Emission Creep

How the public sector is changing to meet the challenge of climate change

Environment Committee
December 2007

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Environment Committee Members

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Role of the Environment Committee

The Environment Committee reviews progress on implementing the Mayor's five environmental strategies for London:

- Air quality
- Biodiversity
- Energy
- Noise
- Waste

The committee has also looked at other topical environmental issues like climate change, flooding, managing London's waste, green spaces, graffiti and nuclear waste trains.

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Foreword

Mike Tuffrey AM
Environment Committee

London's public sector estate is constantly evolving and, in recent years, the pace of change has become more rapid and dramatic. But does the public sector practice what it preaches when it comes to meeting the climate change challenge that London faces?

Conscious of the growing number of sustainable development strategies and action plans being published by central government and our own GLA, the Assembly's Environment Committee has undertaken a review of the gap between rhetoric and reality, focusing on climate change and examining local councils, the GLA family and the NHS in London.

There is no shortage of advice for those responsible for London's public estate. However, perhaps inevitably, we found that progress is still falling short of what scientists now tell us is essential. We also found that the level of action taken varies considerably between different parts of the public sector, which suggests that, overall, London could do better, if the laggards learn from the leaders.

Worryingly, we identified structural barriers, which central government needs to act quickly to overcome, such as the tendency to 'lock in' obsolete environmental standards, often leaving our schools and hospitals out-of-date before they've even opened. The need to meet the highest environmental standards and save and generate our own clean energy requires constant evolution.

In this study, we have sought to highlight the issue, rather than provide a detailed blueprint for action. We have and, indeed, must continue to ask difficult questions, to always seek improvement and generate a culture of continuous improvement in our public sector. This is a project with plenty of key milestones, but no end date.

On behalf of the committee, I would like to thank NHS London, London Councils and individual London boroughs that submitted evidence to our review. Their openness and willingness to help gives us optimism that London can meet the climate change challenge.

Contents

Executive Summary

A town hall with wind turbines in Merton; a fire station with solar panels in Battersea; a combined heat and power system at St Thomas' Hospital; London's public buildings are adapting to meet the challenge of climate change.

Whether it's Camden's Victorian council offices or the London Development Agency's state of the art offices at Palestra House, our buildings are being asked to operate differently; to use less energy and water and generate and capture more of their own; to produce less waste and recycle and reuse the waste they produce.

Are the changes being made to London's schools, hospitals, fire, police and tube stations big enough to meet the challenge posed by climate change? And have the government and the Mayor equipped the public sector with the necessary legislation, targets, toolkits, frameworks and voluntary agreements to enable public sector managers to meet this challenge?

The challenge – key facts

- London produces 44 million tonnes of CO2 emissions a year
- London's existing commercial and public sector estate accounts for 15 million tonnes of CO2
- To meet Kyoto targets London's commercial and public sector would need to reduce its carbon emissions by 3.75 million tonnes by 2020 and by 9 million tonnes by 2050
- To meet the Mayor's targets as set out in his Climate Change Action Plan, *Action Today to Protect Tomorrow*, London's commercial and public sector would need reduce its carbon emissions by 7.6 million tonnes by 2025.

The tools

Whether it is the pending suite of low-carbon, low-energy performance indicators for local authorities, the soon to be compulsory energy performance certificates for public buildings or funding schemes conditional on a high standard of sustainable development, there has been a step change in what is required of public bodies and the buildings that house them. What was once optional is fast becoming compulsory.

To aid this, the Carbon Trust has set up a Carbon Management Programme. This has assisted almost half of London's local authorities to put into place workable and effective action plans to deliver their services in a more sustainable manner.

The Mayor has established toolkits around green procurement and renewable energy. These have assisted commercial and public purchasers to procure half a billion pounds worth of green products and developers save potentially over 400,000 tonnes of carbon emissions from their new buildings.

And bespoke accreditation processes (largely through BREEAM) have been established for schools, hospitals and other public buildings. These empower public sector managers to implement change and, crucially, to be judged on how effective this change has been.

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The Performance
In summary, London's local authorities appear willing, mobilised and able to meet their Kyoto obligations. Progress and ambition varies from borough to borough. However, a combination of political will and significant corporate adjustment achieved through schemes such as those supported by the Carbon Trust has enabled most boroughs to make significant progress.

The Mayor has made a very public commitment to delivering on climate change and has laid down a path to a more sustainable development of the capital. It is imperative therefore that, despite generating only a small percentage of London's emissions, the public authorities of the GLA group 'practice what they preach.'[2]

It is reassuring therefore to report that the GLA family is also willing, mobilised and able to lead by example as to how deliver on the Mayor's ambitious Climate Change Action Plan. The Metropolitan Police Service is the one notable exception. It is lagging behind, but was this year able to demonstrate a tangible commitment to reducing its carbon footprint.

The NHS, due to its 24/7 operational nature and its wide variety of specialist areas, requires a different energy management culture than many other public sector estates. Significant funding for energy is coming on stream but, as yet, strategies and good intentions have yet to really break the surface and actually reduce energy consumption - which is still rising at roughly three per cent a year.

The London Assembly's Environment Committee is seeking a more constructive and continuous engagement with the wider GLA group to ensure that the notable progress made to date continues and is built on. We are also asking the Mayor to consider expanding his Green Procurement Code to include advice and access to green electricity.

Supporting further improvement
One problem identified by the report is the role of the Private Finance Initiative (PFI). The meticulous allocation of risk between public and private sector partners aims to deliver robust financial performance but it also places constraints on public sector managers. For example, altering a contract on a relatively new development to take advantage of the falling costs of a burgeoning clean energy market is complicated and very expensive. The cost, risk and ability to install PV cells, wind turbines or Combined Heat and Power systems must not remain fixed to a development's start date. There is a risk that if they do, many of London's most recent public sector developments will be rendered 'energy inefficient' barely a decade after being finalised.

To future proof this new raft of public sector buildings, this report asks the Treasury to issue a detailed change protocol that specifically addresses energy use that empowers and enables public sector estate managers to alter contracts accordingly.

