

Appendix: Greenhouse Gas Emissions

Annex 1: GHG Policy and Guidance

A1 Annex 1: GHG Policy and Guidance

A1.1 In preparing this GHG assessment, consideration has been given to the requirements of national, regional and local planning policies.

National Planning Policy

National Planning Policy Framework

A1.2 The National Planning Policy Framework (NPPF)¹ sets out planning policy for England. It states that the purpose of the planning system is to contribute to the achievement of sustainable development, and that the planning system has three overarching objectives, one of which is an environmental objective:

“to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy”.

A1.3 Part 14 of the framework is entitled “Meeting the challenge of climate change, flooding and coastal change” and sets out the strategy for minimising the climate change effects of new development. Paragraph 149 describes that “new development should be planned for in ways that can help to reduce greenhouse gas emissions through its location, orientation and design”. The section describes how renewable and low-carbon energy sources should be considered in planning applications for development of any scale.

A1.4 Paragraph 150 states that “New development should be planned for in ways that [...] can help reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government’s policy for national technical standards.”

A1.5 Paragraph 151 describes further that “to help increase the use and supply of renewable and low carbon energy and heat, plans should: a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts); b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers”.

¹ Ministry of Housing, Communities and Local Government (2019), ‘National Planning Policy Framework’, Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60777/2116950.pdf.

A1.6 In determining planning applications, the NPPF states that “local planning authorities should expect new development to:

- comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
- take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.”

Climate Change Act (2008)²

A1.7 The overarching Act in relation to climate is the Climate Change Act 2008. The Act introduces a legally binding target to reduce the UK’s GHG emissions to at least 80% below 1990 levels by 2050. It also provides for a Committee on Climate Change (CCC) with power to set out carbon budgets binding on the Government for 5-year periods.

A1.8 In the 2009 budget, the first three carbon budgets were announced which set out a binding 34% CO₂e³ reduction by 2020; and the Government has since adopted the fourth and fifth carbon budgets to reduce CO₂e by 50% by 2025 and 57% by 2030.

A1.9 The CCC also produces annual reports to monitor the progress in meeting these carbon budgets. Consequent upon the enactment of the Climate Change Act, a raft of policy at national and local level has been developed aimed at reducing carbon emissions.

Climate Change Act 2008 (2050 Target Amendment) Order 2019⁴

A1.10 In June 2019, the Government passed an order to amend the 2050 carbon emissions target in the Climate Change Act 2008 from 80 % below 1990 levels to zero net carbon (i.e. 100 % below 1990 levels). This new target will essentially end the UK’s contribution to climate change by 2050.

Energy Act (2013)⁵

A1.11 The Energy Act makes a provision for the setting of a decarbonisation target range, duties in relation to it and for the reforming of the electricity market for the purposes of encouraging low carbon electricity generation.

² Her Majesty’s Stationery Office (2008), ‘Climate Change Act 2008’

³ Carbon dioxide equivalent (CO₂e) is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO₂e signifies the amount of CO₂ which would have the equivalent global warming impact.

⁴ Her Majesty’s Stationery Office (2019), The Climate Change Act 2008 (2050 Target Amendment) Order 2019.

⁵ Her Majesty’s Stationery Office (2013), ‘Energy Act 2013’

Climate Change and Sustainable Energy Act (2006) ⁶

- A1.12 The Climate Change and Sustainability Act enhances the contribution of the UK to combating climate change and securing a diverse and viable long-term energy supply by boosting the number of heat and electricity microgeneration installations in the United Kingdom.

The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting ⁷

- A1.13 The National Adaptation Programme sets out government's response to the second Climate Change Risk Assessment, showing the actions government is, and will be, taking to address the risks and opportunities posed by a changing climate. It forms part of the five-yearly cycle of requirements laid down in the Climate Change Act 2008 to drive a dynamic and adaptive approach to building our resilience to climate change.

