carbon Hub.

UK compliance with EU Directive

2.8 Under the Climate Change Act 2008, the UK has committed to legally binding greenhouse gas emission reduction targets of at least 34% by 2020 and at least 80% by 2050. Policy for carbon dioxide reduction in new build has been driven through the national Building Regulations and through Planning Regulations and Policy, both national and local. As Building Regulations are largely a devolved responsibility, the rest of this report will focus on English regulations, unless otherwise indicated.

Building Regulations

2.9 English Building Regulations address the conservation of fuel and power from buildings (Part L) and have presented a steadily increasing set of standards relating to both building new buildings, and refurbishment of existing buildings. From 2006 to 2015 the government was committed to a policy of achieving zero carbon homes by 2016 and non-domestic buildings by 2018.

2.10 Consequently, and in line with this policy, there have been increases to the Part L Building Regulation Standards every three to four years. The latest uplift in standards (Part L 2013) came into effect in April 2014. Whilst significant variations apply across the mix of building types, new domestic buildings are required to achieve an average of 6 per cent carbon dioxide saving relative to Part L 2010, with non-domestic new buildings achieving an average of a 9 per cent carbon dioxide savings relative to Part L 2010.

2.11 In March 2015 the Coalition government confirmed its preferred maximum energy requirement under Part L as a 19% improvement over 2013 Building Regulations – effectively equivalent to Code for Sustainable Homes level 4. Although Local Authorities can continue to set and apply energy performance standards for new homes that exceed current Building Regulations, they can only do this if they have a policy in place and can evidence both the need and viability and only until commencement of amendments to the Planning and Energy Act 2008 in the Deregulation Bill 2015, expected late in 2016. However, it was emphasised that Local Authorities are 'not expected' to require energy performance above that required by Code Level 4 (19% above BR 2013).

2.12 Shortly after the general election in May 2015 the new Government released its wide ranging Productivity Plan, 'Fixing the Foundations'. In this document it announced Government's intention not to proceed with the zero carbon homes policy by 2016. This means that the previously expected change to the energy efficiency standard in Building Regulations (Part L) will not be delivered in 2016.

2.13 The government has stated that it will keep energy efficiency standards under review but no timescale for this review has been provided or any indication of the policy requirements that will be necessary to meet the EU Directive for all new buildings to be nearly zero-energy by the end of 2020.

National Legislation and Policy

2.14 National legislation on the role of planning authorities in reducing carbon emissions in new development was passed in 2008. The Planning Act 2008 (Section 182) requires that a Local Authority Local Development Framework contain policies designed to “...contribute to the mitigation of, and adaptation to, climate change”, whilst the Planning and Energy Act (2008) enabled Local Planning Authorities to set energy efficiency requirements for developments in advance of that required by the current Building Regulations.

2.15 Government policy for zero carbon homes and non-domestic development emerged in 2006 and 2008 respectively. The National Planning Policy Framework (NPPF) published by government in 2012 specifically states in paragraph 95 that when setting any local requirement for a building’s sustainability, Local Planning Authorities are required to do so in a way consistent with the Government’s zero carbon buildings policy and adopt nationally described standards’.

2.16 The Housing Standards Review was announced by the government later in 2012, with the stated aim to rationalise and nationalise the different standards being applied by Local Planning Authorities to new build homes. In March 2015 government published National Planning Practice Guidance on climate change requiring planning authorities to take account of government decisions on the Housing Standards Review when considering a local requirement relating to new homes.

2.17 The results of the Housing Standards Review (England) were subsequently announced in March 2015 through a Ministerial Statement. This confirmed the government’s commitment to implementing the zero carbon homes standard in 2016, strengthening minimum on-site energy performance requirements, and providing the enabling powers needed to enable off-site carbon abatement measures (Allowable Solutions) to contribute to achieving the zero carbon standard. However Local Planning Authorities were required not set any additional local technical standards or requirements relating to the construction, internal layout or performance of new dwellings. This change in technical standards was enacted through the Deregulation Act, also passed in March 2015 in anticipation of the rationalisation of energy efficiency standards under zero carbon policy. The amendment has yet to be applied.

2.18 In May 2015 the government’s Productivity Plan, ‘Fixing the Foundations,’ announced the government’s intention to remove the policy of zero carbon standard for new homes and confirmed that the Allowable Solutions mechanism would not be required. In the absence of revised energy efficiency standards which were expected through the Building Regulations in 2016, government has so far only confirmed that energy efficiency standards will be kept under review. No timescale for the review has been provided, and no announcement made to date.

Carbon Offsetting/Allowable Solutions

2.19 Although the concept and practice of carbon offsetting has been in use by a number of pioneering Local Planning Authorities within England for over a decade, it only became recognised as a legitimate policy mechanism for achieving zero carbon emissions through the work of the Zero

Carbon Hub which was commissioned by government from 2011. A series of documents developing the concept of Allowable Solutions were produced by the Hub, culminating in the consultation document from DCLG in August 2013, 'Next steps to zero carbon Homes – Allowable Solutions'.

2.20 The government's response to this consultation, published in July 2014, reinforced the need for a cost effective and flexible mechanism to allow house builders to meet the remainder of the zero carbon target, required for new homes by 2016, by supporting off-site carbon abatement measures termed 'allowable solutions'.

2.21 As a result of the government's change in policy on zero carbon homes and allowable solutions, and the removal of Local Planning Authorities' powers to set additional local standards for new buildings, Local Plan Inspectors are now reflecting this policy change in their assessment of the soundness of local plan policies. In London, an inspector's report on the examination to the Hackney Development Management Local Plan (Aug 2015)³ concluded that the Council should not include residential development to meet BREEAM standards as "local standards of this kind are not consistent with the new national policy". However, the inspector noted that the Council's policy DM40 allows for carbon offsetting payments to be made instead and considered this "an appropriate measure" (paragraph 99).

2.22 The Brighton and Hove Sustainable Buildings policy CP8 (City Plan: Part 1) distinguished between the periods 'until the adoption of national Zero Carbon Homes Standard' and 'Post Adoption of Zero Carbon Homes standard'. The Inspector's letter to the Council in August 2015⁴ stated "the government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards. This change in government policy means that Policy CP8, as proposed to be modified by the June 2015 Schedule of Proposed Modifications, could not be considered to be effective".

In view of these changes, more recently Cambridge City Council decided to remove their allowable solutions Policy 28 on the basis of pre-inquiry questions asked by the Inspector. These referred to changes to national policy announced in various Written Ministerial Statements and the Productivity Plan and also in response to an examination question enquiring whether the policy was in accordance with the government's Productivity Plan statement.

The Greater London Authority

2.22 The existing London Plan was prepared in expectation of the establishment of national zero carbon homes by 2016, zero carbon non-domestic buildings by 2018 and an associated 'allowable solutions' framework. It forms part of the London local authorities local plans and by virtue of this is accorded special status.

³ <http://www.hackney.gov.uk/media/4261/Planning-inspector-s-final-report/pdf/Planning-inspectors-final-report>

⁴ <https://www.brighton-hove.gov.uk/sites/brighton-hove.gov.uk/files/ID-27%20Letter%20to%20Council%20Aug%2015.pdf>

2.23 Since April 2014 London Plan Policy 5.2 has applied a 35% carbon reduction target beyond Part L 2013 of the Building Regulations, a flat percentage across both residential and non-domestic major developments⁵. In recognition that some building types find it harder than others to achieve this target without the use of carbon offsetting payments, it outlines its approach to allowable solutions stating:

“.....where this improvement cannot be met on-site, any shortfall should be provided off-site or through a cash-in-lieu contribution to the relevant borough, ring-fenced to secure delivery of carbon dioxide savings elsewhere”.

2.24 A preliminary level of guidance to London boroughs on carbon offsetting is provided in the Sustainable Design and Construction Supplementary Planning Guidance document adopted by the GLA in April 2014.

2.25 The Mayor’s Housing SPG, published recently in March 2016 confirms the authority’s policy commitments to zero carbon development. Paragraph 2.3.57 states:

“2.3.57 The London Plan Policy seeking ‘zero carbon’ homes remains in place and was not changed by the recent Minor Alterations to the London Plan. However, together with other standards ‘zero carbon’ was tested through the needs and viability assessment for the Alteration which indicated that the standards would not compromise housing viability. This approach will also help ensure the development industry in London is prepared for the introduction of ‘Nearly Zero Energy Building’ by 2020.”

Conclusion

2.26 The overall policy environment remains uncertain. The EPBD continues to expect England to move to a regime of nearly zero energy buildings by 2020, and even if the UK were to vote to leave Europe, it might remain subject to these provisions (as is Norway, for example). However since the change of UK government in May 2015 the route map towards this target has been torn up, leaving only limited flexibility at the individual planning authority level. The GLA approach to encourage its Local Planning Authorities to remain on a pathway towards NZEBs appears prudent, given the time lag in proving from development opportunities to operational buildings, but they yet may be subject to challenge by a Local Plan Inspector.

⁵ Town & Country Planning (development Procedure) (England) Order 2010

3. RESPONSES TO GLA'S CARBON OFFSETTING QUESTIONNAIRE

3.1 In February 2016 the GLA distributed a carbon offsetting survey to all 32 London Boroughs, the City of London Corporation and two Mayoral Development Corporations. The survey included 16 questions within four themed sections: the first seeking to identify current policy stance and justification; the second, identifying the nature of the fund and projects; the third, investigating monitoring and reporting processes used, and the fourth seeking information on any alternatives to a carbon offset fund and the LPA's views on what the GLA should consider in a review of the carbon offsetting arrangements for London.

3.2 The response rate to the questionnaire was 100% which has facilitated a comprehensive analysis of the extent of progress of London's planning authorities in implementing offsetting approaches. Several LPAs also participated in telephone interviews to ascertain more detailed information on their approaches to offsetting. The questionnaire is included as Appendix 1.

3.3 A detailed analysis and description of the responses to the survey questions and telephone interviews are detailed below.

Questions 1 – 7 - Local carbon offsetting approaches

➤ Q1. Does your organisation apply carbon offsetting payments in lieu? (Collecting funds)

3.4 London Plan policy 5.2 and the Mayor's SPG state that LPAs should establish a carbon dioxide offset fund. The responses to question 1 are highlighted in Figure 2 and Table 1 below. They show that 22 LPAs currently apply carbon offsetting payments in lieu of any shortfall in on-site carbon dioxide reductions (shaded green). Two are not currently collecting payments but have imminent plans to do so (orange) and 11 are not collecting at this time (red).

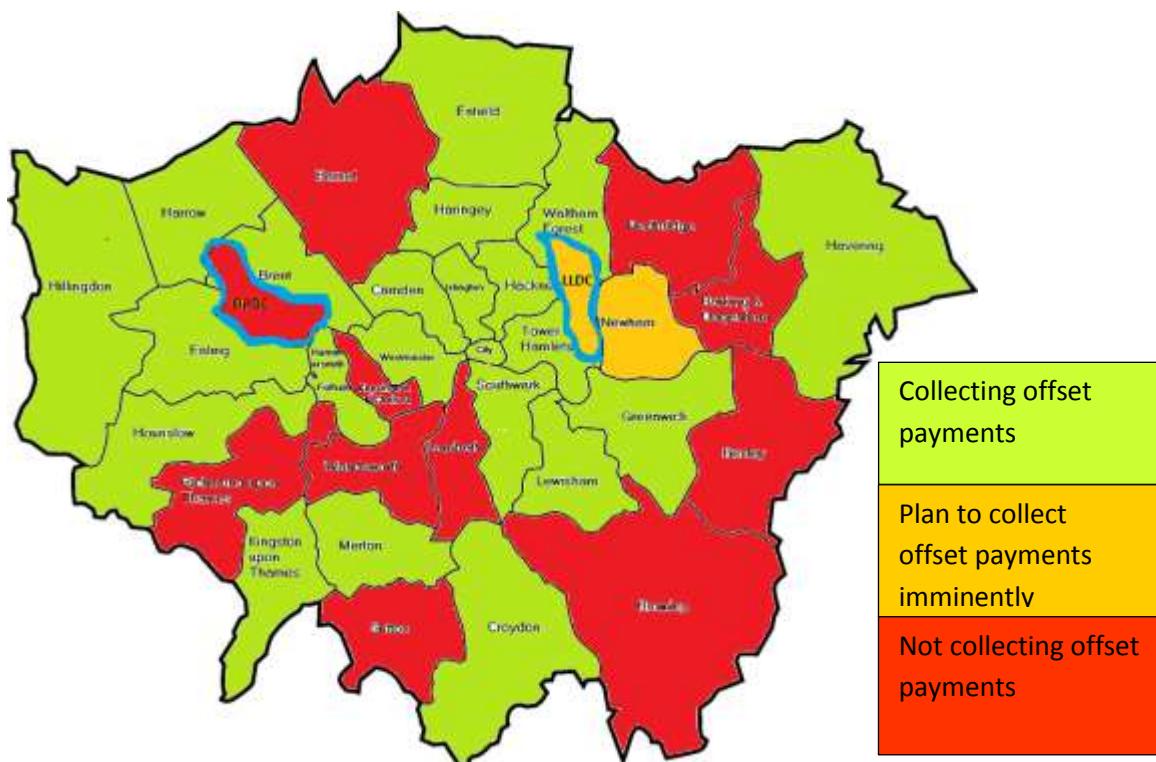


Figure 2: Collection of Carbon Offset contributions in London

Table 1: Collection of Carbon Offset contributions in London

1) LPAs collecting offset	2) LPAs not collecting offset	3) LPAs to collect imminently
Brent	Barking & Dagenham	London Legacy Dev Corp
Camden	Barnet	Newham
City of London	Bexley	
Croydon	Bromley	
Ealing	Kensington & Chelsea	
Enfield	Lambeth	
Greenwich	Old Oak Park Royal Dev Corp	
Hackney	Redbridge	
Hammersmith & Fulham	Richmond Upon Thames	
Haringey	Sutton	
Harrow	Wandsworth	
Havering		
Hillingdon		
Hounslow		
Islington		
Kingston Upon Thames		
Lewisham		
Merton		
Southwark		
Tower Hamlets		
Waltham Forest		
Westminster		

➤ **Q2. If not currently collecting Carbon Offsets payments are there any plans in place to do so in the future?**

3.6 Of the 13 LPAs that do not collect carbon offset payments, two are in the process of putting policy measures in place to do so in the near future. These are the London Legacy Development Corporation and Newham who are currently developing supplementary planning documents (SPDs) which have provisions for collecting offsetting payments.