[1] Action Today to Protect Tomorrow, the Mayor's Climate Change Action Plan, February 2007, p 177
[2] Action Today to Protect Tomorrow, the Mayor's Climate Change Action Plan, February 2007, p 177

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1. Introduction

1.1 This report examines how London's public buildings are rising to the challenge of climate change. And whether our schools, hospitals, fire, police and tube stations are being helped or hindered by the legal obligations, binding agreements and voluntary frameworks designed to compel, cajole and guide them into meeting the climate change? This report presents an overview of the policy environment in which these new obligations and aspirations are being tackled.[3]

1.2 The report focuses largely on carbon emissions and energy efficiency and on-site generation. The committee acknowledges that there are many aspects of an organisation's operations that impact on climate change and the wider sustainability agenda. However, one of the most immediate and pressing demands is on reducing our energy use and generating more energy on site.

1.3 Chapter 2 will assess the performance of local authorities and schools. Chapter 3 will focus our own performance at the Greater London Authority (GLA) and the organisations overseen by the Mayor - Transport for London (TfL), the London Development Agency (LDA), the Metropolitan Police Service (MPS) and the London Fire and Emergency Planning Authority (LFEPA). Chapter 4 will examine how the National Health Service (NHS) is shaping up to the challenges of sustainable development in London. This first chapter will put into context how policy and practice has evolved since the Kyoto Protocol was signed in 1997.

Background – how policy has evolved for existing public sector buildings

1.4 London produces 44 million tonnes of CO2 emissions a year – of which, London's existing commercial and public sector estate accounts for just over a third.[4] To meet Kyoto targets, this 15 million tonnes of CO2 produced by London's commercial and public sector would need to fall by 3.75 million tonnes by 2020; and by 9 million tonnes by 2050. The Mayor, in fact, has set an even more ambitious target for the sector, seeking a 7.6 million tonne reduction by 2025 in his Climate Change Action Plan, *Action Today to Protect Tomorrow*. Either way, it is a daunting target.

1.5 It is a challenge, however, that the public sector at least appears to be well equipped for. A rolling, increasingly ambitious legislative momentum, supported by an emerging political consensus, has produced a plethora of initiatives and frameworks. These have been designed to empower the public sector giving them necessary skills, tools and expertise to rise to this challenge, set an example and meet Kyoto targets up to 2050.

[3] The committee has received evidence from London's local authorities, the NHS, Transport for London, the Metropolitan Police Service, London Development Agency and the London Fire and Emergency Planning Authority. The committee has also visited the £1bn redevelopment of the Royal London and Barts.

[4] Action Today to Protect Tomorrow, the Mayor's Climate Change Action Plan, February 2007

Figure 1 - Policy/Toolkit Map for Existing Buildings

	Organisation/Standard
International	**Agenda 21 - 1992 Rio Summit** **Kyoto Protocol - signed in 1997 from February 2005**
European	**EU Energy Performance Buildings Directive** **EU Directive on Waste Electrical and Electronic Equipment (WEEE)**
National	**2003 Energy White Paper** **2007 Draft Climate Change Bill** **CPA/CAA standards** Nottingham Declaration Carbon Trust 5 Phases
Regional	Mayor's Green Procurement Code London Sustainable Development Framework London Renewables Toolkit London Climate Change Action Plan Mayor's Energy Strategy Mayor's Municipal Waste Strategy Mayor's Draft Business Waste Strategy
Local	**Comprehensive Performance Assessments 2002** - to be updated in 2009 and will place greater emphasis on low carbon emissions, water efficiency and biodiversity. Borough climate change strategies

1.6 This process began in 1992 with the adoption of Agenda 21 – an action plan agreed at the Rio Earth Summit that produced an extensive blueprint for sustainable development. The focus on carbon emissions and the emphasis on climate change was honed and given greater profile in December 1997. The Kyoto Protocol was agreed in order to bring about a 'stabilization of greenhouse gas concentrations in the atmosphere'[6]. The protocol became legally binding on 16 February 2005. For local government the impact of the 1997 agreement was more immediate. The introduction of the Best Value regime through the Local Government Act in 1999 and further alterations made in 2000 ingrained the principles of sustainable development into service delivery and their performance monitoring. It is now incumbent on local authorities to provide for the environmental 'well-being' of their communities.

1.7 This change in ethos and emphasis of local authorities' service delivery is accelerating. [7] The Comprehensive Performance Assessment, introduced in 2002, seeks to ensure that local authorities, including the wider GLA group[8], demonstrate how they intend to improve their environmental performance. By

[5] Article 2. *The United Nations Framework Convention on Climate Change*. Retrieved on November 15, 2005

[6] Article 2. *The United Nations Framework Convention on Climate Change*. Retrieved on November 15, 2005

[7] In its recent report 'A Climate Change' (November 2007), the Local Government Association stated that 'Local authorities must strengthen leadership, build capacity, improve transparency and engage others to tackle climate change more effectively'.

[8] The core GLA, Transport for London, the Metropolitan Police Service, London Development Agency and the London Fire and Emergency Planning Authority

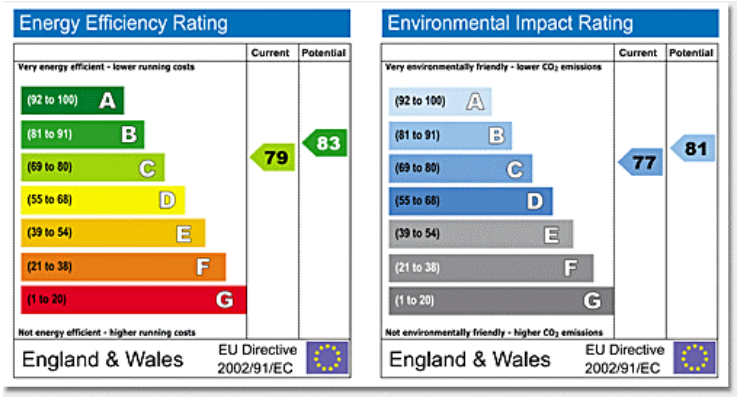
2009, the suite of indicators used to measure an authority's performance will be extended to include low carbon, low waste, water efficiency and biodiversity.

1.8 One of the many responsibilities that public bodies now have to face up to, is managing their own buildings in a more sustainable manner. Again, international agreements are driving forward progress. The most influential, as far as this review is concerned, is the EU Directive on the Energy Performance of Buildings (the directive).

1.9 The directive was published in January 2003. Its overall objective is to 'promote the improvement of energy performance of buildings within the Community.'[10] The directive was due to become law by 2006, but the UK negotiated a delay and instead the directive will be phased into law in the UK during 2008 (see below).