The Clean Growth Strategy ⁸

- A1.14 The Clean Growth Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of "clean growth", i.e. deliver increased economic growth and decreased emissions. In the context of the UK's legal requirements under the Climate Change Act, the UK's approach to reducing emissions has two guiding objectives:

- To meet our domestic commitments at the lowest possible net cost to UK taxpayers, consumers and businesses; and,
- To maximise the social and economic benefits for the UK from this transition.

- A1.15 The Strategy contains policies relating to the delivery of clean, smart and flexible power, including reducing power costs for homes and businesses and more transparent carbon pricing. It effectively replaces the "The Carbon Plan: delivering our Low Carbon Future" published in 2011.

Regional Policy

The London Plan ⁹

- A1.16 The London Plan establishes strategic planning policy for London over the next 20 – 25 years and promotes the fundamental objective of accommodating London's population and economic growth through sustainable development. It sets out the Spatial Development Strategy for Greater London

⁶ Her Majesty's Stationery Office (2006), 'Climate Change and Sustainable Energy Act 2006'

⁷ Defra (2018), 'The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting'

⁸ Her Majesty's Government (2017), 'The Clean Growth Strategy'

⁹ GLA (2016) 'The London Plan: The Spatial Development Strategy for London Consolidated with Alterations since 2011'

and the Development Plans of all London Boroughs must eventually comply with the general requirements of the London Plan.

- A1.17 To support borough planners, the Mayor published a guidance document through London Renewables: 'Integrating Renewable Energy into New Developments: A Toolkit for Planners, Developers and Consultants', and more recently the Supplementary Planning Guidance, 'Sustainable Design and Construction'¹⁰ and 'GLA Guidance on preparing energy assessments'¹¹.

- A1.18 The London Plan includes planning policies both for reducing energy consumption within buildings and, significantly, promoting the use of decentralised electricity generation and renewable energy. These policies cover the role of boroughs in supporting the Mayor's Energy strategy and the requirements of planning applications.

- A1.19 The GLA guidance on energy assessments¹¹ states that:

"Each application is considered on its merits, taking into account the individual characteristics of the development. Case-specific energy comments for each development are provided at Stage 1 and 2 of the GLA planning process by GLA energy officers to ensure applications comply with London Plan policy. However, for the avoidance of doubt, energy assessments must:

- *demonstrate how the zero carbon target for residential developments will be met, with at least a 35% on-site reduction beyond Part L 2013 and proposals for making up the shortfall to achieve zero carbon, where required; and*
- *demonstrate at least a 35% on-site reduction beyond Part L 2013 for non-residential development. Developments comprised of both domestic and non-domestic uses must demonstrate this target has been achieved for domestic and non-domestic uses separately Carbon emissions 35% below Part L 2013 for commercial/non-domestic development."*

- A1.20 Therefore, the target reduction on CO₂ emissions for the Proposed Development according to the GLA's requirements is:

- 35% reduction below the Part L 2013 Baseline and Zero Carbon for Domestic Areas; and
- 35% below Part L2A 2013 for Non-Domestic Areas.

- A1.21 The London Plan recognises that energy efficiency should come before energy supply considerations and has suggested a simple strategy known as the Mayor's Energy Hierarchy, which is described in Policy 5.2. The process follows good practice in the design of low carbon buildings and comprises three distinct stages and order of application:

- Use Less Energy (Be Lean);

¹⁰ GLA (2014), 'Sustainable Design and Construction Supplementary Planning Guidance (SPG)'

¹¹ GLA (2018), 'Energy Assessment Guidance'