3.7 The reasons provided by LPAs currently not collecting offset payments are summarised below:

Uncertainty following changes to government policy on Allowable Solutions/Zero Carbon Homes

Kensington & Chelsea; Richmond upon Thames; Sutton; Wandsworth.

Council at an early stage in the local plan review process

Barking & Dagenham; Barnet; Bromley; Hounslow; Old Oak & Park Royal Development Corporation; Richmond upon Thames; Sutton.

Development viability issues and greater priority for developer contributions for affordable housing

Lambeth; Sutton.

Council preference for on-site CO₂ reduction

Hounslow, Wandsworth

Lack of identified projects for offset funding

Barking & Dagenham, Bexley.

3.8 It is noted that three Boroughs, namely Barking & Dagenham, Sutton and Wandsworth, have an adopted Local Plan policy in place requiring offsetting payments, but the policy is not being applied by the LPAs for the reasons outlined above.

➤ **Q3. Price per tonne applied?**

3.9 The Mayor's Sustainable Design and Construction Supplementary Planning Guidance 2014 (SD&C SPG) requires LPAs to develop and publish a price for carbon dioxide based on either a nationally recognised carbon dioxide pricing mechanism, or the cost of reducing off-setting carbon dioxide across the borough. It cites nationally recognised prices such as the Government's non-traded carbon price central cost cap value for Allowable Solutions of £60 per tonne⁶. Contributions are to be calculated over 30 years, i.e. £60 per tonne x 30 years equalling £1,800 per tonne to be offset. This figure may then be used to calculate the cost of any residual CO₂ emissions that cannot be met by the development on-site.

3.10 Analysis of responses reveals that of those LPAs that apply offsetting, 15 out of 22 have relied upon the price for carbon referenced in the Mayor's SD&C SPG i.e. £60 x 30 years = £1,800 per tonne of CO₂ offset. This choice in price is possibly because it is viewed as an established price with an underlying evidence base, so less likely to be challenged by developers, and also avoids the cost of carrying out a local carbon price study. The remaining seven LPAs that apply offsetting have adopted varying prices. The range of carbon prices by LPA is shown in Figure 3.

⁶ This figure was published by DECC using the October 2012 non-traded carbon price appraisal values for a home built in 2017, which is required to abate 30 years of carbon, a simple average for the carbon price in the period 2017-46, would give £105 per tonne, while an average discounted at a constant 3.5% discount rate would reduce this to about £60 per tonne. The government stated its intention to use the discounted price.

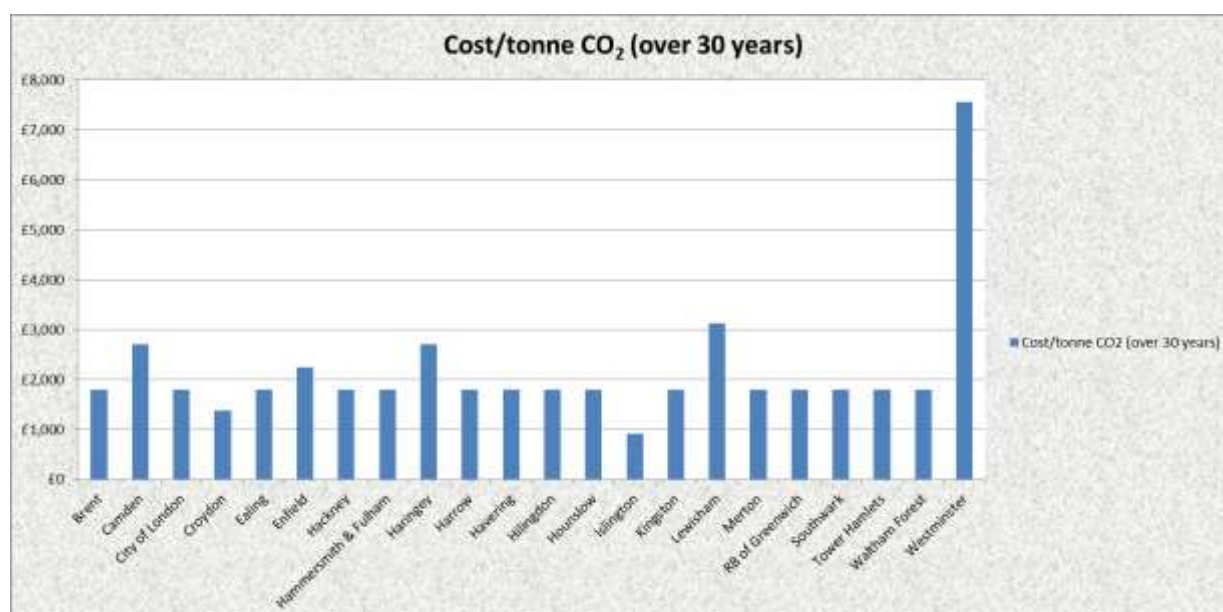


Figure 3: Carbon offset pricing by London Planning Authorities

3.11 Seven LPAs that have adopted alternative carbon prices; four using prices identified in early government consultations on Allowable Solutions, and three producing a locally justified carbon price from commissioning a local study. Table 2 below provides a brief summary of the reasons for the prices adopted.

Table 2: London Planning Authorities with alternative carbon prices

Borough	Price (annual)	Justification
Islington	£920 - one off payment /tonne	Local assessment carried out by consultants in 2012 – based on yearly operational emissions spent on measures to offset one tonne of carbon year on year.
Croydon	£1,380 (£46)	A ‘conservative’ marginal cost of carbon abatement adopted in early government consultations on Allowable Solutions ⁷ .
Enfield	£2,250 (£75)	Illustrative figure used by the Zero Carbon Hub in their document ‘Carbon compliance: setting an appropriate limit for zero carbon in new homes (February 2011). This figure was tested as part of a range by DCLG in its Impact Assessment for Zero Carbon Homes (December 2009)
Camden	£2,700 (£90)	High Price Cap Option from early government consultations on Allowable Solutions
Haringey	£2,700 (£90)	High Price Cap Option from early government consultations on Allowable Solutions
Lewisham	£3,210 (£104)	Lewisham Cost of Carbon Report 2014
Westminster	£7,560 - one off payment /tonne	Local assessment carried out by consultants in 2013/14. Price derived from an assessment of the cost of delivering a range of carbon saving measures in the Borough which are costly due to large number of heritage buildings and designations making energy efficiency measures more expensive.

⁷ A 2013 analysis by the Zero Carbon Hub showed that the Government’s initial estimate of £46 per tonne would be insufficient to deliver the required carbon savings. Although this lower figure has been adopted by Croydon, Croydon are now reviewing this price in line with the Mayor of London’s latest evidence which suggests a price of £60 per tonne will general be viable across London.

3.12 As highlighted in Table 2 above, Islington charges £920 per annual tonne of residual CO₂ emitted. This includes unregulated emissions as well as regulated emissions and a requirement to off-set up to zero carbon. The price was set up prior to the Zero Carbon Hub analysis and reflects an estimated cost required through retrofitting residential solid wall insulation. The carbon cost of abatement for solid wall insulation was calculated to be £800 per annual tone of carbon saved, resulting in a total price of £920 once S106 management fees and project management fees were included.

3.13 The highest carbon price in London is charged in Westminster at a price of £7,560 per annual tonne of residual CO₂ emitted. As noted in Table 2 above, the price was derived from an assessment of the cost of delivering a range of carbon saving measures within the Borough which are costly due to the large number of heritage buildings and designations making energy efficiency measures more expensive. Despite the justification for the high price required, the Council's evidence base has frequently been challenged on appeal by developers and proven costly to defend. Westminster is currently reviewing its Local Plan and reconsidering the carbon offset price.

3.14 The London Legacy Development Corporation and the Newham are currently developing supplementary planning documents for collecting offsetting payments. Both propose to charge the nationally recognised price for carbon of £1,800 per tonne to be offset.

➤ **Q4. Policy mechanism to secure carbon offsets**

3.15 London Plan offsetting Policy 5.2 applies to all the LPAs enabling them to secure carbon offset contributions from developments regardless as to whether local plan policy on offsetting is in place. The responses received to this question reveal that most (18) LPAs have developed their own additional policy mechanisms to support their approach to offsetting, either through local plan policy and/or through Supplementary Planning Documents (SPDs). Four LPAs secure offsetting solely through London Plan Policy 5.2. Table 3 below highlights those LPAs that apply offsetting payments and the type of local policy mechanism if applied.

Table 3: LPAs collecting offset payments with/without local policy mechanisms

Council	Local Plan Policy	SPD
Brent	x	x
Camden	GPG3	x
City of London	CS15 & DM15.4	x
Croydon	x	S106/CIL
Ealing	x	x
Enfield	DMD 54 adopted Nov 14	S106
Greenwich	x	Greener Greenwich
Hackney	x	SD&C (adopted Feb 16); S106

Council	Local Plan Policy	SPD
Hammersmith & Fulham	DM H1	Planning guidance
Harrow	x	x
Haringey	Emerging LP policy	Obligations - Adopted
Havering	x	x
Hillingdon	DMEI 2	x
Hounslow	LP adopted Nov 15	CIL adopted 2015
Islington	CS10A adopted 13	Env Design
Lewisham	x	Obligations
Kingston upon Thames	x	Obligations - draft
Merton	x	Sustainability
Southwark	Preferred Options DM56	x
Tower Hamlets	x	Obligations
Waltham Forest	x	S106
Westminster	Policy S28 adopted	x

Key: X = No additional local plan policy/SPD

➤ **Q5. Have any locally specific evidence documents been prepared to support the approach and price used?**

3.16 The Mayor's SPG provides LPAs with the option of using the guidance on price from the SPG or develop a locally specific fund with the price published in a supplementary planning document. Eleven LPAs have produced locally specific evidence documents to support their offsetting policy approach and establish the price of carbon. Five authorities have used consultants, namely Enfield, Islington, Tower Hamlets, Waltham Forest and Westminster. Six authorities prepared their own in-house evidence base, namely Greenwich, Hounslow, Lewisham, London Legacy DC, Merton and Sutton, although Sutton has not yet implemented a carbon offset fund. The remaining eleven LPAs that collect offset payments have not produced local evidence documents, relying instead on the evidence provided by the London Plan.

➤ **Q6. Is there a specific local emissions reduction target for development (i.e. x% over Building Regulations 2010/13)?**

3.17 As outlined in the Mayor’s SPG, since 6 April 2014, the Mayor has applied a 35 per cent carbon reduction target beyond Part L 2013 of the Building Regulations – this is deemed to be broadly equivalent to the 40 per cent target beyond Part L 2010 of the Building Regulations, as specified in Policy 5.2 of the London plan for 2013-2016.

3.18 The 35 per cent target is a flat percentage reduction across both major residential and non-domestic buildings. The majority of the LPA’s Local Plan policy emission targets reflect the London Plan emission target requirements, although some LPA’s target requirements go beyond the London Plan requirements including non-major development and unregulated emission targets. Also some LPAs have target emissions that vary from the London Plan. Table 4 below highlights all the variations described above.

Table 4: London authorities’ policy emissions targets that vary from the London Plan

Planning Authority	Major/Minor development	Time period	Residential - % improvement over Building Regulations	Non-residential - % improvement over Building Regulations
Croydon	Minor	Up to 2016	Non major =19% < Building Regulations 2013	Non major =19% < Building Regulations 2013
Ealing	Minor	Up to 2016	Non major =19% < Building Regulations 2013	Minimum BREEAM Very Good = up to 24% (approx.)
Islington	Major	Up to 2016	London Plan + 27% (regulated & unregulated emissions)	London Plan + 27% (regulated & unregulated emissions)
	Minor	Up to 2016	Non major - 19% 2013 < Building Regulations	Non major - 19% 2013 < Building Regulations
Kingston upon Thames	Minor	Up to 2016	Non major - 19% 2013 < Building Regulations	Non major - N/A
London Legacy DC	Major	Up to 2016	40% over 2010 Building Regulations	35% over 2010 Building Regulations
Merton	Minor	Up to 2016	Non major - 19% 2013 < Building Regulations	Non major – N/A
Redbridge	Major	2013 - 2016	40% over 2010 Building Regulations	40% over 2010 Building Regulations
	Major	2016 +	As per London Plan 5.2	As Building Regulations until 2019 , 2019+ zero carbon
Sutton	Major	Up to 2016	19% 2013 < B Regulations	19% 2013 < B Regulations
Tower Hamlets	Major	Up to 2016	45% over 2013 B Regulations	45% over 2013 B Regulations
Wandsworth	Minor	Up to 2016	Non major - 19% 2013 < Building Regulations	Non major - N/A

Islington’s approach requires the developer to show in the energy statement how the development will meet the 35% regulated emissions reduction target of the London Plan and also meet the Local Plan policy total emissions reduction target of 27% (combined regulated and unregulated emissions) on site. The developer is then required to offset remaining total emissions to zero.

➤ **Q7. What types of development are carbon offset payments applied to? i.e. domestic/non domestic/both? Only applied to major development?**

3.18 The London Plan Policy 5.2 carbon reduction targets apply to both residential and non-domestic major development schemes. Major⁸ development is interpreted as:

- number of dwellinghouses to be provided is 10 or more, or the development is to be carried out on a site having an area of 0.5 hectares or more;
- the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or development carried out on a site having an area of 1 hectare or more.

3.19 In recognition that some building types find it harder than others to achieve this target without the use of carbon offsetting payments, the London Plan outlines its approach to allowable solutions stating:

“.....where this improvement cannot be met on-site, any shortfall should be provided off-site or through a cash-in-lieu contribution to the relevant borough, ring-fenced to secure delivery of carbon dioxide savings elsewhere”.

3.20 Para 2.5.6 of the London SPG states that carbon dioxide offset payments should apply to both residential and non-residential development.