The UK governments Implementation Timetable for phasing-in the EPBD measures[11]:	
6 April 2008	Energy Performance Certificates (EPCs) required on construction for all dwellings. EPCs required for the construction, sale or rent of buildings other than dwellings with a floor area over 10,000 m2.
1 July 2008	As above for buildings other than dwellings with a floor area over 2,500 m2.
1 October 2008	EPCs required on the sale or rent of all remaining dwellings EPCs required on the construction, sale or rent of all remaining buildings other than dwellings. Display certificates required for all public buildings >1,000 m2.

1.10 Essentially this means that certification of all major buildings over 1,000m2 will be in place by the end of 2008. This will inevitably include a large section of the public sector estate managed by local authorities, the GLA group and the NHS. Below is an example of how these certifications will look.



[9] *i* Directive 2002/91/Ec Of The European Parliament And Of The Council of 16 December 2002 on the energy performance of buildings, Official Journal of the European Communities.
[10] *i* Directive 2002/91/Ec Of The European Parliament And Of The Council of 16 December 2002 on the energy performance of buildings, Official Journal of the European Communities.
[11] http://www.diag.org.uk/

1.11 From 2008, a public building's energy efficiency and environmental impact will be public knowledge - all public buildings will be required to display their buildings ratings. And from 2009, one indicator of a local authority's CPA star rating will be its energy efficiency and environmental impact.

Evolving legislation for new builds

1.12 London's public sector estate is expanding. Across the capital hospitals and schools are being developed and old ones radically refurbished. These additions to the public estate present their sponsoring agencies with an opportunity to develop buildings that operate more sustainably, in adherence with Kyoto timescales. They are effectively the blank piece of paper on which, theoretically at least, legislative obligation can be met or exceeded by noble ambition.

Figure 2 - Policy/Toolkit Map for New Builds

	Organisation/Standard
International	**Kyoto Protocol - binding from February 2005**
European	**EU Energy Performance Buildings Directive**
National	**2003 Energy White Paper**
	2007 Draft Climate Change Bill
	2007 DCLG Consultation - Building for a Greener Future
	Building Regulations (Part L)
	CPA/CAA standards
	PFI BREEAM ratings – Schools
	PFI NHS Neat/BREEAM standards - hospitals
	Nottingham Declaration
Regional	**London Plan version 2**
	Mayor's Green Procurement Code
	London Sustainable Development Framework
	London Renewables Toolkit
	London Climate Change Action Plan
	Mayor's Energy Strategy
	Mayor's Municipal Waste Strategy
	Mayor's Draft Business Waste Strategy
Local	**Comprehensive Performance Assessments** - to be updated in 2009 and will place greater emphasis on low carbon emissions, water efficiency and biodiversity
	Borough Climate Change Strategies
	Individual PFI agreements for new hospitals and schools

1.13 These developments are of course subject to local, regional and national planning processes. In addition, in order to secure funding, many of these developments are subject to approval from HM Treasury through the Public Finance Initiative (PFI).

1.14 Throughout the process - from securing funding through to receiving planning permission – the sustainability agenda has emerged as an increasingly significant factor. And it will continue to do so for the long term. The PFI accreditation process for new schools or hospitals requires that a development has to receive at least a very good sustainability rating. Our report will consider in detail how this accreditation process works in conjunction with funding streams in Chapter

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4. For the vast majority of new public sector developments, funding can only be secured if you are able to demonstrate a minimum sustainable standard.

1.15 Equally, permission to develop should only be granted to developments that meet minimum sustainable standards. This is being achieved through the revised building regulations that came into effect in April 2006[12]. The revisions were designed to implement the directive and, for larger new builds, to allow developers a certain degree of flexibility in how to achieve the target of reducing carbon emissions.

1.16 In London, this flexibility coupled with the relatively new powers given to the Mayor in 2000 has allowed London to make good progress in ensuring major new developments are increasingly sustainable. For example, the Mayor's London Plan robustly implemented national on-site renewable targets and new builds referred to the Mayor[13] now routinely meet their ten per cent on-site renewable energy target.

1.17 The Mayor has modified his London Plan[14] and is now looking how to use it to lever further gains; such as exceeding this ten per cent target and only giving his consent to developments that can generate 20 per cent of their energy needs on site. By 2020 a new generation of major public sector and commercial developments should ensure that the growth and expansion of London's economy is having a minimum impact on the capital's carbon footprint. However, as ever when there is significant change, there is a danger that many of today's new developments will be rendered inefficient barely a decade after being finalised. This review considers, particularly in Chapter 4, what can be done to ensure that what is built today won't be deemed unsustainable tomorrow.

[12] Building Regulations L2A: Conservation of fuel and power (new buildings other than dwellings); L2B Conservation of fuel and power (existing buildings other than dwellings)
[13] *Review of the impact of the energy policies in the London Plan on applications referred to the Mayor*, London South Bank University, July 2007
[14] The London Plan, the Mayor's Spatial Development Strategy, was published in February 2004. The plan's integrated and strategic policies inform and influence the Mayor's policies around housing, transport, and economic growth. In October 2005 the Mayor published Early Alterations, to address pressing housing provision, waste and minerals issues. He subsequently undertook Further Alterations, many changes suggested addressing issues of sustainability.

2. From town halls to schools: How London's local authorities are responding to the new sustainability agenda

2.1 So come 1 October 2008 when all public buildings will have to display their energy efficiency and environmental impact ratings, how will London's town halls and municipal buildings shape up? From the information the committee has received, there is every chance that the story will be one of healthy progress.

2.2 This chapter will analyse the work being done by local councils, and assess how the Carbon Trust's Management Programme and Mayoral toolkits are helping local authorities to deliver on their energy and procurement commitments. For example, could any more have been done strategically or legislatively to accelerate this necessary change?

2.3 The Environment Committee has received evidence from London Councils (which included an overview of most borough activity in London), Lewisham, Greenwich, Barking and Dagenham, Tower Hamlets, Havering and Redbridge. Progress is being achieved at different paces but the pan-London commitment to developing a working culture where sustainability is fundamental is borne out by the fact 21 of London's 33 local authorities have signed up to the Nottingham Declaration[15]. The declaration[16], conceived in 2000, commits signatories to acknowledge the impact of climate change on the UK, and commit their authorities to work constructively at local, regional and national levels to address the causes and impacts of climate change.