- Supply Energy Efficiently (Be Clean); and
 - Use Renewable Energy (Be Green).
- A1.22 This strategy puts energy efficiency/conservation measures first in order to reduce the demand for energy, 'Be Lean'. Following this, consideration must be given to supplying the resultant reduced energy demand as efficiently as possible, including the use of Combined Heat and Power (CHP) plant, 'Be Clean'. Finally, sources of renewable energy should be examined, 'Be Green'.
- A1.23 As stated in Policy 5.6, the Mayor will expect all major developments to demonstrate that the proposed heating and cooling systems have been selected in accordance with the following order of preference:
- Connection to an existing C/CHP scheme;
 - Site-wide C/CHP; and
 - Communal heating and cooling.
- A1.24 Where C/CHP is to be installed in a new development, the feasibility of extending the system beyond the site should be investigated. In addition, provision will be made for the heating and cooling network for future connections to district heating networks.
- A1.25 As stated in Policy 5.7, the current London Plan includes a notional target for on-site renewable energy, unless it can be demonstrated that such provision is not feasible. This target is for renewable energy on major developments to achieve a 20% reduction in carbon dioxide emissions after any energy efficiency measures and (non-renewable) C/CHP schemes have been applied according to Paragraph 5.42.
- A1.26 The Plan also states that provision must be made in some form for the future hydrogen economy (i.e. the development of energy infrastructure based on hydrogen as the principal energy carrier). However, take up of these technologies is recognised to be unrealistic in the current planning environment.
- A1.27 Policy 5.3 Sustainable Design and Construction is also relevant and states that;
- "Planning decisions:*
- Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.*
- Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:*

- minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)*
- avoiding internal overheating and contributing to the urban heat island effect*
- efficient use of natural resources (including water), including making the most of natural systems both within and around buildings*
- minimising pollution (including noise, air and urban runoff)*
- minimising the generation of waste and maximising reuse or recycling*
- avoiding impacts from natural hazards (including flooding)*
- ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions*
- securing sustainable procurement of materials, using local supplies where feasible, and*
- promoting and protecting biodiversity and green infrastructure."*
- A1.28 As a "major" application, the scheme should meet the requirements of London Plan Policies 5.2 to 5.9, by achieving a 35% carbon reduction for both domestic and non-domestic aspects of the scheme.
- 'Intend to Publish' Version of the London Plan ¹²***
- A1.29 The 'Intend to Publish' version of the new London Plan sets out the Mayor's spatial development strategy for London. It provides an update to the existing London Plan and introduces a number of new and revised policies. Of particular relevance to greenhouse gas emissions, the Plan describes that *"the Mayor is committed to London becoming a zero-carbon city"*. It also explains that *"Carbon' is used in the London Plan as a shorthand term for all greenhouse gases"*.
- A1.30 Policy SI2 in the 'Intend to Publish' new London Plan relates specifically to greenhouse gas emissions; it states:
- "Policy SI 2 – Minimising Greenhouse Gas Emissions*
- A. Major development should be net zero-carbon. This means reducing carbon dioxide emissions from construction an operation, and minimising both annual and peak energy demand in accordance with the following energy hierarchy:*
- 1) Be lean: use less energy and manage demand during operation.*

¹² GLA (2019), 'The London Plan Intend to Publish Version', Available: https://www.london.gov.uk/sites/default/files/intend_to_publish_-_clean.pdf

- 2) *Be clean: exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly..*
 - 3) *Be green: maximise opportunities for renewable energy by producing, storing and using renewable energy on-site.*
 - 4) *Be seen: monitor, verify and report on energy performance.*
- B. Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met within the framework of the energy hierarchy.*
- C. A minimum on-site reduction of at least 35 per cent beyond Building Regulations is required for major development. Residential development should aim to achieve 10 per cent, and non-residential development should aim to achieve 15 per cent through energy efficiency measures. Where it is clearly demonstrated that the zero-carbon target cannot be fully achieved on-site, any shortfall should be provided, in agreement with the borough, either:*
- 1) *through a cash in lieu contribution to the relevant borough's carbon offset fund, or*
 - 2) *off-site provided that an alternative proposal is identified and delivery is certain.*
- D. Boroughs must establish and administer a carbon offset fund. Offset fund payments must be ring-fenced to implement projects that deliver greenhouse gas reductions. The operation of offset funds should be monitored and reported on annually.*
- E. Major development proposals should calculate and minimize carbon emissions from any other part of the development, including plant or equipment, that are not covered by Building Regulations, i.e. unregulated emissions.*
- F. Development proposals referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognized Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions."*

A1.31 These requirements are broadly consistent with those in the GLA's 'Guidance on Preparing Energy Assessments'¹¹, described above.