3.21 Of the 22 LPAs applying carbon offsetting policy, 19 apply the policy only to major residential and non-residential development as in the London Plan Policy 5.2. Three LPAs, namely Enfield, Islington and Westminster have different approaches.

3.22 Enfield also applies its offsetting policy to minor developments, stating in Policy DMD 51:

‘For minor development, the Council will seek to encourage all residential or non-residential developments to achieve the same targets for major development where it is demonstrated that this is technically feasible and economically viable’.

3.23 Islington requires both minor residential and commercial developments to pay a flat rate contribution to offset any remaining CO₂ emissions. The rate charged is £1,500 per house or £1,000 per unit. The Council is confident in its approach following a High Court approved judgement⁹ in regard to government policy changes in respect of small sites and tariff style contributions.

3.24 A Written Ministerial Statement in December 2014 announced that:

“the Government is making the following changes to national policy with regard to Section 106 planning obligations:-

⁸ This is in line with the Town & Country Planning (Development Management Procedure) (England) Order 2010. In this statutory instrument a "dwellinghouse" does not include a building containing one or more flats, or a flat contained within such a building, which are subject to the total floor space provisions instead.

⁹ Case No: CO/76/2015 – West Berkshire District Council and Reading Borough Council vs - Department for Communities and Local Government

“Due to the disproportionate burden of developer contributions on small scale developers, for sites of 10 units or less, and which have a maximum combined gross floor space of 1,000 square metres, affordable housing and tariff style contributions should not be sought. ”

3.25 The policy changes in the Ministerial Statement were accompanied by amendments to the National Planning Practice Guidance (“NPPG”). No alterations were made to the National Planning Policy Framework (“NPPF”).

3.26 The judgement (referred to in paragraph 3.23 above) found that Ministers cannot contradict or contravene the content of the statutory development plan simply by issuing Ministerial statements and Planning Practice Guidance. The Ministerial statement has some weight but the adopted development plan has primacy.

3.27 Waltham Forest’s local plan policy DM 10 applies offsetting policy to all developments, but in practice compliance is only being applied to major developments.

Questions 8 – 12 - Funds and project selection

- **Q8. Is there a dedicated ‘carbon offset fund’ held by the council – if so what is the current balance of funds held? Has any of the fund been spent?**
- **Q9. Are carbon offset funds currently being spent? If not, what barriers are preventing spend of offset funds?**

3.28 The Mayor’s SPG requires developers to pay any offset cash in lieu contribution to the relevant LPA. The authority is required to ring fence the payment to secure delivery of CO₂ savings elsewhere. The responses to questions 8 and 9 for the 22 LPAs that are collecting a carbon offset are outlined in Table 5 below and described in further detail in the following paragraphs.

Table 5: Carbon Offset Funds

LPA	Fund	Current balance	Funds spent	Signed S106 anticipated payments	Barriers/potential payments	Projects identified/funded
Brent	To be a dedicated fund	£0	£0		Payment trigger points not yet reached	List to be published May 2016
Camden	Yes	£21,608	£0	£130K	Developments awaiting decision would amount to £795K	Green Action for Change document
City of London Corporation	S106	£0	£0		Payment trigger points not yet reached	To be identified
Croydon	Community Energy Fund	£150K	Yes			Fuel poor home energy awareness scheme
Ealing	Yes	£31,188	£20,664			Fuel poverty programme
Enfield	Yes	£150K	£0		Measures identified in SPD have now been abandoned	Examples of potential projects identified in SPD
Greenwich	No	Not specified	No	£470K	Offsets agreed on 4 developments, payment trigger points not yet reached	List to be produced
Hackney	Yes	£0	No	£6.5K	Funds need to reach a threshold before being spent	Examples of potential projects identified in SPD

LPA	Fund	Current balance	Funds spent	Signed S106 anticipated payments	Barriers/potential payments	Projects identified/funded
Hammersmith & Fulham	Yes	£2,044	£0		Payment trigger points not yet reached	No
Harrow	Thru s106	-	Yes		Restricted payment to projects identified in s106 agreement	No list
Haringey	S106	-	£0		Not enough funding yet to deliver projects	Internal project list
Havering	Yes	£60K	£10K	-	No barriers	PV on community run buildings
Hillingdon	Ad hoc	£0	Yes (minor)	£100K	Potential for further £50K	Internal list of public buildings
Hounslow	No	£0	£0		No COF payments processed to date	No list
Islington	Yes	£1.4M	£0	£7M	Time lags due to speed of payments & the need to pool sufficient funds for first project.	Fuel poverty projects i.e. high rise solid wall insulation; business advice
Lewisham	S106 fund	£0	£0		Limited money raised to date	No list
Kingston upon Thames	S106 fund	Not specified	Not specified		Specific projects named in s106 agreement; lack of officer time to spend funds	
Merton	Yes	£46K	Yes		Project must be specifically mentioned in s106 agreement	Leisure centre CHP & City farm PV
Southwark	Green Fund	£295,997	£0		Resource constraints, lack of awareness of potential of fund across council	No list
Tower Hamlets	COF (S106)	£95K	£0			Projects being finalised
Waltham Forest	To be established	£0	£0		Two contributions requested	SPD – energy retrofit projects
Westminster	Yes	Pre April 2015 = £700K+ Post April 2015 = £0	£75K		The fund is split between pre-CIL April 2015 monies (which can be used more flexibly) and post CIL 2015. Currently no post April 2015 permissions have been implemented.	Feasibility studies for district heating (DH); community and residential building retrofit; DH project.

3.29 Twelve LPAs have established a dedicated carbon offset fund, six administer the funds through their S106 processes, and four have not yet set up a fund, primarily because payments have not yet been received as developments have not yet commenced or reached the trigger point for payment.

3.30 Islington holds the largest balance of offset payments currently standing at £1.4m, reflecting its status as the first fund to be established, despite having the lowest payment per tonne. The smallest balance is held by Hammersmith & Fulham at £2,044, with the remaining LPAs holding funds ranging up to £700,000 (Westminster). Five Boroughs also anticipate further payments once development commences. Islington is expected a potential £7m, Camden £795,000, Greenwich £470,000 and Hackney £6,000.

3.31 To date seven out of the 22 LPAs applying offsetting have spent funds on projects, namely Croydon, Ealing, Harrow, Havering, Hillingdon, Merton and Westminster, although two failed to answer this question. Islington anticipates spending funds on projects imminently. The remaining 14 LPAs are experiencing a range of barriers to spending the offset fund. The most common barrier is the time taken waiting for payment trigger points to commence, or for payments to be pooled to a required threshold to be sufficient to deliver projects. Harrow, Kingston upon Thames and Merton

cite a barrier in the S106 process whereby specific projects for funding have to be named in the wording of the S106 agreement. Southwark lists resource constraints, particularly in terms of low carbon project planning, and a lack of awareness of the potential for investment from the fund across the Council which it is seeking to address.

➤ **Q10. Is there a published or not published list of projects which offset funds contribute to?**

3.32 The Mayor's SPG states that it is essential that LPAs identify a suitable range of projects that can be funded through the carbon dioxide offset fund. Measures could include directly funding or installing community energy or retrofitting projects, or establishing a revolving energy fund for local energy retrofit loans to residents and businesses. Preference is to be given to retrofitting publically owned property to provide wider community benefit.

3.33 As shown in Table 5 above, seven of the 22 LPAs do not currently have a list of projects for funding. The reasons are primarily due to a lack of funds to date; projects identified in s106 agreements or lack of internal resources and departmental awareness of the fund. The remaining LPAs either have published or in-house lists or general project descriptions in SPDs. Where the information has been provided, the types of projects being funded are listed in column 7 of Table 5. These range from fuel poverty energy efficiency initiatives, residential and community building retrofitting and low carbon and renewable technologies for public buildings. Westminster is using its offset funding for district heating feasibility studies¹⁰ and a district heating project, plus retrofitting a community building and domestic insulation schemes. The Council are exploring the potential of how the fund can be used more widely in the context of CIL Regulations.

➤ **Q11. Are offsets applied to only regulated CO2 emissions, or are unregulated emissions (embodied material emissions) used in offset calculations?**

3.34 Only Islington includes unregulated emissions as well as regulated emissions as part of its offsetting requirement. The Council has been challenged a number of times for including unregulated emissions as part of its policy requirement. The Council's response is that special circumstances such as an increase in Borough wide CO₂ emissions between 2005 and 2007, and opportunities for decentralised energy networks, provide Islington with the incentive and opportunity to set ambitious, locally-specific sustainability standards which build on national policy.

3.35 All the other LPAs apply the offset requirement to regulated emissions only, as required by London Plan Policy 5.2. Merton provides flexibility if a developer is faced with a shortfall in regulated emissions reductions, but is able to demonstrate a good method of decreasing unregulated emissions on-site. In this instance the Borough would calculate the net on-site savings prior to the S106 payment.

3.36 The London Legacy Development Corporation states that their intention is to use regulated emissions as per the London Plan once offset collection commences. Newham has yet to decide on this matter prior to setting up its offset fund.

¹⁰ Feasibility studies, by themselves, would not generally be considered an Allowable Solution, and should not be attributed carbon savings. However if they could be shown to unlock a major carbon saving project, or were part of an overall project on which savings could be calculated, they may be taken into account.

➤ **Q12. At what stage is the carbon offset payment calculated? (ie. Energy strategy at planning stage or a later 'as built' stage submitted to council?)**

3.37 London Plan policy requires the submission of an energy assessment (or energy strategy) for all development schemes. Guidance on the requirements including a carbon gap assessment methodology is set out in the Mayor's "Energy Planning, GLA guidance on preparing energy assessments" (March 2016).

3.38 On the submission of an outline planning application, a developer must provide a commitment to ensure that any shortfall identified from non-compliance with London Plan CO₂ improvement target, is met off-site using the provision established by the LPA. A full planning application must provide the information set out in Part 2 of the Guidance which includes information on calculating the carbon gap.

3.39 The responses reveal that the majority of LPAs (13) calculate offset payments at the planning application stage. Merton has assessed two offset contributions following the committee approval stage. Five authorities revisit the energy assessment calculation, either following amendments to the application at the detailed design stage, or when planning conditions are discharged, (Croydon, Hackney, Islington, Hillingdon and Kingston). Three authorities recalculate at the 'as built' stage (Brent, City of London and Enfield).

Questions 13 – 14 - Monitoring and reporting arrangements

➤ **Q13 What monitoring and reporting arrangements are in place for the spending of carbon offset funds?**

3.40 The Mayor's SPG requires LPAs to calculate the carbon savings of each identified offsetting measure to demonstrate CO₂ savings and enable auditing of the fund. Where a local study has been carried out to establish a carbon offsetting price, LPAs should also monitor against the measures identified in the study. Where other sources of funding have made a contribution this is also to be identified.

3.41 Table 6 below describes the monitoring and reporting arrangements for each LPA. The majority monitor offset payments and funds through their S106 monitoring processes, although some use the local plan annual monitoring report process, or have specific monitoring teams such as Havering, whilst others have not yet set up a process due to lack of funds. The London Legacy Development Corporation and Newham have stated their intentions to use their annual monitoring report mechanisms once offsetting arrangements are in place.

➤ **Q14 Has any internal council review of carbon offsetting arrangements been undertaken?**

3.42 Table 6 also summarises the status and outcome of any review of offsetting arrangements for each LPA. Hackney has recently concluded a review deciding to continue to use its S106 Corporate Board for monitoring and reporting purposes. Brent has a Carbon Management Board that meets and reviews quarterly. Enfield is currently reviewing its processes, and Havering, Islington and Westminster are to review processes imminently.

Table 6: Summary of offset monitoring and reporting arrangements and review

Council	Monitoring & reporting arrangements	Status of review of offsetting arrangements
Brent	Annual S106 reporting; Carbon Management Programme Board (CMPB) monitor spend monthly.	Quarterly review by CMPB
Camden	None yet	Internal approach agreed, but no review as yet.
City of London	Annual S106 monitoring report	No review
Croydon	S106 Framework Group	No review
Ealing	No specific monitoring. Spend tracked and related to projects.	No review
Enfield	Monitoring team	Currently under review
Greenwich	No arrangements yet as no funds	No review
Hackney	S106 monitoring S106 Corporate Board sign off applications for project funding.	Recent review concluded that Corporate Board was the most efficient way forward.
Hammersmith & Fulham	S106 process	No review
Harrow	Annual monitoring process	No review
Haringey	No arrangements in place as yet. Spend to be published in annual monitoring report, and carbon report	No review
Havering	Monitored and managed by Energy Strategy Team	Council's Env Overview & Scrutiny committee to carry out review imminently
Hillingdon	Property team report to S106 Team on progress of projects.	No review
Hounslow	None as yet, as no funds	No review
Islington	S106 team – obligations, payments & admin; affordable Energy Board – allocation of funds	Likely to look at offsetting policy as part of limited review of Local Plan – currently at early stage

Council	Monitoring & reporting arrangements	Status of review of offsetting arrangements
Kingston upon Thames	Internal project implementation/performance management process	No review
Lewisham	S106 process	No review
Merton	S106 process	No review
Southwark	S106 process	No review
Tower Hamlets	Planning Contributions Monitoring Framework	No review as just instigated offsetting processes.
Waltham Forest	To be established	No review
Westminster	S106 process; Cabinet member sign off for approval of application funding	Case for offsetting under consideration.

Questions 15 – 16 - Other

➤ **Q15. Has the borough negotiated any other form of carbon offset measures?**

3.43 Four organisations responded to this question with examples.

- Camden is developing new council homes on an existing council estate, and instead of paying the carbon offset fee, the equivalent amount is to be put into energy efficiency improvements to the existing housing on the estate.
- Enfield has secured wider sustainability benefits in lieu of payment, such as green roofs, and higher energy efficiency standards within the development.
- Haringey is prepared to consider giving up offsetting requirements to deliver other carbon policy aspirations such as distributed energy.
- Islington has negotiated the provision of waste heat from an electricity substation to an adjoining school as a shared heat network in lieu of an offset payment.

➤ **Q16. Other comments that your organisation feels the GLA should consider in its review of carbon offsetting arrangements in London?**

3.44 A brief summary of the, sometimes contradictory, comments provided to this question are given below with the full responses provided in Appendix 2. The issues raised are considered in further detail in sections 4 and 5 of this report.