2.4 Indeed all 33 London local authorities are members of the Mayor's Green Procurement Code - 'a free support service launched in 2001 for London based organisations committed to reducing their environmental impact through responsible purchasing'[17] (see paragraphs 2.17-2.20). The incoming Building Certificates and more robust CPA indicators are forcing local authorities to improve their sustainability performance; but even before they had to, London's local authorities appeared willing to reshape their working practices.

2.5 Many of London's town halls and other municipal buildings now have solar panels, wind turbines or other energy saving features serving their municipal buildings.

- Camden has installed renewable energy systems with an educational wind, solar hot water and photovoltaic power system at Regis Road recycling centre and solar hot water panels supplying the canteen at the town hall, and at their housing office on West End Lane.

[15] Barking and Dagenham, Barnet, Bexley, Brent, Camden, Croydon, Hammersmith & Fulham, Haringey, Havering, Hillingdon, Islington, Lambeth, Lewisham, Newham, Redbridge, Richmond Upon Thames, Southwark, Sutton, Waltham Forest, Royal Borough of Kensington and Chelsea, Westminster City Council

[16] A copy of the Declaration can be downloaded from http://www.energysavingtrust.org.uk/housingbuildings/localauthorities/NottinghamDeclaration/EST_NDec_cert_HR.pdf

[17] http://www.london.gov.uk/mayor/environment/waste/green_procurement_code.jsp

- A Solar hot water heating system has been commissioned at the Harrow Civic Centre. The system provides 30 to 50 per cent of the staff canteen's hot water requirements.
- Islington will install a 6KW turbine at its council's Ecology Centre, (making the site carbon neutral), and is planning another 6KW turbine for the Municipal Offices.
- Merton has installed four micro-turbines on the roof of the civic centre, admitting that although the installation is a modest one it is 'symbolic of our commitment to reducing CO2'.[18]
- The committee were informed of a number of schools across London where PV cells and green roofs have been added to existing schools and used as an educational device – for example, having a ticker in the school that demonstrates to pupils the amount of energy being generated on their roof.

2.6 These schemes have their merit and are useful in displaying to the wider public the commitment to sustainable operations, as well as providing a working example of what is achievable and feasible. However, in order to significantly reduce carbon emissions and move toward a long-term sustainable modus operandi, rather than modest alterations with educational and promotional benefit, more fundamental changes have to be made.

Carbon management: establishing targets, setting baselines, delivering change

2.7 Some outstanding progress has already been achieved by local authorities in reducing the carbon footprint of their offices. Croydon has reduced carbon emissions on its properties by 27 per cent on 1990 levels, saving 400 tonnes on its estate in Year 1. Tower Hamlets has already secured an extraordinary 84 per cent carbon reduction from its offices. Both are far in excess of projected national targets.

2.8 Most London local authorities however are aiming to meet Kyoto based national targets ie, 20 per cent reductions in carbon emissions by 2016; 30 per cent by 2025 and 60 per cent by 2050. It is too early to gauge whether the Mayor's Climate Change Action Plan, soon to be reconstituted into formal strategies, will move the goalposts in a more ambitious direction.

2.9 To meet these national targets, local authorities have had to shift working practices and culture in an entirely new direction, by establishing thorough and accurate baselines, creating robust forecasts and setting realistic targets with deliverable action alongside. Local authorities needed to work out a strategy and then implement it.

2.10 One toolkit that London's local authorities have used is the **Carbon Management Programme** run by the Carbon Trust. The programme has helped 13 London boroughs[19] to establish vital baselines, develop detailed strategies, and put into place workable and effective actions to deliver their

[18] London Borough of Merton, Written Evidence, June 2007
[19] Barking & Dagenham, Brent, Bromley, Croydon, Haringey, Havering, Islington, Lambeth, Lewisham, Redbridge, Richmond, Southwark, City of Westminster

services in a more sustainable manner. Their five-phase approach has run since May 2003.

Fig. 5 **The Carbon Trust - Five-Step Process**

2.11 The programme advocates a particular methodology but this does not mean it works toward a universal target; targets are set by the local authority themselves and they vary.

2.12 Redbridge's commitment to reduce carbon emissions is eight per cent of its total 30,000 tonne CO2 footprint by 2011. However this figure does equate to a 15 per cent reduction based on carbon projections for 2011 if no intervention was forthcoming.

2.13 National and Mayoral targets stand at over 15 per cent by such a date, but these are based on 1990 levels, not a projected figure for expected 2011emissions. As there has only been a fractional shift in London's estimated CO2 projections between 1990 and 2006, Redbridge's target does appear to fall someway short of the 15 per cent aspiration most statutory agencies are targeting.

2.14 But the programme is bespoke. It has helped Lambeth target a 20 per cent CO2 reduction by 2012 – above and beyond the 15 per cent targets. Croydon, through its application of the Local Authority Carbon Management Programme, has identified a programme of actions to reduce emissions by 5,000 tonnes per year across council activity (including schools, the council fleet, buildings, and street lighting) by 2009.

2.15 Taking Croydon's projected carbon savings as an example, if replicated across all London's 33 local authorities, roughly half a million tonnes of CO2 savings could

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be made by 2009 – which would make up almost 25 per cent of the 2.25m of CO2 savings targeted by the Mayor for the whole commercial and public sector by 2010. London's local authorities and wider public sector unquestionably have a significant role in reducing the capital's carbon footprint.

Regional assistance: Mayoral toolkits

2.16 Support and advice for local authorities is available from local organisations as well as national organisations such as the Carbon Trust. The Mayor of London has produced two toolkits and codes – on sourcing renewable energy and sustainable procurement – which are free of charge and appear to have had a significant impact on changing behaviour.

2.17 The Mayor's Green Procurement Code, launched in 2001, aimed to provide advice and access to a network of sustainable suppliers for office products, such as paper and printer cartridges. The emphasis of the code was largely centred on the purchasing of recycled goods.

2.18 The code's 550 signatories have procured an estimated £550 million of goods since 2001 – with the number of signatories, the quality of information available and the average spend of each signatory continuing to rise annually. The remit of the code is due to expand with a greater emphasis being placed on low carbon goods[20].