Draft Energy Assessment Guidance ¹³

A1.32 This draft guidance is an update to the 2018 Energy Assessment Guidance¹¹, and sets out what is expected for compliance with the draft London Plan. The guidance details the 'be seen' policy, which requires all major developments to monitor and report on their energy performance post-

¹³ GLA (2020), 'Energy Assessment Guidance: Greater London Authority guidance on preparing energy assessments as part of planning applications (April 2020)'

construction, as well as a new requirement for all referable planning applications to calculate and reduce whole life-cycle carbon emissions.

A1.33 The guidance also clarifies the requirements for different types of planning application, alongside explanations relating to carbon emission factors, restructuring of the 'be clean' section to align with the heating hierarchy, further information on the role of CHP plant generally and in heat networks and transferal of heat pump and photovoltaic requirements into the core of the guidance due to the popularity of these technologies.

Sustainable Design and Construction Supplementary Planning Guidance ¹⁰

A1.34 In April 2014, the Mayor published the Sustainable Design and Construction Supplementary Planning Guidance (SPG) to provide guidance to developers. This SPG details the Mayor's standards, covering a wide range of sustainability measures that major developments are expected and encouraged to meet. It covers the following areas:

- Resource Management;
- Adapting to Climate Change and Greening the City; and
- Pollution Management

Delivering London's Energy Future: The Mayor's Climate Change Mitigation and Energy Strategy ¹⁴

A1.35 This strategy sets out the Mayor's strategic approach to limiting further climate change and securing a low carbon energy supply for London.

A1.36 To limit further climate change impacts, the Mayor has set a target to reduce London's CO₂ emissions by 60% on 1990 levels by 2025. The strategy details the programmes and activities that are on-going across London to achieve this. This strategy also details policies and activities underway to reduce CO₂ emissions from new development and transport through The London Plan and the Mayor's Transport Strategy.

London Environment Strategy ¹⁵

A1.37 The London Environment Strategy, published in May 2018, sets out an action plan for environmental improvement in London up to 2050 and covers a range of core environmental aspects including energy and climate change, air quality, green infrastructure, waste and noise.

A1.38 The strategy sets a series of targets, including the aim to make London a zero-carbon city by 2050; reiterating the same commitment as is included in the draft New London Plan. The strategy sets out

¹⁴ GLA (2011), 'Delivering London's Energy Future: The Mayor's Climate Change Mitigation Energy Strategy'

¹⁵ GLA (2018), 'London Environment Strategy'

a series of measures designed to achieve this aim, which are focussed upon delivering zero-carbon energy, zero-carbon transport and zero-carbon development. The strategy also sets out plans for retro-fitting existing buildings to enable them to be considered to be zero-carbon.

Local Policies

A1.39 The London Borough of Tower Hamlets Local Plan 2031¹⁶ has a policy on achieving a zero-carbon borough. Policy D.ES7, 'A zero carbon borough' states that:

"1. Development is required to meet the CO₂ emission reduction standards as set out below:

Residential Development	
Year	Improvement on 2013 Building Regulations
2016-2031	Zero carbon (to be achieved through a minimum 45% reduction in regulated carbon dioxide emissions on-site and the remaining regulated carbon dioxide emissions to 100% - to be off-set through a cash in lieu contribution)
Non-residential Development	
Year	Improvement on 2013 Building Regulations
2016-2019	45% regulated carbon dioxide emissions reduction
2019-2031	Zero carbon (to be achieved through a minimum 45% reduction in regulated carbon dioxide emissions on-site and the remaining regulated carbon dioxide emissions to 100% - to be off-set through a cash in lieu contribution)

2. Development is required to maximise energy efficiency based on the following standards:

a. All new non-residential development over 500 square metres floorspace (gross) are expected to meet or exceed BREEAM 'excellent' rating

b. All major non-residential refurbishment of existing buildings and conversions over 500 square metres floorspace (gross) must meet at least BREEAM non-domestic refurbishment 'excellent' rating

c. As a minimum, all self-contained residential proposals will be strongly encouraged to meet the Home Quality Mark.