- **Carbon price:**
 - Republish the guidance price and review annually;
 - Provide a clearer figure representing costs in London (pan-London, sub-regional or zoned);
 - Set appropriate London wide price per tonne figure;
 - Current price doesn't reflect actual abatement costs, but need to strike appropriate balance;
 - The floor price of carbon has fallen, so needs to be taken into account as developers are challenging the £60/tonne price referred to in the SPG.

- **CIL/s106:**
 - Provide counsel advice to clarify position and advice on relationship between CIL and S106.

- **Commonality of approach across London:**
 - GLA should establish a shared evidence base and provide both framework and guidance for implementing offset policy, this would assist under-resourced LPAs;
 - Facilitate an offset networking group and/or workshops to share best practice on issues such as managing offset funds, use of S106, dealing with outline/full/hybrid applications, understanding building modelling techniques, post construction monitoring; calculation and reporting, local work on carbon abatement costs, assist in reviewing local plan policy on offsetting.

- **Effective mechanism (London Plan & SPG):**
 - Policy 5.2 is powerful and important tool to encourage better energy performance in new build providing much needed funding to improve existing stock or other carbon saving measures;
 - Cost effective opportunity for developments to achieve carbon targets and contribute towards carbon reduction in locally identified areas of priority;
 - Good base for calculating offset requirements.

- **Energy security**
 - Grid capacity issues and heat island effect are strategic issues which justify policy for energy efficient buildings and decentralised energy schemes;
 - GLA should continue with zero carbon policy to reduce pressure on the local grid.

- **Flexibility:**
 - Use of funds should be kept as flexible as possible i.e. not requiring funded projects achieve the same level of CO₂ saving as offset.

- **London wide fund:**
 - Consider if any value or support for London wide fund rather than Borough level schemes;
 - Important for LPAs to retain control over spending of offset funds within the local area;
 - Carbon offsetting should be retained at a local level where existing mechanisms are in place.

- **Review London Plan Policy**
 - In light of government changes to planning and building standards
 - Non-domestic development post October 2016 only required to meet Building Regulations so will no longer contribute towards offset funds. Big impact on areas like City of London where majority of development is non-domestic;
 - Extend policy to include [major] refurbishment/retrofit developments¹¹;
 - Opportunity to pool contributions to fund decentralised energy schemes.

- **Viability:**
 - Advice on managing offset policy requirement in relation to development viability;
 - Concern that offset contributions impact on LPAs ability to secure affordable housing contributions. Decision on what takes priority should be determined by the LA.

¹¹ This is in line with the aims of the EPBD which states in Article 9.2 "Member States shall furthermore, following the leading example of the public sector, develop policies and take measures such as the setting of targets in order to stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings".

4. CASE STUDIES

4.1 The GLA's project brief required research into existing carbon offsetting case studies (up to five) across England, including London. Five local authorities identified as already operating carbon offsetting policy approaches were selected and contacted for an update on carbon offset policy, projects and current issues. Table 7 below summarises the key components of the case study carbon offset funds, with more detailed commentary on each case study in the remainder of the section.

Table 7: Comparison of case study carbon offset funds

	Ashford	Islington	Milton Keynes	Tower Hamlets	Southampton
Status	Since 2012	Since 2012	Since 2008	Since 2016	Since 2012
Cost/tonne CO₂ (over 30 yrs)	One off payment of £265/t	£920/t (major) Minor = £1,500/house; £1,000/unit	£200/t	£1,800/t	£210/ tC emitted 1st year of development
Basis of cost	Shadow Price of Carbon - Defra	Local retrofit costs/savings assessment	Schemes and measures available	London Mayor's SPG	Cost to offset tonne of carbon locally
Policies	Policy CS10 C & Sust Design & Construction SPD	CS10A Env Design SPD	Policy D4 Sustainable Construction SPD	DM29	CS20
Residential & commercial	Yes	Yes	Yes	Yes	Yes
Major/Minor	Major	Major & minor	Major	Major	Major
Reg/unreg emissions	Regulated	Regulated & unregulated	Regulated & unregulated	Regulated	Regulated
Mechanism	s106	s106	s106	S106	s106
Payment terms	Post construction	Start of build	On completion	Start of build	
Fund management	Ashford Borough Council s106	s106 team	Council Carbon Offset Board	Planning Contribution Overview Panel	Southampton City Council s106 officer
Accountability	s106 working group	Affordable Energy Board/s106	COF Board. Independent audit	As above	s106 officer
Project delivery	Ashford Borough Council	Affordable Energy Board/Energy Team	National Energy Foundation (NEF)	Council	SLA with The Environment Centre (tEC)
Project identification	s106 working group	Energy Team	COF Board/NEF	COF Board	Council/tEC
Funded projects?	Council buildings: renewables; energy efficiency; EV charging; tree planting in town centre.	High rise residential solid wall insulation; business CO ₂ reduction projects	Mainly residential energy efficiency improvements	Fuel poverty & Council building energy efficiency measures; Community Fund CO ₂ reduction projects	Domestic energy efficiency measures - boilers, cavity/loft insulation/solid wall insulation.

Case study 1: Ashford Borough Council

4.2 In 2003, Ashford was identified as one of four Growth Areas in the government's Sustainable Communities Plan to tackle a shortage of housing supply in the south east of England. The scale of growth planned for Ashford Town and its immediate surrounding area is for an additional 31,000 homes and 28,000 jobs over the period 2001 to 2031.

Zero carbon growth

4.3 An emphasis on sustainable development and high quality design has been central to the Council's approach to plan making and deciding applications. Core Strategy Policy CS10 (2008) and Sustainable Design and Construction SPD (2012) require all major developments within the Borough to be carbon neutral and adhere to the energy hierarchy, i.e.

- reducing the need for energy
- using energy efficiently
- supplying energy efficiently
- use renewable energy

4.4 However, where sites and circumstances make achieving zero carbon within a development challenging and unviable, as a last resort the Council allows for financial contributions or carbon offsetting to make developments carbon neutral. Policy CS10 Section C states:

"Any remaining emissions from a development will need to be offset in order to make developments carbon neutral. This will be through a financial contribution and/or off-site renewable energy facilities, energy efficiency schemes and tree planting as part of Ashford's Green and Blue Grid".

Major development

4.5 All major development in Ashford Borough is required to make a payment to the Ashford Carbon Fund if the CO₂ reduction targets of Policy CS10 cannot be met. There are different thresholds for major development depending on location within Ashford Borough. In the Ashford Growth Area the definition is the same as the London Plan Policy 5.2. Elsewhere in the Borough, major development is defined as five or more dwelling units, and for non-residential, units of 500sq m or sites of 0.5 hectares or more. The same thresholds apply for mixed use developments depending on location.

Policy CS10 - targets for carbon dioxide emissions

4.6 Table 8 below shows the particular levels of the Code for Sustainable Homes, Ecohomes (in the case of existing refurbishments) and BREEAM required by Policy CS10 against a 2006 Building Regulations baseline. These relate to regulated carbon emissions.

4.7 The Council had expected to revise these standards in a review of the Core Strategy in 2015. However, the Core Strategy review has been overtaken by the development of a new local plan for the Borough for the period up to 2030. This is expected to be published for public consultation in June 2016 and will include a review of sustainable construction design requirements and carbon offsetting policy. A Community Infrastructure Levy (CIL) charging schedule is also to be produced in parallel with the new local plan.

Table 8: Ashford Borough Council – targets for carbon dioxide emissions

Ashford LDF 2007 - 2014						
			(CS3) Town Centre & (CS4) Brownfield Urban Sites	(CS5) Urban Extensions & (CS4) Greenfield Urban Sites	(CS6) Tenterden, the Villages	Existing and refurbishment
(A)	BREEAM	Residential	Code Level 3	Code Level 4	Code Level 2	EcoHomes 'Very Good'
		Overall level	Very Good	Excellent	Good	Very Good
		Energy Credits	Excellent	Excellent	Excellent	Excellent
		Water Credits	Maximum	Maximum	Excellent	Excellent
		Material Credits	Excellent	Excellent	Very Good	Very Good
(B)		Minimum Carbon Dioxide Reduction				
			20%	30%	10%	10%

Ashford Carbon Fund

4.8 The fund has been in operation since 2012. It is managed and monitored by Ashford Borough Council and reviewed annually through the Annual Monitoring Report. The carbon price is based on the shadow price of carbon set by DEFRA. Developers pay a flat rate for emissions over and above the minimum energy efficiency requirements set by the Council for their developments. The payment is a one off amount of £265 per tonne of CO₂ and is specified within the legal agreement with the developer.

4.9 At the design stage, the Council provides developers with an indication of the likely carbon offset payment. The final cost is calculated upon completion and is carried out by BRE accredited Building Control officers in the Council.

4.10 The collection of payments is administered by the Council's s106 working group. The group meet quarterly to review the fund and identify/approve projects for funding. The cost of the administration is funded through a 10% S106 monitoring fee.

4.11 The fund has been spent on a variety of projects, although mainly used for energy efficiency upgrades and renewables for Council owned properties. Other projects include electric car charging points and tree planting in the town centre.

Operational issues

Emerging national policy

4.12 The Council continues to apply carbon offset payment policy, notwithstanding recent changes to government policy. The current local plan review process is considering offsetting policy in the light of these changes to ensure that emerging local plan policy is compliant with national policy, although the exact nature of that policy is still unclear.

Viability

4.13 The Council have adopted standard recommended guidelines for assessing development viability. The assessment is carried out through an appraisal process and independently verified. Establishing an accurate assessment of viability is crucial to ensuring successful negotiation of carbon offset contributions.

Pooling of S106 agreements

4.14 From 1 April 2015, amendments to the CIL Regulations placed a limit on the ability of LPAs to pool more than five S106 contributions towards a single item or infrastructure 'pot'. The Regulation excludes affordable housing and contributions that are directly required to make the development acceptable in planning terms (in accordance with the tests set out in Regulation 122), otherwise, the limitation applies retrospectively to all obligations entered into since 6 April 2010 and may have unintended consequences.

4.15 The Council is currently producing a Community Infrastructure Levy (CIL) charging schedule in parallel with the new local plan. This will seek to distinguish what the Council considers to be 'infrastructure' and ensure that the carbon offset contribution is treated through the S106 process as a non-infrastructure related payment, directly required to make development acceptable in planning terms (i.e. compliant with adopted local plan policy).

Carbon savings

4.16 The Council uses standard assumptions to assess likely carbon savings from projects. This is considered by the Council's S106 working group when assessing appropriate projects for funding. The actual carbon savings post project implementation is not currently verified.

Case study 2: London Borough of Islington

4.17 Islington commenced collecting carbon offset payments in 2012 and have subsequently negotiated in excess of £8.4 million for the carbon offset fund. To date the fund has only received £1.4 million due to payment being on commencement of the development, time lags involved or permissions not yet implemented.

Policy requirements

4.18 The Council's adopted Core Strategy (Feb 2011) includes Sustainable Design policy CS10 Section A which outlines the Council's policy for zero carbon development and the requirement for development to offset all remaining CO₂ emissions associated with the building through a financial contribution towards measures which reduce CO₂ emissions from the existing building stock in Islington.

4.19 The Council's Environmental Design SPD (2012) sets out further detail regarding the operation of the policy along with Development Management Policies DM7.1 and DM7.2 (2013).

Carbon Price

4.20 The Environmental Design SPD sets out the carbon price for all major development at £920 per annual tonne of carbon, and for minor new build, a flat rate of £1,500 per house and £1,000 per unit is charged. The price of £920 is based on independent analysis of the costs and carbon savings of retrofit measures suitable for properties in Islington conducted in 2010.

Assessment of COF contribution

4.21 The carbon offset payment is calculated at the planning stage for the majority of cases. Sometimes where updated energy strategies have been triggered through s106 clauses at the detailed design stage, the contribution is recalculated.

Payment of contribution

4.22 The offset financial contribution is secured via s106 agreement and payment is generally made upon commencement of the development.

Management of the Fund

4.23 The carbon offset fund is managed internally by the Council. The Planning s106 team deals with payment and administration of the funds. The Energy team identify projects, and prioritises them according to cost/tonne, feasibility and wider council aims such as fuel poverty alleviation. The project list is recommended to the Council's Affordable Energy Board for sign off. The Energy team are then responsible for delivering the projects and reporting progress to the Board.

Projects funded

4.24 The Environmental SPD states that the carbon offset fund will contribute towards measures which reduce CO₂ emissions from the existing building stock. This includes solid wall insulation of high rise social housing and help for businesses to reduce CO₂ emissions. The Council expects to

start spending funds imminently on an identified SWI project which is currently going through design and planning stage. All projects are reported to the Council's Affordable Energy Board for approval.

Operational Issues

i) Delays in implementing projects

4.25 There have been time lags between the negotiation and receipt of payments (due to long project lead-in times), which coupled with the need to pool sufficient contributions to pay for projects, has impacted the speed at which projects can be implemented

ii) Locality of projects

4.26 Some developers have made the argument that the offset contribution should show a direct link between the development and the measures funded by the COF. The Council's response is that mitigation of climate impacts does not have to have clear geographical links as long as the carbon abatement occurs within the borough (although offsetting outside the borough could theoretically be possible if within the terms of the s106 agreement, although unlikely to happen due to the desire to keep the benefit of development within the borough).

iii) Unregulated emissions

4.27 The Council has been challenged on more than one individual application for including unregulated emissions as part of its policy requirement. The Council's response is that special circumstances such as an increase in borough-wide CO₂ emissions between 2005 and 2007, and opportunities for decentralised energy networks, provide Islington with the incentive and opportunity to set ambitious, locally-specific sustainability standards which build on national policy.

4.28 Furthermore, the need to maintain energy security and reduce the heat island effect within London, means the Council is committed to explore all means at its disposal to reduce the energy needs of new build and refurbishment/retrofit developments.

Case study 3: Milton Keynes Council

4.29 The Milton Keynes Council Carbon Offset Fund was set up in 2008 as a component part of Local Plan Policy D4 and Sustainable Construction SPD. The policy is part of suite of 'saved' policies from the Milton Keynes Local Plan 2006-2011. A review of the Local Plan is currently underway and an updated carbon offset policy and SPD are expected to be included in the new local plan submission version scheduled for consultation in late 2017.