2.19 The committee received encouraging evidence from Lewisham, Greenwich and Harrow who now purchase a high proportion of green electricity[21] to power their buildings. In Greenwich's case, it is the seventh largest procurer of renewable electricity amongst UK local authorities and the ninth highest in Europe. 19,700 tonnes of CO2 are saved annually in this manner.

2.20 However, demand may appear to be outstripping supply for green electricity. Lewisham purchased 100 per cent 'green electricity from 2000 until 2004, however this has reduced to 80 per cent at the current time due to lack of supply. The Mayor has placed much emphasis on the need to decentralise electricity supply in his Climate Change Action Plan – which in many cases means generating electricity from renewable sources – and this it to be welcomed.

Recommendation 1

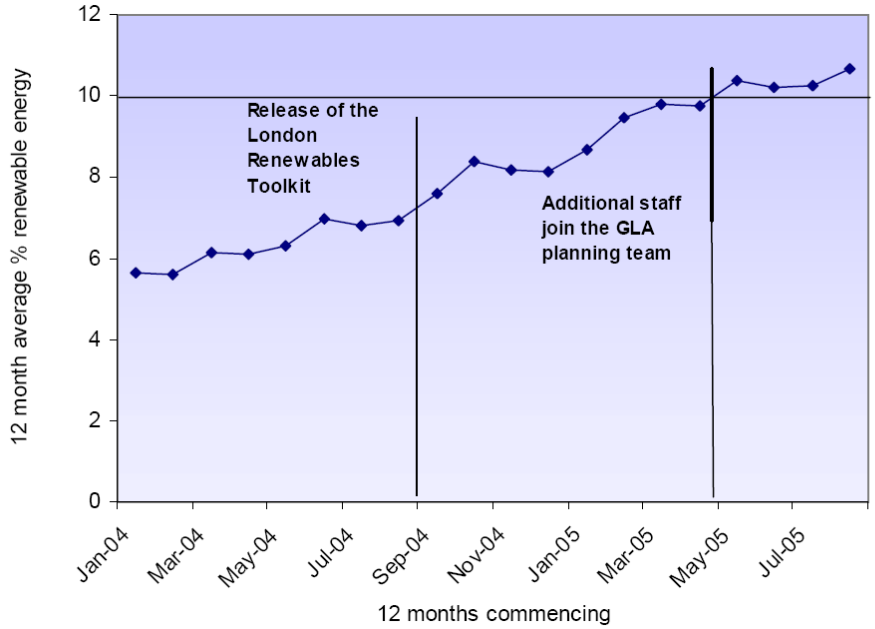
The Committee recommends that the Mayor consider adding 'green', renewably sourced electricity to the selection of green and recycled goods that the Green Procurement Code offers advice on and access to.

2.21 The London Renewables toolkit was launched in 2004 under the auspices of the London Energy Partnership. It is a toolkit for planners, developers and consultants offering advice on how to integrate on site renewable energy into major new developments.

[20] http://www.greenprocurementcode.co.uk/index.php?q=node/207
[21] Green electricity - electricity generated from renewable sources

2.22 The toolkit, alongside the Mayor's desire to enforce the ten per cent on-site renewable target for new developments has been credited by a study by the South Bank University in helping to accelerate significantly the number of new developments achieving an on-site generation of ten per cent of their energy needs.

The number of major developments approved of by the Mayor that generate more than ten per cent of their energy needs on site.



Source: South Bank University, Review of the impact of the energy policies in the London Plan, July 2007.

2.23 From 113 energy statements received out of the 617 planning applications examined, research found that, to date, 135,000 tonnes of energy have been saved through the application of the ten per cent on-site renewable policy, which has been supported effectively by the London Renewables Toolkit. This figure could rise to almost 420,000 tonnes if extrapolated across all 350 developments approved by the Mayor.

Conclusions

2.24 Within a couple of years, conducting such a review into the energy efficiency and the environmental impact of the public sector estate will be considerably easier. Each building will have a rating on display; each local authority will have raft of performance indicators to rate its effectiveness at being a low-carbon, low waste, water efficient organisation with sustainable procurement practices.

2.25 To date, London's local authorities have responded effectively and positively to the challenges posed by climate change making significant contributions in reducing London's carbon emissions, developing detailed strategies, establishing vital baselines and putting into place workable and effective actions to deliver their services in a more sustainable manner. Toolkits provided by organisations such as the Carbon Trust and the Mayor have played a welcome and significant role in moving London's local authorities into becoming more sustainable organisations.

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2.26 The Kyoto Protocol may have only been binding to the UK as a whole since 2005, but for local authorities their service delivery and performance has been tied to the concept of 'environmental well being' for many years. This obligation will become more honed and low carbon specific in 2009.

2.27 The committee has concluded that there has been an unnecessary delay in the UK implementing building ratings. The rating systems will become law next year, two and half years after its implementation across the rest of Europe. Had implementation started in early 2006, the benefits of the progress made now could have been brought forward by a vital couple of years. The UK is widely expected to miss their 2012 Kyoto target of a 15 per cent reduction in carbon emissions; the delay in implementing this robust performance measure is one contributing factor.

2.28 An earlier implementation may have galvanised the public sector as a whole into responding more quickly and more assertively. Local authorities appear to have been willing and supple enough to have done so.

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3. From City Hall to Scotland Yard: How the GLA family is responding to the new sustainability agenda

3.1 The GLA family is responsible for a huge variety of buildings which perform many different functions – from the relatively new but conventional offices of City Hall to fire stations that date back to the Victorian era. The GLA group is responsible for a total of 893 buildings with a floor space that covers just short of a million square metres and employs over 75000 staff. And, as the Mayor states in his Climate Change Action Plan, while the GLA group's contribution may not be high – roughly 0.5 per cent of all London's emissions - 'public authorities need to practice what they preach.'[22]

3.2 This chapter will assess how successfully the GLA group is practising what it is preaching, briefly highlighting the work being done, specifically to make their own estate more sustainable.