3. Major residential and major non-residential development will be required to submit an energy assessment. Minor non-residential development will be strongly encouraged to prepare an assessment.

4. The energy assessment should demonstrate how the development has been designed in accordance with the energy hierarchy and how it will:

a. maximise energy efficiency as per the requirements set out in Part 2

b. outline the feasibility of low nitrogen dioxide decentralised energy, and

¹⁶ London Borough of Tower Hamlets (2020), 'Tower Hamlets Local Plan 2031'

c. seek to provide up to 20% reduction of carbon dioxide emissions through on-site renewable energy generation.

5. The sustainable retrofitting of existing development with provisions for the reduction of carbon emissions will be supported."

A1.40 In addition, the Council has a Supplementary Planning Document (SPD) dealing with planning obligations¹⁷, which states that:

"The Council strongly supports the development of energy efficient buildings and ensuring all homes are built to zero carbon standards (as defined by CLG) by 2016 and all new non-domestic developments are built to zero carbon standards by 2019."

A1.41 The Council released a Carbon Offset Fund¹⁸ report in December 2015. The report details the Council's Carbon Offsetting Study. The study states:

"Carbon Offset Funds in the built environment currently obtain their revenues from the difference between the estimated CO₂ emissions and the estimated target CO₂ emissions required by planning policy as it may not be technically feasible or financially viable to achieve the required carbon standards through on-site measures. The shortfall is established using accredited Part L softwares and is referred to as 'residual CO₂ emissions'."

"The residual CO₂ emissions can then be multiplied by a number of years to establish the 'lifetime residual CO₂ emissions', i.e. the total CO₂ emissions which should be offset. The conventions are for this number of years to be 30 and for the number of years to be factored in the price of carbon (i.e. £60/tonneCO₂ x 30 = £1800/tonneCO₂) rather than in the residual CO₂ emissions."

¹⁷ London Borough of Tower Hamlets (2016), 'Planning Obligations Supplementary Planning Document (SPD)'

¹⁸ London Borough of Tower Hamlets (2015), 'The LBTH Carbon Offset Fund'

Annex 2: London Travel Demand Survey 2019

A2 Annex 2: London Travel Survey 2019

- A2.1 Every year TfL conduct a survey¹⁹ across 8,000 randomly selected households in London and the surrounding area to monitor travel habits.
- A2.2 The collated results contain information ranging from trips per person per day, modal distributions, purposes of travel, travel times, travel distances and car ownership. Data are collected and grouped into Greater London, Inner London and Outer London.
- A2.3 Table A2.1 provides the results of the survey of travel distances by mode for 2018/2019 for Inner London.

Table A2.1: Travel Distances

Travel Mode	Distance (Kilometres per Person per Day)
National Rail	21.3
Underground / DLR	7.4
Bus / Tram	3.6
Taxi / Other	6.4
Car Driver	7.3
Car Passenger	9.3
Motorcycle	6.1
Cycle	3.7
Walk	0.7

- A2.4 The Travel Survey does not provide any information regarding the average distance for Heavy Goods Vehicles, or for the average distance travelled by delivery vehicles. In order to provide a conservative assessment, the calculation of GHG emissions from delivery vehicles travelling to the Proposed Development has assumed to have the same average trip distance of 6.4 km as for taxi/other. This is considered a reasonable assumption since any parcel that was not delivered, the occupant would need to take a different mode of transport in order to collect the item. A report carried out on behalf of the GLA²⁰ into the distance travelled by delivery vehicles in Central London identified the average distance travelled per delivery was 119 m; this is significantly less than 6.4 km, and therefore the application of 6.4 km represents a highly conservative assumption.