Policy requirements

4.30 Policy D4 applies to all new development exceeding 5 dwellings or incorporating gross floorspace in excess of 1,000 sq. m (for other development). Energy efficiency must meet a 25% improvement over 2010 Building Regulations; renewable energy at least 10% of building energy use; carbon neutrality or financial contributions to a carbon offset fund to enable carbon emissions to be offset elsewhere.

4.31 Carbon neutral means there is no net increase in carbon dioxide emissions resulting from the energy used in occupying the building(s), including space heating & hot water, (regulated emissions) and cooking, lights and appliances (unregulated emissions). The Council uses current Building Regulation Part L energy load information to calculate unregulated emissions in development proposals.

4.32 The Council carried out a large residential analysis in 2014 which showed that CO₂ emissions per dwelling (including unregulated emissions) are on average 3.5 tonnes. This average is used to calculate emissions for applications with residential components.

4.33 A flexible approach is taken regarding offset contributions where developments are complex i.e. Conservation Areas and Listed Buildings. Otherwise experience has shown that 90% of development that fall within the threshold of Policy D4 is able to comply with the policy requirements.

4.34 Although carbon neutrality is possible by just using on-site measures (such as biomass and solar panels), it is recognized that at least for the foreseeable future, it is very challenging and expensive and therefore carbon offset is proposed as an alternative more cost effective option. On-site measures are encouraged where possible to reduce carbon dioxide emissions, which reduce the carbon offset payment.

Carbon Price

4.35 A one-off contribution is required to the carbon offset fund, at a rate of £200 for each tonne of carbon dioxide by means of a Section 106 agreement or unilateral undertaking or via the Milton Keynes Partnership tariff. The fund was drawn up to be used elsewhere in MK to reduce carbon emissions mainly by improving the insulation of older houses. It was designed to be spent on carbon reduction measures with a lifespan of at least 20 years, equivalent to the increased carbon output from new development. The current review of the local plan will consider the carbon price.

Assessment of COF contribution

4.36 The level of detailed assessment depends on the nature of the application, i.e. outline or full. The methodology used is outlined as follows:

- **Outline application stage** – A Sustainable Construction Statement is not required but the developer is made aware that by the reserved matters stage they will need to have an understanding of the likely level of contribution required. The S106 agreement is drawn up at the reserved matters stage.
- **Full application stage** - A Sustainable Construction Statement is required explaining how the D4 policy requirements will be met. If the standards reach Code level 4 (19% improvement on 2013 Building Regulations) then the Council is more flexible about the offset requirements.

4.37 Payment is made to the fund through the S106 process on completion of the development.

Management of the Fund

4.38 The carbon offset fund is managed in-house by the Council in terms of S106 payments, project funding and oversight. The management, delivery and verification of projects are currently outsourced to the National Energy Foundation, an independent charity based in Milton Keynes.

Projects funded

4.39 At the outset the Council decided that only domestic properties would be able to receive support from the fund. Funding only applies to existing buildings but is across all tenure types. Carbon saving measures initially had to demonstrate the potential to be delivered at a carbon price below £176.50 (£200 minus management fee) with a 20-year lifespan, but as costs of measures increased this became more challenging to achieve.

Project Example: LED Light Bulb Swap (2015)

4.40 The COF Board agreed to the promotion of a light bulb swap scheme to run during EU Sustainable Energy Week 15 – 19 June 2015. It was agreed to promote LED replacement bulbs for GU10 halogens and standard classic-shaped tungsten bulbs.

- 6,000 3.5W GU10 LED warm white bulbs
- 4,000 6.3W bayonet standard bulbs in warm white



The bulbs were distributed to all the libraries within Milton Keynes the week prior to the launch; residents had to show proof of residency (eg. through a council tax bill) and there were measures taken to avoid duplicate claims.

The estimated carbon savings per bulb were:

- Robus 3.5W LED compared to standard 35W halogen = 50kg p.a. x 6,000 = 300t pa
- Lumilife 6.3W LED compared to 40W tungsten = 53kg p.a. x 4,000 = 212 t pa

The cost of the project was £40,451 with a total CO₂ saving of 512 tonnes per annum

Note: Figures were based on manufacturers' claims for energy savings based on typical usage. Savings should strictly only take into account the expected life remaining on the bulbs replaced, as it must be assumed that the process is advancing replacement dates. No allowance was made for bulbs collected but stored by householders, as it was assumed that it the exchanged bulb occupied the same fitting.

4.41 A review of the Offset Fund was conducted by the Council in 2014. Subsequently, the Council relaxed the spending rule to facilitate the funding of appliance measures such as boilers and low energy lighting. Within that, as long as the case was well-evidenced, the Council has considered a variety of suggestions for using the funding to lower carbon across the city. Projects funded by the Carbon Offset Fund are shown in Table 9 below with the estimated carbon savings. Total carbon savings achieved to date are almost 6,200 tonnes, with a project spend well over £1 million.

Table 9: Milton Keynes Council – estimated carbon dioxide savings (2008 – 2015)

Projects	CO₂ (Tonnes)
	Estimated total CO ₂ savings per year
Insulation schemes	2,995
Sheltered Housing Project	200
Light Bulb Amnesty (2009)	173
Social Housing Project	547
Lakes Estate project	608
Boiler Cashback scheme	1,049
School & public buildings	35
Solid Wall Insulation (DECC Project)	11
Age UK Energy Checks	67
LED Light bulb swap (2015)	512
TOTAL CO₂ Savings	6,197 tonnes

Assessing development viability

4.42 In line with the guidance of the NPPF, the Council assesses the viability of development applications on a case by case basis. Developers are required to appoint a viability consultant and pay for the Council to appoint one.

4.43 The Council assesses the overall viability of a proposal rather than looking at separate sections in isolation. The COF contribution per dwelling (size & type for example) is derived from Council research on emissions and costs from past developments (para 4 above). This enables the Council to provide developers with an early indication of all the components of the S106 costs.

4.44 A crucial factor in determining development viability is an accurate assessment of the value of the land as the S106 contributions are derived from the land value. The NPPF states that developers should anticipate a reasonable profit of 20%, so this must be a consideration in negotiations.

4.45 In certain instances, developers purchase land for development before consulting with the Council and understanding what the S106 charges will be. Consequently this may have an impact on the developer's profit margins, but should not adversely affect the contributions required to make the development compliant with Council policy. MKC currently use the HCA DAT viability tool.

Pooling s106 funds

4.46 From 1 April 2015, amendments to the CIL Regulations placed a limit on the ability of LPAs to pool more than five s106 contributions towards a single item or infrastructure 'pot'. The Regulation excludes affordable housing and contributions that are directly required to make the development acceptable in planning terms (in accordance with the tests set out in Regulation 122), otherwise, the limitation applies retrospectively to all obligations entered into since 6 April 2010 and may have unintended consequences.

4.47 The Council's approach has been to ensure that carbon offset contribution is treated through the S106 process as a non-infrastructure related payment, directly required to make development acceptable in planning terms (i.e. compliant with adopted local plan policy). It is viewed as a fund for climate change mitigation measures.

4.48 As required in the new CIL regulations, there should be a direct link between the development and the measures funded by the COF. The Council have established that the Borough area is sufficiently direct, as on-site/adjacent measures for many new development sites would not correlate with existing developments in need of carbon improvements within the Borough.

Changes to zero carbon policy

4.49 The Council sought internal legal advice following the government's announcement to abandon the policy of zero carbon homes by 2016. This advice confirmed that it was appropriate for the Council to continue applying Policy D4.

Case study 4: London Borough of Tower Hamlets

4.50 Tower Hamlets have only recently commenced securing carbon offsetting payments following Council approval (January 2016) of its approach to offsetting detailed within the Tower Hamlets carbon offset solutions study (Dec 2015).

Policy requirements

4.51 The London Plan policy 5.2, adopted Managing Development Document (2013) Policy DM29 and local Planning Obligations SPD (2015) provide the policy mechanism for securing offset payments. The offset policy requirement is applied to regulated emissions for all major developments.

Carbon Price

4.52 The carbon price was identified using the GLA and Central Government guidance for the cost of carbon, which currently stands at £1,800/tonne CO₂. At the start of 2016 the Council had secured s106 agreements for carbon offset funds totalling £6.3 million, and received £150,000 into the Borough s106 account ready to fund projects. The Carbon Offset Solutions Study identified that planning obligations contributions could provide a budget of between £0.5 million and £2 million to be available annually over the next 20 years for mitigation in Tower Hamlets.

Assessment of COF contribution

4.53 The carbon offset payment is calculated at the planning stage for the majority of cases with payment made upon commencement of the development.

Payment of contribution

4.54 The Revised Supplementary Planning Document (SPD) 2015 sets out the council's policy for securing planning obligations in respect of new developments following the introduction of CIL. The SPD provides a framework for calculating S106 financial contributions where carbon reduction targets on-site are not possible and a contribution to a carbon offsetting fund is required to meet the shortfall.

4.55 The SPD advises contributions will be pooled and placed in the 'carbon offsetting fund' and used by the Council to fund projects to reduce carbon dioxide emissions in the borough.

Management of the Fund

4.56 Fund management has been based on the principles of clarity, accountability and transparency. Section 11.0 of the Tower Hamlets carbon offset solutions study sets out the proposed governance structure for the initial stages of delivery and also a long-term proposal for a Carbon Offsetting Board to be set up to decide and prioritise projects. The Study included 'carbon offsetting guidance', complete with a proforma, to facilitate transparency and provide the criteria to assess the potential projects in the decision making process.

4.57 All decisions to finally allocate resources are currently approved through the Council's Planning Contribution Overview Panel (PCOP), that has the authority, under delegated powers, to monitor the implementation and expenditure of S106 agreements and monies, and ensure delivery in

accordance with the terms of the relevant agreement, with due regard to funding purpose, geographical restrictions and within the defined timescale.

4.58 The s106 process is being restructured into the Infrastructure Delivery Framework and therefore the projects would be the subject to scrutiny and sign-off from the Infrastructure Delivery Steering Group and Infrastructure Delivery Board. The Infrastructure Delivery Framework does not give approval for the delivery of the projects; it simply makes a decision on whether S106 and/or CIL funding will be provided to support the project. The approval of carbon offsetting projects, and the use of any other funding sources, will continue to be required through the Carbon Offsetting Fund Board.

Projects funded

4.59 Projects identified in the planning obligations SPD fall into three key project areas:

- Fuel poverty – it is proposed that a proportion of the carbon fund is used to establish a new WarmFront scheme for the residents of Tower Hamlets¹².
- Retrofit – retrofitting Council buildings with energy efficiency measures to enable the Council to meet its environmental targets, reduce carbon emissions and reduce energy costs.
- Community fund – to be set up and made available through applications from community groups to deliver their own carbon reduction projects.

4.60 Projects that provide the best value for money and the most benefits for the residents of Tower Hamlets in terms of tackling fuel poverty are to have first priority. Projects to reduce energy costs and CO₂ emissions reductions in council operational buildings are to have second priority, with the next priority given to projects enabling communities to control and own the generation and usage of renewable energy. It is intended that the initial £1 million raised from offset payments will be divided up with retrofit projects gaining half. £250,000 will be made available annually for the fuel poverty WarmFront grants with community funds receiving the balance.

¹² This was approved in January 2016, when it was noted that the abolishment of the national WarmFront grant has had an impact on the residential sector, especially private sector housing. WarmFront was (and will be) a grant paid for domestic energy efficiency measures.

Case study 5: Southampton City Council

4.61 The Southampton City Council Carbon Offset Fund was established in September 2013. Adopted Core Strategy Policy CS20 requires developers to maximise energy efficiency measures and renewable energy or low-carbon technology opportunities, with any remaining CO₂ emissions offset through contributions to a carbon offset fund. On site requirements for major development required by Core Strategy Policy CS20 are outlined in Table 10 below.

Table 10: Southampton Core Strategy Policy CS20

All residential development achieves at least the following level of the Code for Sustainable Homes		All non-residential developments with a floor space of over 500 m ² achieve at least the following BREEAM standards.
from adoption (2010)	Level 3	BREEAM 'very good'
From 2012	Level 4	BREEAM 'excellent'
From 2016	Level 6	BREEAM 'excellent'

Major developments

4.62 Prior to 27 March 2015 the Carbon Offset requirement was applicable to all new developments requiring s106. From March 2015 the Carbon Offset requirement has been applied only to major new developments of over 10 dwellings or 1000m². The requirement relates to regulated emissions only, and applies to the first year of emissions rather than the lifetime of the development (or 30 years, as in London).

Carbon Price

4.63 The carbon price has been set by the Council at £210/ tCO₂ emitted in first year of development and includes a 15% management fee (£31.50 per tonne). This is based on a study conducted in 2012 which assessed the cost to offset a tonne of carbon in the Southampton area. Estimated costs where minimum on site requirements met only were as follows:

- 2 bed detached house: 0.79 tonnes of CO₂/year * £210 = £166 per home
- 4 bed detached house: 1.43 tonnes of CO₂/year * £210 = £300 per home
- Attached houses: 1.03 tonnes of CO₂/year * £210 = £217 per home
- Low rise apartment blocks: 1 tonne of CO₂/year * £210 = £210 per home

4.64 The average payments per square metre, assuming the minimum required energy efficiency levels are implemented is in the range of £2.10 to £2.90/m², based on a rate of £210 per tonne of CO₂.

4.65 The Southampton City Council Community Infrastructure Levy charge has therefore been reduced by £3 to account for this additional cost. A maximum amount to be contributed towards the Carbon Offset Fund will also therefore be set at £3 per square metre, to ensure that the contribution does not make new development unviable.

4.66 The Council recently reviewed the carbon price in April 2016. They are currently satisfied that the carbon price is sufficient to carry out the works required. As work starts to be carried out, this can be re-assessed to ensure the carbon price is adequate.