Organisation	Staff	Vehiciles	Buildings	Floor space (m2)	Spend (£000)[23]
GLA	600	0	1	18,500	9,771
LDA	365	2	1	6,700	21,146
LFEPA	7,190	482	120	159,800	7,634
MPS	48,270	6,405	720	647,400	9,521
TfL	19,000	1,375	51 (offices)	155,000	134,975
Total	75,425	8,262[24]	893	987,000	179,299

3.2 The GLA group attributed £180 million to sustainable development expenditure in 2007-08. However, this is an 'entirely subjective' figure that needs some 'health warnings'[25]. The Mayor's own report into sustainable spending highlights a 'lack of consistency' across the group as to what might be deemed 'sustainable development' spending[26]. It is anticipated that the quality of information will improve over time as will the parameters by which success is measured.

Core GLA Activities

3.3 City Hall is moving toward sustainable operation with the pursuit of binless offices, the use of electricity from renewable sources since October 2002, the use of efficient electronic equipment[27] and the purchasing of food from local

[22] Action Today to Protect Tomorrow, the Mayor's Climate Change Action Plan, February 2007, p 177
[23] *GLA Group Budget and Sustainable Development 2007-08* – A review of progress across the GLA Group, page 15
[24] *Action Today to Protect Tomorrow*, the Mayor's Climate Change Action Plan, February 2007, page 181 – the number of vehicles includes hired vehicles for the Police but excludes buses, taxis and tube trains.
[25] *GLA Group Budget and Sustainable Development 2007-08* – A review of progress across the GLA Group, page 15
[26] For example the figure arrived at focuses largely on what is being spent to mitigate the effects of climate change on energy measures for example but this does not always take into account, for example, work to encourage modal shifts or reduce waste streams, both of which have an obvious positive impact on making the GLA family estate more sustainable.
[27] The European Union (EU) Directive on WEEE (waste from electrical and electronic equipment) is intended to protect the quality of the environment and human health through the prudent use of natural

sources that use minimum packaging. 44 per cent of City Hall's waste is recycled. The most obvious development at City Hall in recent months has been the installation of photovoltaic solar panels on the roof.

3.4 The Core GLA moved into City Hall in June 2002. PV cells on the roof were noted by their conspicuous absence for a building whose environmental credentials were otherwise lauded. City Hall is naturally ventilated, with windows in all office spaces that can be opened, whilst heat generated from computers and lights is recycled. Electrical consumption is reduced by avoiding refrigeration and ground water is used to cool air in the building.

3.5 The new panels will provide 70kW of renewable energy, generating 3.1million kWh of renewable electricity over their lifetime. The panels will reduce the CO2 emissions of City Hall by 3,000 tonnes in its lifetime.[28]

London Fire Brigade

3.6 LFEPA is something of an environmental champion, as recognised at the City of London Corporation's Sustainable City Awards[29]. A raft of measures are being pursued across its stations, which will save almost 2000 tonnes of CO2 by the conclusion of 2008-09. These include the installation of wind turbines at 40 stations, micro CHP at 31 sites, solar hot water systems at 33 sites and the installation of PV cells at 20 sites. £3,670,000 is being spent over the next two years in pursuit of these projects.

3.7 In 2004/2005, 39 of LFEPA's 112 stations had either fair or poor sustainability ratings; this should have fallen to 19 earlier this year[30]. LFEPA has also been able to provide the core GLA with projected CO2 savings[31] against spends - a practice the London Assembly would welcome across the entire GLA group when spends relate specifically to estate management and targeted CO2 savings.

The London Development Agency

3.8 The London Development Agency has recently moved into a 'very good' BREEAM[32] rated building at Palestra, purchased green electricity and has installed an 80kWP combined wind and pv system on the roof. Its working pratices have also been reshaped in many areas (e.g., binless offices, procurement of recycled office furniture).

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resources and the adoption of waste management strategies that focus on recycling and reuse. Since August 13, 2005, EU Member States' WEEE laws have been enacted. Under these laws, producers of most electrical equipment are responsible for their products at the end of their useful lives. Producer responsibility includes meeting labelling requirements, providing information to end-users and treatment facilities, ensuring the availability of collection infrastructure, submitting sales and recovery data, and financing WEEE costs. For example, in order to prevent the generation of hazardous waste, Directive 2002/95/EC requires the substitution of various heavy metals (lead, mercury, cadmium, and hexavalent chromium) and brominated flame retardants (polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE)) in new electrical and electronic equipment put on the market from 1 July 2006.

[28] Mayor of London, Press Release London's City Hall goes solar, 14-9-2006 , no. 456

[29] LFEPA, Press release: PR011/07, Date: 22 February 2007

[30] *GLA Group Budget and Sustainable Development 2007-08* – A review of progress across the GLA Group, page 60

[31] Ibid, page 68

[32] See case study, page 19

Transport for London

3.9 TfL is also making progress. London Underground had, by the end of 2005-06, cut energy consumption at its stations by 24 per cent. TfL's main offices run on 'green' electricity and it is pursuing a further eight per cent reduction in the energy consumption at its main offices in the coming year. In addition, TfL has also increased expenditure on recycled products by 300 per cent in 2005-06.

3.9 TfL has installed PV cells on the recently refurbished Transport Musuem. Unlike City Hall however the introduction of these panels has to be integrated into a Grade II listed building. They will generate 16 per cent of the museum's energy needs[33].

The Police

3.10 The MPS CO2 emissions are in fact increasing – although this is not an issue of efficency but expansion. The roll out of Safer Neighbourhood Teams has significantly increased the size of the MPS estate. Nevertheless, the MPS appears to have reacted in a somewhat slower fashion to the challenges posed by climate change than other members of the GLA family. For example, in pursuit of a ten per cent reduction in carbon emissions, the MPS allocated only £375,000 over the next three years to meet this target. After instruction from the Mayor, this figure has been increased more than tenfold to £4,600,000.[34]

3.11 Culturally, the MPS seems to be some way behind LFEPA - the most reasonable comparison in terms of type of estate and function if not scale. The MPS has a considerably larger estate, spend and staff numbers. However, the MPS employ only five dedicated environmental staff (including waste and energy), at a cost of £255,000, as opposed to an annual spend of just over £600,000 on 13 staff at LFEPA. LFEPA has spent over £2 million on developing renewable energy in 2007/08; the MPS is due to spend £150,000. LFEPA has spent £47 per square metre on its estate in reducing its carbon footprint; the MPS to date has spent £14 per square metre.

3.12 However, it is not an entirely negative picture. The MPS is committed – supply permitting – to purchasing 100 per cent green electricity and is under clear instructions to allocate specific spends to specific projects to improve carbon efficiency, including just £3 million to be spent on remodelling its facilities management, £1.24 million to be spent to minimise energy use and £0.375 million on energy and water benchmarking.