¹⁹ TfL (2020), 'London Travel Demand Survey – Workbook 2018/19', Available: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/consultations-and-surveys>

²⁰ GLA (2017), 'Parcel Deliveries with Electric Vehicles in Central London', Available: <https://westminsterresearch.westminster.ac.uk/download/c85e71d2c0a2f04f6de57ee874b6f72adeccabce82d20e6d2bf5bf9ef82d1645/4896435/GLA-Agile3-DataReport-4May2017.pdf>

Annex 3: Extract from London Atmospheric Emissions Inventory

A3 Annex 3: Extract from the London Atmospheric Emissions Inventory

Year	2025										
	Values										
Borough	Road Transport	Aviation	River	Rail	Industry	NRMM	Domestic and Commercial Gas	Domestic and Commercial Other Fuels	Other	Total	
Barking and Dagenham	125,822	-	7,941	1,513	298,056	15,901	182,271	13,320	20,343	665,168	
Barnet	351,999	223	-	2,477	172	6,440	498,584	5,669	12,340	877,903	
Bexley	170,922	10,331	6,261	782	17,718	12,367	245,074	8,602	47,348	519,406	
Brent	185,617	319	-	7,936	10,026	11,901	367,533	7,294	739	591,364	
Bromley	225,200	1,397	-	690	-	4,548	400,503	8,763	12,889	653,989	
Camden	132,703	-	-	4,615	-	5,143	327,206	5,076	21	474,765	
City	44,302	1,609	2,033	-	-	1,311	83,037	921	-	133,212	
City of Westminster	212,884	-	1,741	2,209	-	6,289	438,210	7,030	42	668,405	
Croydon	216,163	280	-	1,323	5,092	7,670	424,300	5,741	17,308	677,877	
Ealing	255,513	164	-	9,637	-	12,324	392,784	9,111	12,294	691,827	
Enfield	329,347	397	-	474	792,013	17,218	332,321	7,873	43,840	1,523,484	
Greenwich	207,816	8,328	6,583	556	10,180	17,016	331,354	6,498	10,549	598,880	
Hackney	108,457	147	-	769	26	11,573	232,307	2,446	-	355,725	
Hammersmith and Fulham	101,117	13,592	81	2,002	40	4,705	227,089	3,636	84	352,345	
Haringey	117,540	-	-	1,947	-	10,565	284,986	3,114	-	418,151	
Harrow	123,992	237	-	3,305	28,058	2,912	297,045	3,184	5,197	463,930	
Havering	335,107	3,690	579	1,842	13,513	11,322	297,767	7,760	254,696	926,276	
Hillingdon	366,256	694,258	-	8,773	74,516	24,646	348,014	32,830	168,979	1,718,273	
Hounslow	252,871	96,682	98	348	20,000	18,880	261,869	6,791	61,383	718,921	
Islington	85,427	-	-	1,474	10,659	5,861	243,388	3,022	-	349,829	
Kensington and Chelsea	100,046	1,719	15	1,307	-	2,871	243,212	2,968	87	352,225	
Kingston	144,779	-	36	511	14,000	1,617	187,788	2,154	162	351,047	
Lambeth	145,592	-	1,182	851	-	6,200	357,425	2,777	-	514,026	
Lewisham	141,220	12	2	1,295	404,000	11,859	282,882	2,854	1,644	845,767	
Merton	118,501	-	-	660	1	2,690	223,780	3,585	11,171	360,389	
Newham	168,382	49,640	1,734	2,197	224,951	25,282	315,183	14,494	5,956	807,820	
Redbridge	231,301	1,062	-	652	13	2,572	301,779	5,638	51,758	594,776	
Richmond	146,340	38,463	241	121	10,000	1,396	254,150	3,580	2,397	456,688	
Southwark	144,280	1,601	2,596	653	-	6,568	325,217	3,542	43	484,501	
Sutton	100,829	44	-	-	2,751	3,061	204,252	4,462	16,691	332,090	
Tower Hamlets	150,891	15,950	7,020	2	-	12,263	335,540	5,026	6,816	533,509	
Waltham Forest	160,141	738	-	1,864	13	11,544	262,742	4,321	1,647	443,010	
Wandsworth	152,954	12,006	136	1,292	26	3,917	345,234	3,193	1,408	520,167	
NonGLA	2,945,599	33,779	30,481	12,405	85,114	8,886	1,358,659	60,444	619,155	5,154,522	
Grand Total	8,799,911	986,667	68,763	76,482	2,020,939	309,318	11,213,486	267,718	1,386,985	25,130,268	