Collecting payment

4.67 The Council uses s106 regulations as the mechanism for collecting carbon offset contributions from developers. The viability of applications is assessed on case by case basis. In certain instances, the offset component has been set aside from some s106s where there have been issues with viability. However, there have been no appeals or challenges to the requirement for offset contributions to date.

Management of fund

4.68 The management of the fund is undertaken by the Environment Centre (tEC), an independent environmental charity, who will evaluate projects applying for funding and track installations. To date the Council has received approximately £40,000 in offset contributions, but the Fund is yet to be spent on any projects. It is planned that projects will commence in mid-2016 and monitoring reports will be produced on an annual basis.

Types of projects

4.69 Southampton City Council already have a SLA with the Environment Centre for carrying out retrofitting work propose to use a blend of the Carbon Offset Funding, Energy Company Obligation Funding and monies available through Southampton City Council to heavily subsidize or fully fund vulnerable fuel poor residents living in solid wall properties to insulate their homes. The programme will focus on some of the poorest performing properties in the city.

Offsetting review

4.70 The Council is currently drafting a new Local Plan, with a timescale for adoption early 2018. The Council's carbon offset policy and carbon emissions standards will be reviewed through this process.

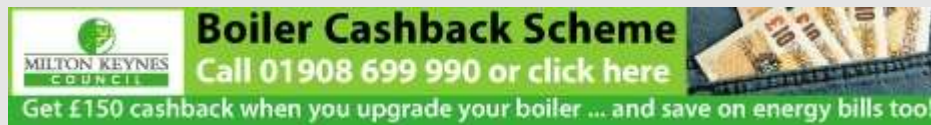
5. CARBON OFFSETTING – KEY MANAGEMENT ISSUES

5.1 This section sets the scene for a range of offset fund management issues identified during the research phase, highlighting approaches in London alongside English authority case study findings.

Additionality

5.2 Carbon savings from offset projects must be additional, i.e. the measures would not have otherwise gone ahead without the support from the offset fund. The Mayor's SPG states in paragraph 2.5.7, '**The borough should ensure that the off-setting measure provides added value – that is, the measure would be unlikely to be funded through another means**'.

Example of additionality - COF funded boiler subsidy



5.3 A £150 boiler subsidy was provided to encourage homeowners to upgrade to an energy efficient model, but on the proviso that the boiler is still in working order prior to replacement (i.e. the boiler would not have been changed without the subsidy). In this case the carbon savings can be claimed as truly additional in that they would not have been realised without the incentive of the subsidy. Over half of the 1,244 boilers replaced were G-rated inefficient models which resulted in significant financial as well as carbon savings for homeowners.

5.4 Additionality may also be applied to savings in excess of those required by regulations, although as minimum standards and regulations improve, additionality savings are becoming smaller and harder to achieve.

5.5 Additionality is further complicated depending on whether the offset fund is used to 'unlock' other funding sources (such as ECO) and only contributes towards a proportion of the cost. This is known as **partial additionality**. In this instance, the offset fund cannot assume all the carbon savings, only the same proportion as the funding, otherwise the other funder could also be counting the carbon savings, resulting in double counting.

5.6 For example, in Milton Keynes, the Carbon Offset Fund contributed a small top up grant towards a DECC funded solid wall retrofit scheme in England where some of the properties targeted were within the MK Borough area. The offset fund acted as an additional financial incentive to help interested residents overcome financial barriers towards the cost of an expensive energy efficiency measure.

5.7 Consequently, **full additionality** can only be claimed where the fund acts as the sole financial contributor to the project and the resultant carbon savings would not have occurred without it.

5.8 In London, in response to the Mayor's SPG requirements highlighted above, two LPAs have published documents addressing additionality as a requirement of carbon offset schemes. The Tower Hamlets Carbon Offset Solutions Study, adopted by the Council in January 2016 outlines the approach the Council will take in regard to securing additionality for funded projects (paragraph 5.1.3). The London Legacy Development Corporation's recently published draft SPG on Carbon Offsetting states in relation to additionality (paragraph 5.3), 'In allocating funding to carbon offset

projects, the Project Proposals Group will assess the degree to which projects can demonstrate that other funding opportunities have been sought and that offset funding will enable a project’.

5.9 Islington is careful to select projects that can be demonstrated to be additional to its normal works programme, but states that there also needs to be some level of flexibility, as some projects can only be unlocked if they are co-funded by the offset fund. The Council has removed potential projects from the carbon offset project pipeline specifically on this issue, over concern that they would not meet an additionality test (i.e. upgrading the Council’s own buildings to LED lighting, as this was already on a spend to save works programme).

Calculating the offset amount payable

5.10 The responses to Question 12 in section 2 of this report show that the majority of LPAs (13) calculate offset payments at the planning application stage. Merton has assessed two offset contributions following the committee approval stage. Five authorities refer to the need to recalculate offset contributions when updated energy strategies are triggered as a requirement through s106 clauses at the detailed design stage, or when planning conditions are discharged (Croydon, Hackney, Islington, Hillingdon and Kingston). Only three authorities recalculate the contribution at the ‘as built’ stage (Brent, City of London and Enfield). Brent explains that the assessment at completion is in case of a shortfall in building performance from that specified in the energy statement. The City of London explains that this method is an incentive which allows the developer to improve the performance of the building and resubmit a completion energy statement against which the carbon offsetting contribution is then recalculated.

5.11 Of the three English Local Authority case studies, only Ashford carries out a final calculation of the offset requirement at the as built stage. For large developments payment into the fund is required in phases, typically upon completion of a certain number of dwellings, which is prescribed within the planning condition if required.

5.12 Factoring in opportunities to amend the calculation has two advantages. Firstly it provides the developer with the opportunity to make further building fabric/on-site emission savings, thereby reducing or removing any non-compliant emissions shortfall. (This is a preferred approach by several LPAs who describe the offset requirement as a ‘last resort’ financial requirement). Secondly, it ensures that the calculation of any shortfall remains accurate in the context of the evolving design and construction of the development and the offset payment is maximised. However, it also requires additional work with resource implications, and as noted by Camden, the planning stage calculation is preferred to the as built stage as the authority can receive funds sooner.

Carbon Offset Price

5.13 The Mayor’s SPG requires LPAs to develop and publish a price for CO₂ based on either a nationally recognised carbon dioxide pricing mechanism, or the cost of reducing off-setting CO₂ across the LPAs’ area. In London 15 out of 22 LPAs that apply offsetting have relied upon the price for carbon referenced in the SPG i.e. £60 x 30 years = £1,800 per tonne of CO₂ offset. The remaining seven LPAs applying offset have adopted varying prices.

5.14 The approaches taken by the two of the three case study authorities outside London in setting a carbon price is in line with the recommendations in London Mayor’s SPG. Ashford and Milton

Keynes both established their local carbon price in 2008 using an estimate of typical costs of making carbon savings elsewhere in their respective districts. Southampton also established its own local price, but incorporated a discount mechanism for the CIL levy charge, an approach which does not reflect the guidance in the London Mayor's SPG. Both Ashford and Milton Keynes are currently reviewing their carbon price through the Local Plan review process.

5.15 The need to review and republish the carbon price for London was the most common response to Question 16 of the GLA's questionnaire, and was mentioned in most phone interviews. Specific issues the GLA have been asked to consider are as follows:

- Review the carbon price annually;
- Set a single London-wide price or a range of prices to reflect varying costs of abatement in different areas of London (i.e. sub-regional or zoned);
- Ensure the right balance is struck reflecting the reduction in the floor price of carbon whilst also ensuring adequate returns to reflect abatement costs.

Carbon Offset ratio

5.16 The Mayor's SPG guidance on this issue is outlined as follows:

"Unless the price set for carbon dioxide fully reflects the delivery of the identified carbon dioxide reduction projects, it is not considered necessary that the ratio of carbon dioxide saving to the offsetting price has to be 1:1. That is, the cost of the measure to save one tonne of carbon dioxide does not have to be equal to the offset price per tonne of carbon dioxide. This is because the offset price set generally does not fully cover the cost of saving carbon dioxide in order to ensure the price is viable for development. (Paragraph 2.5.16)

"The benefit of the fund is in unlocking carbon dioxide saving measures. If a 1:1 ratio is set, only the simplest retrofitting measures are likely to be carried out. This would potentially leave the more complicated measures without adequate funding and could result in a property requiring further retrofit works in the future, resulting in further disturbance to the occupier." (Paragraph 2.5.17)

5.17 In London, in response the Mayor's SPG requirements highlighted above, two LPAs have published documents addressing the carbon offset ratio. Tower Hamlets' adopted Carbon Offset Solutions Study outlines the approach the Council will take in regard to the carbon offset ratio. Essentially, projects identified and supported by the Council's carbon Offset fund will deliver CO₂ savings at a range of costs and therefore a range of Carbon Offset ratios.

5.18 The London Legacy Development Corporation's recently published draft SPG on carbon offsetting takes a more restrictive stance. It states:

"The proposed price cap reflects the latest national assessment of the non-traded price of carbon and is therefore deemed a reasonable figure to ensure that:

- Carbon offset monies collected are sufficient to work towards a carbon fund: carbon saved ratio of 1:1" (Paragraph 3.8)

5.19 Islington uses the flexible approach outlined in the Mayor's SPG, so does not prioritise projects/measures on the basis of 1:1 ratio. This is because the Council is seeking to drive fuel poverty outcomes as well as to deliver carbon abatement.

5.20 In Milton Keynes maintaining a ratio of 1:1 worked when certain low cost energy efficiency measures such as loft and cavity wall insulation were available, but as prices rose achieving this ratio became a constraint to project development. In 2014 the Council reviewed this approach, and having sought legal advice changed to a more flexible approach, considering each project on its merits in terms of carbon offset ratio.

Collecting payments

i) S106 & CIL (Community Infrastructure Levy)

5.21 The Mayor's SPG states that LPAs "should secure offsetting measures through s106 agreements" (Paragraph 2.5.7).

5.22 Planning obligations are contractual agreements made under section 106 of the Town and Country Planning Act 1990 (as amended), which impose financial and non-financial obligations on a person or persons with an interest in the land and become binding on that parcel of land.

5.23 When used in connection with a planning application, planning obligations are used to ensure that developments are acceptable in planning terms – for example to mitigate the impacts of a development; prescribe the form it may take, or compensate for any loss caused by it. The Community Infrastructure Levy Regulations 2010 (as amended) provide that as from 6 April 2015 planning obligations can only be taken into account in taking decisions on planning applications where they are:

- necessary to make the development acceptable in planning terms;
- directly related to the development; and
- fairly and reasonably related in scale and kind to the development.

5.24 The s106 agreement is the key mechanism by which the LPAs have levied the London carbon offset fee on developers to make the development acceptable in planning terms with the local development plan.

5.24 It is also possible for developers to give a "unilateral undertaking" to address a requirement such as a carbon shortfall. The mechanism is sometimes used in cases where developers and authorities are not able to reach an agreement, or in connection with the discharge of planning conditions. Hillingdon referred to occasionally making informal unilateral undertakings with developers at the design stage.

5.25 In regards to CIL, the Mayor's SPG states that 'consideration needs to be given to ensure that measures that cannot be secured through a s106 agreement are not included in the price and that measures covered in the CIL Regulation 123 list are not double counted' (Paragraph 2.5.15).

5.26 Introduced in 2010, CIL is a charge on new development at rates set by "charging authorities" (in London the LPAs and the Mayor) to help pay for new or improved infrastructure that addresses a local authority's more area-wide needs arising from development. Within London most authorities

have approved CILs in place or that are nearing adoption, and only Bromley is yet to develop a CIL. As indicated in the Mayor's SPG, when charging the carbon offset fee, LPAs must ensure that the projects identified for funding by the carbon offset fund are not also listed for funding on the Council's CIL Reg. 123 list. Any potential for double charging must be avoided.

5.27 Our follow up discussions with a number of LPAs revealed that they had either sought legal advice, or liaised with other LPAs to determine the way forward. All concluded that the best way forward was to ensure that climate change related measures/projects are not included on the CIL Reg. 123 list. Westminster is currently seeking internal legal advice regarding the feasibility of pooling offsetting contributions to fund a district heat scheme. Haringey state the need for clarification on the relationship between CIL/s106 once funds are collected, and request advice from Counsel on the position.

5.28 Milton Keynes Council obtained legal advice to confirm the validity of its offset approach and received the following guidance:

"I consider an obligation which provided for financial contributions to a Carbon Offset Fund meets regulation 122. This is because one can properly reason that a planning policy is being met by the obligation which, consequently, is necessary to make the development acceptable as otherwise the policy would be breached. Further, the obligation is directly related to the development as it relates to its carbon footprint and is fairly and reasonably related in scale and kind to the development as it (the contribution) is geared to the size of the development."

5.29 Southampton has ensured that the carbon offset fund is to be used for retrofitting properties rather than infrastructure. It has also taken a different approach to CIL, reducing the emerging local CIL levy charge by £3 per square metre to reflect the maximum contributions required to the Carbon Offset Fund, capped at £3 per square metre to ensure development viability.

5.30 An independent review of the Community Infrastructure Levy has recently been commissioned by government and is due to publish its findings imminently. The Chair of the Panel has recently stated in the Press, prior to publication of the report that the levy 'has failed to provide a faster, simpler, more transparent system than s106'. This suggests that there may be recommendations in the forthcoming report calling for potential changes to the CIL. This could have implications that the GLA and the LPAs would need to consider.

ii) Pooling contributions

5.31 Amendments to the CIL Regulations (April 2015) placed a limit on the ability of LPAs to pool more than five S106 contributions towards a single item or infrastructure 'pot'. The Regulation excludes affordable housing and contributions that are directly required to make the development acceptable in planning terms (in accordance with the tests set out in Regulation 122), otherwise, the limitation applies retrospectively to all obligations entered into since 6 April 2010 and may have unintended consequences.

5.32 Our discussions with the LPAs revealed that Tower Hamlets and Islington do not consider pooling an issue as long as the carbon offset funds are not used for delivering infrastructure projects. Enfield considers pooling to be a significant barrier to obtaining sufficient offset funds for projects.