Conclusions

3.13 The GLA group is responding well to the new sustainability agenda. Indeed the GLA's good performance is highlihgted in the Local Government Assoiciation's report 'A Climate Change'. For the GLA and the LDA this is a welcome but somewhat easy win, considering their offices are in new, prestigious developments. Even so, it is pleasing that through the London Climate Change Agency, City Hall was able to install solar panels - providing a working example

[33] The solar panels are expected to generate more than 2,136,000kWh of electricity and reduce carbon dioxide emissions by between 1,415 tonnes and 2,075 tonnes over their lifetime

[34] *GLA Group Budget and Sustainable Development 2007-08* – A review of progress across the GLA Group, page 72

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that new developments can and should be constantly improved and made to work harder.

3.14 LFEPA has engaged enthusiastically with the need to adapt its estate to tackle climate change. Eighty per cent of its fire stations have 'Good' BREEAM ratings, up from 65 per cent in 2005. There will be wind turbines at 40 sites; micro CHP at 31, solar panels at 20. 2000 tonnes of carbon will be saved.

3.15 The MPS by contrast lags behind. The committee hopes that the remarkable shift in spending on energy reduction witnessed last year will trigger the cultural shift required to deliver the share of the carbon reductions required.

3.16 The quality and consistency of information across the GLA group needs to improve, as recognised by the core GLA. As part of the London Assembly's budget review and approval process, the London Assembly would like to see a detailed allocation of sustainabilty spending from the MPS and, where appropiate, a projected level CO2 saving in future budget submissions.

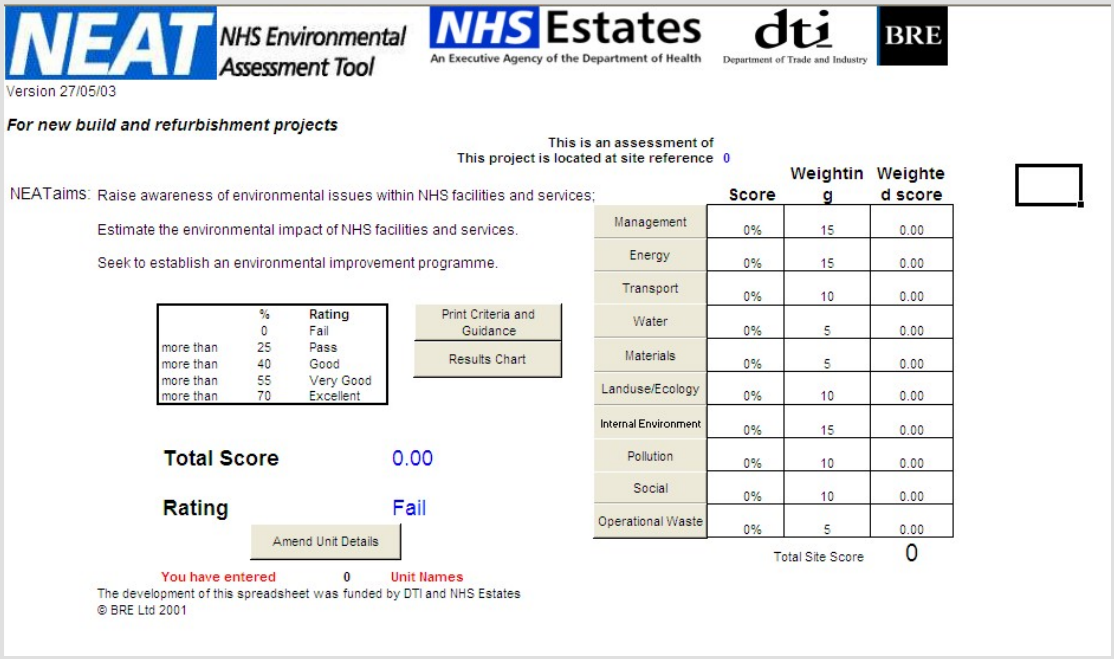
3.17 The London Assembly's Environment Committee would welcome the opportunity to work alongside the core GLA in establishing a robust and effective suite of indicators to judge the GLA group's overall performance in reducing its carbon footprint.

Reccomendation 2
The GLA group,should, on an annual basis, present their sustainability strategies, progress reports and budgets to the London Assembly Environment Committee for consideration in advance of the budget process.

Case Study: What is BREEAM?

BREEAM (the Building Research Establishment's Environmental Assessment Method) is the world's most widely used environmental assessment method for buildings. BREEAM assesses buildings against a set criteria and provides an overall score which will fall within a band providing either a; PASS, GOOD, VERY GOOD or EXCELLENT rating. BREEAM design bespoke sustainable toolkits with tailored benchmarks that are adjusted to take into account the functionality as well as the existing legislative requirement.

Typically, when allocating a BREEAM rating to a major new building, and perhaps most relevantly to our review for school or hospital developments, BREEAM assessors will measure how effectively a building is managed, how it uses its energy, its links to public transport, its water efficiency, its use of materials and land, its internal environment, and the amount of waste and pollution generated. Below, for example, is a summary sheet for the NHS bespoke BREEAM toolkit NEAT.



NEAT NHS Environmental Assessment Tool

NHS Estates — An Executive Agency of the Department of Health

dti — Department of Trade and Industry

BRE

Version 27/05/03

For new build and refurbishment projects

This is an assessment of

This project is located at site reference 0

NEATaims: Raise awareness of environmental issues within NHS facilities and services;

Estimate the environmental impact of NHS facilities and services.

Seek to establish an environmental improvement programme.

	%	Rating
	0	Fail
more than	25	Pass
more than	40	Good
more than	55	Very Good
more than	70	Excellent

Print Criteria and Guidance

Results Chart

	Score	Weighting	Weighted score
Management	0%	15	0.00
Energy	0%	15	0.00
Transport	0%	10	0.00
Water	0%	5	0.00
Materials	0%	5	0.00
Landuse/Ecology	0%	10	0.00
Internal Environment	0%	15	0.00
Pollution	0%	10	0.00
Social	0%	10	0.00
Operational Waste	0%	5	0.00
		Total Site Score	0

Total Score 0.00

Rating Fail

Amend Unit Details

You have entered 0 Unit Names

The development of this spreadsheet was funded by DTI and NHS Estates

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Two of the most important, i.e. most heavily weighted, categories are management and energy. The measurement of how effectively a building is managed covers a wide range of behaviours that cumulatively reward a more demanding commitment to the sustainable management of a building.