Annex 4: Extract from Sustainability and Energy Statement

A4 Annex 4: Extract from Energy Statement

Summary of Energy Assessment Results

Non-domestic.

- 10.7 As can be seen in the tables below, the target of 15% carbon emissions reduction at 'Be Lean' has been achieved. However, the percentage savings achieved at 'Be Green' stage are far higher than the minimum 35% required by the London Plan. The current non-domestic emissions savings following 'Be Green' stage is 47%.

	Regulated non-domestic carbon dioxide savings	
	(Tonnes CO ₂ per annum)	(%)
Be Lean: Savings from energy demand reduction	443	18
Be Clean: Savings from heat network	-	0
Be Green: Savings from renewable energy	709	29
Cumulative on-site savings	1,151	47
Carbon Shortfall	1,292	
(tonnes CO ₂)		
Cumulative savings for offset payment	38,760	
Cash-in-lieu contribution (£95 tonne CO ₂)	£3,682,200	

Table 10.3: Regulated Carbon Dioxide Savings for the Indicative Scheme Non-domestic buildings at each stage of the energy hierarchy. Buildings NQA5, NQB1, NQD1/D2, NQD3 and NQD4

	Carbon Dioxide Savings (tonnes CO ₂ per annum)	
	Regulated	Unregulated
Baseline: Part L 2013 of the Building Regulations Compliant Development	2,443	1,737
After energy demand reduction (be lean)	2,000	1,737
After heat network connection (be clean)	2,000	1,737
After renewable energy (be green)	1,292	1,737

Table 10.4: London Plan Energy hierarchy table for regulated and unregulated carbon dioxide savings (non-domestic)

Domestic

- 10.9 As can be seen in the tables below, the target of 10% carbon emissions reduction at 'Be Lean' has been achieved. However, the percentage savings achieved at 'Be Green' stage are far higher than the minimum 35% required. The current domestic emissions savings following 'Be Green' stage is 53%. This increases to 64% including the energy contribution from the secondary waste heat from the commercial buildings.

	Regulated domestic carbon dioxide savings	
	(Tonnes CO ₂ per annum)	(%)
Be Lean: Savings from energy demand reduction	90	13%
Be Clean: Savings from heat network	-	0%
Be Green: Savings from renewable energy	269	40%
Cumulative on-site savings	360	53%
Carbon Shortfall	314	-
(tonnes CO ₂)		
Cumulative savings for offset payment	9,424	
Cash-in-lieu contribution (30 years @ £95 tonne CO ₂)	£895,249	

Table 10.6: Regulated Carbon Dioxide Savings for the Indicative Scheme Domestic buildings at each stage of the energy hierarchy. Buildings NQA1 and NQA4

	Carbon Dioxide Savings (tonnes CO ₂ per annum)	
	Regulated	Unregulated
Baseline: Part L 2013 of the Building Regulations Compliant Development	674	458
After energy demand reduction (be lean)	584	458
After heat network connection (be clean)	583	458
After renewable energy (be green)	314	458

Table 10.8: London Plan Energy Hierarchy table for regulated and unregulated carbon dioxide savings (Domestic)