5.33 Milton Keynes Council's and Southampton's approach has been the same as Tower Hamlets and Islington. They are ensuring that any carbon offset contribution is treated through the s106 process as a non-infrastructure related payment, directly required to make development acceptable in planning terms (i.e. compliant with adopted local plan policy). This is viewed as a fund for climate change mitigation measures and funds are able to be pooled.

iii) Locality of offset projects

5.34 As required in the CIL regulations (April 2015), planning obligations can only be taken into account in taking decisions on planning applications where they are 'directly related to the development'. Islington's experience is that developers have argued that the offset contribution should show a direct link between the development and the measures funded by the COF. The Council's response is that mitigation of climate impacts doesn't have to have clear geographical links as long as the carbon abatement occurs within the Borough (although offsetting outside the borough could theoretically be possible if within the terms of the s106 agreement, although unlikely to happen due to the desire to keep the benefit of development within the borough).

5.35 Similarly, Milton Keynes Council have established that the Milton Keynes Borough area is sufficiently local, as on-site/adjacent measures for many new development sites would not correlate with existing developments in need of carbon improvements within the Borough.

Development viability

5.36 The National Planning Policy Framework (NPPF) requires that the costs of planning policy requirements should allow for competitive returns to a willing land owner and willing developer to enable development to be deliverable (Paragraph 173). Paragraph 174 further states that Local Planning Authorities should assess the likely cumulative impacts of policies and standards on development, which should not put implementation of the plan at serious risk, and should facilitate development throughout the economic cycle.

5.37 The Mayor's SPG reflects the NPPF stating in Paragraph 2.5.11 that 'The (carbon) price set should not put an unreasonable burden on development and must enable schemes to remain viable'.

5.38 The NPPF and Planning Practice Guidance (PPG) highlight the importance of assessing the viability of development. The PPG states that there is no single approach for assessing viability and that there is a range of methodologies available. It advocates for greater understanding of viability through evidence based judgement (informed by relevant available facts), collaboration (with transparency of evidence wherever possible) and consistency. In cases where applicants submit that financial viability issues do not allow for the full range of planning obligations to be met, applicants are required to provide a financial appraisal and pay for an independent review of the appraisal by a suitably qualified expert appointed by the council.

5.39 Our research found that in some LPAs, development viability can be cited by a developer as a reason for challenging a carbon offset contribution as a requirement for planning permission. This can be due to the LPA charging a higher local price of carbon than the national (ZCH) price and a mistrust by the developer on the evidence base on which the price is set (Westminster).

5.40 Some LPAs have also expressed the view that they should pursue payments from developers for more immediate Council priorities such as affordable housing (Lambeth, Sutton, and Westminster). Haringey have specifically requested a steer from the GLA on the issue of managing carbon offset policy requirement alongside project viability.

5.41 Conversely, other LPAs have not experienced any issues, particularly those who have set their carbon price to the ZCH price. Here the weight of evidence behind the London Plan and SPG is considered to be the reason developers are unlikely to challenge the policy and the price. In Islington offsetting has not proven to be a significant issue for viability. This is thought to be a reflection of high land values associated with inner city London and the Council's viability guidance provided in its Development Viability SPD (January 2016).

5.42 In all three case study authorities outside London, the councils assess the viability of major development applications in line with the NPPF, and the developer must appoint a viability consultant and pay for the Council to appoint its own viability consultancy service.

5.43 In Ashford, viability is a crucial factor in determining the offset contribution. The team adopt best practice guidelines for assessing viability by using an independently assessed appraisal method. Affordable housing is the key priority for payment; the use of contributions is then prioritised for each application.

5.44 In Milton Keynes viability issues have emerged where developers have paid an inflated value for the land which then impacts on developer profitability and ability to pay s106 contributions. This results in complex negotiations with developers. Milton Keynes adopts a flexible approach regarding offset contributions where developments are complex, such as in Conservation Areas or where Listed buildings are being upgraded.

5.45 Southampton assesses viability on a case by case basis. The carbon offset contribution has been removed from some s106 agreements where there have been issues with viability.

London wide fund

5.46 Hammersmith and Fulham have suggested that the GLA could consider whether there would be any value or support for a London-wide fund rather than borough level schemes, although this might be seen as going against the concept of locality referred to above (5.34). Conversely, Tower Hamlets and Southwark have stressed the importance for local authorities to retain control over spending of offset funds within their local area. There are currently 22 LPAs collecting offset contributions for their areas with offset mechanisms in place, so it would appear unlikely that this level of local operation and control would be relinquished to the GLA, although this does not preclude *ad hoc* groupings of boroughs delivering projects through pooled funds.

Management of the offset fund

5.47 The Mayor's SPG is silent on how LPAs should manage the carbon offset fund. Research has shown that all of the LPAs that collect offset contributions carry out the management of the fund within the Council. As an example, Islington's s106 team carry out the financial management which is resourced from the s106 monitoring fees, set at 5% of total contributions. The Council's Energy Team implement projects with costs covered within the project costs which are paid for by the COF. Any technical input from the Sustainability Officer and s106 team for developer negotiations or for

appeals comes from general planning budget. Practice varies between the LPAs on the responsibility for project identification and delivery, but the financial management of the fund is the responsibility of s106 teams with s106 fees helping to fund staff resources for offset collection and administration.

5.48 The Ashford Carbon Fund is managed and monitored by Ashford Borough Council and reviewed annually through the Annual Monitoring Report. Monies from the fund pay for carbon savings through energy efficiency schemes, and tree planting¹³ as part of Ashford's Blue and Green Grid. Energy efficiency schemes are favoured by the Council as they are the most cost effective method for reducing CO₂ being released into the atmosphere, from energy use in existing dwellings.

5.49 The Ashford Carbon Offset Fund currently stands at approximately £0.5m. The Council is currently acquiring more premises, so is planning to use the funds for energy efficiency upgrades to these buildings to lower the Council's carbon footprint.

5.50 Milton Keynes Council outsourced the management of the Milton Keynes carbon offset fund because resources were not available internally to track referrals and installations, provide a high level of customer service, establish and maintain relationships with installers, producing reports and evaluate projects applying for funding. In 2015, after the introduction to the CIL regulations, the Council took back the responsibilities for holding and managing the fund. Project reporting and spending, identification and verification continue to be undertaken by the National Energy Foundation which had previously managed the fund as well. Outsourcing has permitted an external audit of funds.

5.51 Southampton – Management of the fund's projects has been agreed by the Council to be undertaken by the Environment Centre. The organisation is an independent environmental charity which has an existing SLA with SCC to carry out retrofitting work within the city. The Environmental Centre have been given responsibility to evaluate projects, apply for funding and track installations. They will assess projects and provide clear evidence of tonnes of carbon to be offset. Currently the fund will be used for retrofitting properties rather than infrastructure, so measures such as boilers, cavity/loft insulation/solid wall insulation. The Carbon Offset Fund is yet to be spent on any projects but it is planned that this will commence shortly and then reports will become available.

Policy change/uncertainty

i) EU Nearly Zero Energy Buildings (NZEBs)

5.52 The EU context is largely governed by the overall 20:20:20 EU Energy Policy which is a package comprising three main targets, namely:

- A 20% reduction in greenhouse gas emissions from 1990 levels
- A 20% target of energy production from renewables
- A 20% improvement in energy efficiency

The targets were set in 2007 and enacted in legislation in 2009 with the targets due to be met by 2020, and form part of the EU policy for smart, sustainable and inclusive growth.

¹³ Ashford is the only LPA known to permit tree planting as an offset measure, as there are often doubts expressed about the longevity of such schemes.

5.53 A major conduit through which this is devolved to member states is via the Energy Performance of Buildings Directive, which sets out requirements for:

- Establishing a calculation methodology
- Minimum energy performance standards for new and large building when refurbished
- Energy performance certificates
- Inspections of boilers and air conditioning units

5.54 The 2010 revision to the Directive, known as the 'recast' also set out requirements for Nearly Zero Energy Buildings (NZEBs). These are defined as being of very high energy performance, with the (nearly) very low residual energy demand coming, to a significant extent, from on-site renewables. Each member state must set out its own definition of NZEB.

5.55 The recast requires that all new buildings are NZEB by 31 December 2020 with additional requirements that new buildings owned and occupied by public authorities comply by 31 December 2018.

ii) *Government changes to planning and building standards*

5.56 There have been significant changes in the past two years to national policy on carbon standards for new development, notably from the Housing Standards Review, the Deregulation Act 2015, and the government's post-election Productivity Plan. These have resulted in the withdrawal of the zero carbon homes policy and allowable solutions mechanism, and have created a period of policy uncertainty for the future direction of energy standards pending the amendment to the Planning and Energy Act and a promised government review of energy efficiency standards.

5.57 These changes have created a backdrop of policy uncertainty in which to assess and review current approaches to carbon offsetting policy both in London and elsewhere in England. The adopted status of the London Plan and the Mayor's SDC SPG has afforded the London carbon offset policy a degree of immunity from the changes to date. Ministerial statements and Planning Practice Guidance have some weight but the adopted development plan has primacy. This is the same situation for the three non-metropolitan case study authorities described earlier in this report.

5.58 The high number of responses from the LPAs on this issue indicates that the policy uncertainty is creating a sense of policy vulnerability around carbon offsetting, so much so that several LPAs have decided not to pursue setting up an offsetting fund (paragraph 3.7). Similarly, LPAs conducting local plan reviews are concerned about how to defend or justify emerging offsetting policy, notwithstanding the Mayor's clear signal for the continuation of the zero carbon commitment in the recently published Housing SPG (March 2016).

5.59 There was also concern regarding London Plan policy 5.2 relating to non-domestic development post October 2016. The policy requirement stated: 'As per building regulation requirements', intending that this would align with an expected improvement to Part L2 of the Building Regulations. The LPAs' concern was that non-domestic development would no longer be permitted to contribute towards offset funds after 2016 bearing in mind the government's intention not to proceed with proposed 2016 increase in on-site energy efficiency through the Building Regulations.

5.60 The GLA published an updated version of the Mayor's Energy Planning Guidance in March 2016 to clarify the London Plan energy targets and baselines in the context of government announcements regarding zero carbon policy. This states that for non-domestic development that the GLA will require a 35 per cent reduction in carbon dioxide emissions against Part L 2013, and that where this cannot be feasibly or viably met on-site, an offset to this level may be used to satisfy London Plan policy 5.2.

5.61 Some LPAs have stressed the need for the GLA to continue with its zero carbon policy to help tackle growing energy security issues in London. Grid capacity issues and the heat island effect are strategic problems which justify a policy for energy efficient buildings, decentralised energy schemes, and the extension of offsetting policy to include major refurbishment/retrofit developments.

5.62 Other LPAs view offsetting as a powerful, cost effective tool for development to achieve carbon targets and contribute towards carbon reduction in areas of priority that have been locally identified. It provides LPAs with a stream of funding for community energy saving projects at a time when national schemes have all but dried up.

6. CONCLUSIONS

6.1 This section highlights the conclusions drawn from the study as described in Section 5 of this report, and provides commentary for the GLA to consider in reviewing its approach to carbon offsetting for London.

Additionality

6.2 There is clear guidance in the Mayor's SPG that projects that projects receiving Carbon Offset Funds are unlikely to be funded through any other means. There is scope for providing clearer guidance to LPAs on this matter. For example Islington and Tower Hamlets have both published documents addressing their method of dealing with additionality as a requirement of carbon offset schemes. These are considered helpful examples to share across London and it may be that the GLA have a role to play in providing guidance to LPAs such that there is a clear understanding that there is true additionality to the projects funded via carbon offset funds. Guidance on additionality has also been published by other bodies, including the energy regulator (Ofgem) in connection with determining savings on schemes funded through the Green Energy Supply Certification Scheme that ran from 2010-2015.

Calculating the offset payment

6.3 The offset payments are calculated at the planning application stage. Some authorities require a recalculation at detailed design stage or following amendments and conditions. In an attempt to closely map the actual CO₂ emissions associated with a development, a minority of authorities do review the emissions at the 'as-built' stage. On the one hand it is straightforward for the LPA to accept the notional emission at the point of application as this allows for collection of the money at the early stage and doesn't require significant input from the LPA in terms of validation. Conversely for LPAs who favour an approach to directly and more accurately attribute the CO₂ emissions then undertaking as as-built assessment to review the development emissions is possible and appropriate. This does however require additional work from the LPA staff which carries associated resource implications. It also delays payment of the offset contribution to post construction instead of at the commencement of works.

6.4 Assessing the payment in line with evolving design and construction of the development ensures accuracy, but has implications for the planning authority. Given that individual LPAs has evolved their approach based upon their view towards how well they wish to associate the emissions for each development and their available resource inputs then the current situation appears to be appropriate.

Carbon Price

6.5 The need to review and republish the carbon price for London was the most common response from the LPAs with the GLA asked to consider a number of London price issues. The key points made were:

- a) The need to review the carbon price on an annual basis – or some other frequency so that LPAs are not locked into historic or difficult to achieve costs. The prospect of indexing may also be an

appropriate measure potentially to an official economic index such as RPI, or a construction/development related activity index;

b) Whether to set a single London-wide price or a range of prices to reflect varying costs of abatement in different areas of London (i.e. sub-regional or zoned). This may respond to the needs of LPAs who may be better able to achieve the required abatement;

c) The need to strike the right balance between reflecting the reduction in the floor price of carbon, and an appropriate price reflecting abatement costs.

Carbon Offset ratio

6.6 The Mayor's SPG states that it is not considered necessary that the ratio of carbon dioxide saving to the offsetting price has to be 1:1 unless the price set for carbon dioxide fully reflects the delivery of the identified carbon dioxide reduction projects. Doing so restricts the use of the fund to only the simplest retrofitting measures leaving more complex retrofit measures without adequate funding. It is also the case that the availability of other financial measures, such as energy company obligations, have fluctuated considerably over the last four years both in terms of availability and level of subsidy. When such other funds have been high, it has been possible to achieve a 1:1 ratio, but that has not been the case more recently.

6.7 Adhering to the 1:1 ratio is thought to be too restrictive and the current advice which allows LPAs to choose the most appropriate projects and measures for their area without being constrained by a restrictive 1:1 ratio, appears to be suitable.

Collecting payments - s106 and CIL

6.8 It is clear that some local authorities have found the CIL/s106 regulations difficult to interpret in relation to carbon offsetting, and have sought, or are seeking, legal advice as to the appropriate way forward. In view of the imminent publication of the independent review of the Community Infrastructure Levy, and the request for clarification and counsel advice on the issue, it seems appropriate for to await the outcome of the CIL review before giving updated guidance to LPAs.

i) Pooling of s106 offset contributions

6.9 The issue of whether s106 agreements for offset funding can or cannot be pooled in relation to amended CIL regulations is either a major barrier to collecting sufficient funds for some LPAs or no hindrance at all to others. In the absence of guidance on the matter, either with the government's CIL guidance or the Mayor's SPG it may well be appropriate for the GLA to either seek its own counsel's advice or to simply allow LPAs to carry on in the existing way.

ii) Locality of offset projects

6.10 Again the lack of clarity within the CIL regulations (April 2015) is creating uncertainty, this time as to whether carbon offset planning obligations can only be taken into account in taking decisions on planning applications where the offset project(s) identified by the authority are 'directly related to the development' rather than offsite. Counsel's advice to date suggests that mitigation of climate impacts does not have to have clear geographical links as long as the carbon abatement occurs within the authority's area. In the absence of clarity on this issue, the GLA may either wish to seek its

own further Counsel advice or to leave LPAs to deal with the issue as they have been doing without intervention.

Development viability

6.11 The need for planning authorities to ensure that the (carbon) price set should not put an unreasonable burden on development and must enable schemes to remain viable, has proven to be a complex and sometimes costly issue to resolve. There is a need for the GLA to provide a steer on the management of carbon offset policy requirements alongside project viability.

6.12 The current development of a London best practice viability protocol, led by Islington, may provide a suitable mechanism for addressing and resolving this issue and the GLA may consider recommending its adoption for use by LPAs with carbon offset funds.

London wide fund

6.13 The argument that the GLA should consider if there would be any value or support for a London-wide fund rather than borough level schemes is somewhat tempered by the high proportion of LPAs already collecting offset contributions. Two LPAs have specifically stressed the importance for local authorities to retain control over spending of offset funds within their local area and it may be that the GLA wishes to consider the views of LPAs further in this respect.

Management of the offset fund

6.14 The current arrangements reported in the survey appear to indicate that funds are being appropriately managed by the LPAs, although a number of LPAs have indicated that it would be helpful if the GLA facilitated an offset networking group and/or workshops to share best practice on managing offset funds and other common offsetting issues.

Policy changes and uncertainty

i) EU Nearly Zero Energy Buildings (NZEBs)

6.15 Although the English (or UK) NZEB standard has not yet been set formally, the implications for this study are assessed to be as follows:

- It is likely to be national standard so it is not expected that there will be an opportunity to determine a separate London standard.
- There are likely to be primary energy targets such as 60 to 100 kWh/m²/yr for domestic buildings and 50 to 100 kWh/m²/yr for naturally ventilated non-domestic buildings.
- The extent to which a methodology and implementation are adopted is very significant to future Carbon Offset policies. If there were a strict set of rigid requirements for energy in buildings, through a mix of fabric and services efficiency and renewables, this could in theory result in net zero carbon emissions thereby obviating Carbon Offset policies.
- However, given that there has not yet been an attempt to define NZEB in the UK, and there is a past history of backing away from rigid zero carbon standards, it remains possible that an

'allowable solutions' approach may prevail. It is therefore likely that in the event of the implementation of NZEB in the UK, there will still be a role for Carbon Offsetting arrangements in London and the GLA should maintain its current position

ii) Government changes to planning and building standards

6.16 In the light of current policy uncertainty around national carbon policy, and the need to progress zero carbon standards in London, LPAs are looking to the GLA to provide a clear, reasoned and positive stance on what it sees is the way forward for zero carbon and offsetting policy in London and the GLA should consider maintaining its existing approach.

APPENDICES

Appendix 1 – Questionnaire

Information gathering survey:

Carbon offsetting approaches across London boroughs

Borough name:	Contact person:	
	Council response	Comments
Local carbon offsetting policy		
1. Does your organisation apply carbon offsetting payments in lieu? (note if actually currently collecting funds)		
2. If not currently collecting carbon offsets payments are there any plans in place to do so in the future?		
3. Price per tonne applied?		
4. Policy mechanism to secure carbon offsets (please note if current or draft) (e.g. London Plan policy, Mayor's SD&C SPG, local plan policy, sustainability SPD, contributions SPD).		
5. Have any locally specific evidence documents being prepared to support the approach and price used?		
6. Is there a specific local emissions reduction target for development (i.e. x% over Building Regulations 2010/13)?		
7. What types of development are carbon offset payments applied to? I.e. to domestic/non-domestic/both? Only applied to major development?		
Funds and project selection		
8. Is there a dedicated 'carbon offset fund' held by council – if so what is the current balance of funds held? Has any of the fund been spent?		

Borough name:	Contact person:	
	Council response	Comments
9. Are carbon offset funds currently being spent? If not, what barriers are preventing spend of offset funds?		
10. Is there a published or not non-published list of projects which offset funds contribute to?		
11. Are offsets applied to only regulated CO2 emissions, or are unregulated emissions and other emissions (embodied material emissions) used in offset calculations?)		
12. At what stage is the carbon offset payment calculated? (i.e. energy strategy at planning stage or a later 'as built' stage submitted to council.		
Monitoring and reporting arrangements		
13. What monitoring and reporting arrangements are in place for the spending of carbon offset funds?		
14. Has any internal council review of carbon offsetting arrangements been undertaken?		
Other		
15. Has the borough negotiated any other form of carbon off-set measures?		
16. Please provide any other comments that your organisation feels the GLA should consider in its review of carbon offsetting arrangements in London?		

Please return completed table by 17 February 2016:

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Appendix 2 – Responses to survey question 16

Authority	Comment
Brent	We would be interested to hear how other councils are managing the carbon offset fund and this element of S106 in order to share best practice and inform the way the council formalises the pipeline of funding for projects going forward.
City of London Corporation	The majority of development in the City is non-domestic. From Oct 2016 there will be limited opportunity to secure carbon offsetting funds since Policy 5.2 only requires developers of non-domestic buildings to meet Building Regulations Standards from this date.
Croydon	Carbon offsetting is currently providing the council with a small stream of funding for community energy saving projects at a time when national schemes have all but dried up. In this context, it is important that the use of such funds are kept as flexible as possible i.e. not requiring that funded projects achieve the same level of CO2 saving as the offset.
Ealing	Due to the transitional period in relation to policies and regulations, the carbon offsetting mechanism might be required to be reviewed in line with national and regional policies.
Enfield	Not sure how this sits with Government direction for energy policy and the Budget statement.
Greenwich	<p>The Royal Borough of Greenwich:</p> <ul style="list-style-type: none"> • supports the use of a carbon offset mechanism, but only when all other options have been exhausted; • believes that the London Plan and Mayors SD&C SPG provide a good base for the calculation of carbon offsets; • would welcome and be open to commenting on proposals for a common carbon offsetting process across London boroughs. For example for calculation and reporting. • suggest that it would be helpful if a carbon price is republished and confirmed by the GLA on an annual basis.
Hammersmith & Fulham	Could consider whether there would be any value or support for a London-wide fund rather than borough level schemes?
Haringey	<p>We would welcome a clear GLA figure for carbon offsetting cost in London (rather than unclear national rate example given in the SPG). This could be a pan-London figure, or sub-regional, or zoned with the capital. Haringey would be happy to work on this cost figure with others.</p> <p>The issue of managing this policy requirement alongside project viability would be good to have a steer on.</p> <p>We expect that the GLA continues with the policy of “zero carbon” and reduce pressure on the local grid.</p> <p>It would be great to clarify the position and set out some advice on the relationship between CIL /s106 once funds are collected – Counsel if possible.</p> <p>We would like a procedure on how outline / full / hybrid applications would be dealt with under this policy.</p> <p>It would be good to clarify if post construction monitoring is an option.</p>

Havering	The setting of an appropriate London wide price per tonne figure would be useful.
Hounslow	<p>The London Borough of Hounslow carries out a full review of all energy strategies in order to encourage all developments to secure carbon compliance with the London Plan at the outset. To date, no payments have been required to be made; however, there is the possibility of several major developments making a contribution over the course of 2016.</p> <p>The London Borough of Hounslow intends for the Carbon Offset Fund to be a measure of last resort, and will only permit the mechanism when the applicant has clearly demonstrated that the development cannot secure carbon compliance due to the specific characteristics of the site.</p> <p>It is likely that the Council will assess the current Carbon Offset Fund procedures and the application of future funds over the next few months; in anticipation of the first set of contributions over the course of 2016.</p>
Islington	<p>There is clear justification for policies on energy efficient buildings –but need to continue to make a strong case at the London wide level (eg. energy security, urban heat island etc.) as these are strategic issues for the city to plan for.</p> <p>Need to include refurbishment/retrofit developments in the policy (as a key way to deliver energy efficiency improvement of the poorly performing existing building stock), and devise a way to incentivise improvements to these buildings.</p> <p>Would be interested on working closely with the GLA on energy /sustainability policies in the coming months, as we are about to commence a review of our Local Plan. Would like to be updated with the work you are undertaking to inform our own work in this area.</p>
Kensington and Chelsea	<p>We would be interested in the GLA's views in terms of the implementation of carbon offsetting policy going forward once the relevant amendment to the Planning and Energy Act 2008 commences.</p> <p>We would be interested to know how the GLA has interpreted the Written Ministerial Statement (March 2015)</p>
Kingston upon Thames	<p>The current favoured approach to securing offsetting payments (which has recently been quite successful) is to calculate and secure the equivalent cost that it would take to practically offset the emissions reduction shortfall elsewhere locally (i.e. Solar PV on a School/ Community building). DECC publish average prices for different sizes of Solar PV systems so this can be transparently calculated and generally seems a fair approach; given the necessary roof space, this is the approach the developer would usually take to achieve on-site targets anyway.</p> <p>The Council has already carried out feasibility work on a large number of schools, social housing blocks etc. so projects can be easily defined and are known in advance to be deliverable.</p>
London LDC	<p>Carbon offset represents a cost-effective opportunity for development to achieve carbon targets and contribute towards carbon reduction in areas of priority that have been locally identified.</p> <p>In establishing a reasonable price cap for carbon, it would be immensely helpful if the GLA could continue to provide updates to the London Plan that</p>

	review the efficacy and relevance of the current suggested price cap as policy, and economics evolve.
Merton	The cost per tonne of CO2 does not currently reflect the actual price of reducing CO2, however if the price were raised too high developers will fight the payment.
OPDC	We are a newly formed local planning authority since 1 April 2015. We are currently preparing our local plan and have just completed our first round of public consultation. We are currently considering such policies. We will look to make a decision on this later this year and set it out in our next round of public consultation on the local plan, which is currently programmed for late 2016.
Richmond	There is a concern that carbon offsetting, particularly financial contributions from developments, will have an impact on the Council's ability to secure affordable housing contributions. The developer's 'pot' and ability for financial contributions remains the same, regardless whether the Council introduces a carbon off-setting mechanism or retains current approaches. It is questionable whether carbon off-setting should be done at the expense of affordable housing contributions. I believe the decision of what takes priorities should rest with the Council, e.g. the Council should be able to determine whether affordable housing or other contributions are seen as more important than carbon off-setting contributions. (Officer comments only)
Southwark	Important for local authorities to retain control over spending of offset funds within the local area. GLA guidance can help to ensure a commonality of approaches to offsetting across London; this can also be helpful for LAs that lack significant internal energy expertise.
Tower Hamlets	Carbon offsetting proposals should be retained at a local level where existing mechanisms are in place.
Waltham Forest	Would be grateful to see the outputs of your work. In the past there was discussion about creating a network group on this issue, chaired by GLA. If this idea is revived, I would be interested in being involved.
Wandsworth	Given the lack of resources available to the Council to conduct this work (a situation that is almost certainly shared by most boroughs) there is a logic to the GLA establishing an evidence base that can be shared across London. The fact that the London Plan is a major driver of policy and targets in this area also lends itself to the GLA providing a framework and guidance for implementing offset policies – particularly in relation to Policy 5.2.
Westminster	The carbon offset policy is a powerful tool e.g. many schemes have been encouraged to find an extra 10-15% improvement in energy performance under threat of offset. It will allow us to embark on substantial retrofit schemes that are otherwise impossible. It can also help support district heating - when there is a DE scheme in the area, we can tell developers to use reasonable endeavours to negotiate a link with it but what is reasonable? The carbon offset allows us to clearly define the alternative (i.e. it is much clearer if we can say 'use reasonable endeavours to connect to DE scheme or pay offset' as the cost of the alternative is clear [and substantial]) When there is not a DE scheme in the area, the approach above does not work. Instead we'd like to use the carbon offset to pull together contributions

from several developments to fund a scheme. We'd like these developments to fund it as they are deficient. However, some thinking may be required around CIL regulation 122 and 123. Reg 122 would seem to allow this. However, Reg 123 makes it difficult.

The London Plan should consider how to address the problem of inappropriate CHP being installed to avoid carbon offset.

At present our targets and evidence base are set out in % improvement in CO₂ vs. Part L.

There are question marks over the withdrawal of local authorities' powers to set targets over and above Part L (for residential schemes) which derive from Planning and Energy Act 2008.

The same act allows us to set a % of energy from low carbon/renewable energy. Do we need to think about recasting our evidence base policies and targets in this way?

The likelihood of a recommendation for a carbon offset contribution making it in to the s106 is affected by things such as whether the development in question is meeting affordable housing in full, etc. That is, WCC are likely to consider carbon offset as lower priority if schemes are unable to meet policy requirements in full (e.g. public art or other funds might also be considered as more deserving). The chances of an offset payment being implemented are increased if the GLA also ask for one at Stage 1 but if WCC has decided not to include an offset payment, a request at Stage 2 is likely to be ignored.

This is a political issue and for the relevant portfolio holders at WCC (and GLA) to make the case for carbon offsets.

Appendix 3 – Database of responses to GLA questionnaire

See separate spreadsheet attachment

Appendix 4 – Summary of responses to GLA questionnaire

See separate spreadsheet attachment