So, for example, three credits are rewarded for committing to a review; completing it after a year; and then publishing an openly available company policy based on any review findings. From an operational perspective, more points are awarded where a building's managers are able to demonstrate a tangible commitment to an effective project, resource and procurement management through which sustainable practice can be implemented across all aspects of a buildings performance.

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On energy for example, if a new school or hospital aims for a CO2 emission rate that is 70 per cent lower than current building regulations[35] it can receive up to 15 out of all 20 credits available for energy – well on the way to an 'excellent' rating[36].

BREEAM in schools

Building Schools for the Future (BSF) aims to rebuild or refurbish every secondary school in the country by 2015. This represents a significant opportunity to make every London state school an exemplar of sustainability. Funding on all projects is conditional on a school achieving a BREEAM rating of very good or excellent.

This means that all major new-build and refurbishment projects valued at over £500,000 for primary schools and £2m for secondary schools, and involving rebuilding or complete refurbishment of more than ten per cent of the floor area of a school, should be subject to a BREEAM assessment.

[35] Part L Building Regulations

[36] BREEAM Schools Pre-assessment estimator, 2006

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4. From GP surgeries to the Royal London: How the NHS in London is responding to the new sustainability agenda

4.1 The NHS is the largest organisation in Europe; it contributes more than ten per cent to London's GDP. Its operational, economic and social impact on London and the UK is immense; so is its environmental impact. This chapter considers the impact the NHS has on London's environment, what it is doing to reduce this impact and what barriers it is facing in seeking to do so.

4.2 Five per cent of all road-based emissions in the UK stem from NHS related trips, which in 2001 totalled 25 billion passenger miles; One per cent of all domestic waste generated comes from the NHS with the vast majority going to landfill. *Taking the Temperature: Towards an NHS response to Global Warming* published in June 2007 presented some startling findings.

4.3 The report highlighted that a substantial 600,000 tonne reduction in the NHS's carbon footprint would be required by 2050 if the NHS is to meet the UK's Kyoto targets. In order to meet the challenge laid down by the Mayor in his Climate Change Action Plan, the NHS in London would need to achieve its 60 per cent reduction by 2025. However, even by the NHS Confederation's own admission, the NHS is 'a long way'[37] from reducing its energy consumption quickly enough to keep up with Kyoto timescales.

What the NHS is doing to tackle climate change

4.4 The Department of Health, in line with all government departments, has a sustainable development action plan; it has produced a toolkit[38] for energy managers within the NHS; and £100m has been made available by the Department of Health for carbon and energy saving schemes for the NHS nationally. NHS London is aiming to secure approximately 25 per cent of this budget, which equates roughly to the proportion of energy spend generated by the NHS in the capital.

4.5 The Good Corporate Citizenship toolkit also provides NHS managers with a framework and assessment tool to develop and promote good practice. The work, supported by the Sustainable Development Commission's Healthy Futures unit, has prompted many health sector leaders to meet regularly and share good practice in London.

4.6 In addition, the NHS is now onto Phase 2 of its own Carbon Management Programme, as supported by the Carbon Trust. To date, Guy's and St Thomas', University College, Chelsea and Westminster Hospital, Great Ormond Street, and the Royal Free in Hampstead have signed up to undertake the process of developing a honed, target based strategy for its organisation. The programme began in October 2006. St Georges Hospital, Tooting and The Queen Elizabeth Hospital, Woolwich are also on the scheme. The Carbon Trust is currently recruiting to Phase 3 of this scheme.

[37] *Taking the Temperature: Towards an NHS response to Global Warming*, June 2007, page 2
[38] HTM 07-02 Encode

Barriers to change

4.7 Characteristic of all London's public estate, umbrella organisations such as the NHS, oversees a huge variety of buildings. The energy and water requirements of a GP surgery differ greatly from a hospital. The NHS Confederation highlighted a key weakness of the current set of national targets being imposed on the NHS is a failure to take into account this variety. These targets are being applied to energy-intensive facilities where they are unlikely to be met. For example, a significant proportion of carbon savings sought from the public and commercial sector are from reducing unnecessary energy use, such as leaving equipment and heating on over evenings and weekends. This is not an option available to clinical equipment in a hospital. To counter this, NHS guidance, best practice documentation, and energy audits provide energy/carbon savings targets particular to the buildings being monitored.

4.8 Equally, these same Kyoto targets are unambitious for clinics, health centres and GP practices. The confederation has called for an even more tailored approach to targets for different facilities - a process already well underway with different targets set for new builds and existing buildings[39]. And the London Assembly has found that the problems in applying targets and strategies are not limited to scale, but also location and function.

4.9 For example, The Guy's and St Thomas' NHS Foundation Trust produces more than 67,000 tonnes of CO2 annually. It is aiming to reduce this by 20 per cent, saving just under £3 million a year in costs. To do this, the trust has installed a Combined Heat and Power Unit.

4.10 In April 2007, the Committee visited the site of the Royal London hospital to discuss with senior management of The Barts and London NHS Trust the redevelopment of their two sites in Smithfield and Whitechapel. [40] The project is a significant in terms of scale and cost - lasting 10-years and costing £1bn– and is designed to deliver over 40 years of operation.

4.11 Barts Hospital will become a Cancer and Cardiac Centre of Excellence. Most clinical services will be based in a new eight-storey, 'state-of-the-art' facility. The new Cancer Centre is due to be open in 2010 with the Cardiac Centre set to be operational in 2016. Most of the clinical services currently provided at The London Chest Hospital in Bethnal Green will move to Barts when construction is complete.

[39] The Department of Health has set mandatory targets for healthcare buildings. For 2000-2010, as a consequence of the introduction of the Climate Change Programme, Ministerial mandatory targets were identified. To make these relevant at local level, PIs were set at 35-55 Gj/100m^3 for new build and refurbishment and 55-65 Gj/100m^3 for existing estate. DH collect data (Estates Related Information Collection ERIC) to monitor progress HTM 07-02 EnCode, publishes good practice targets for a range of buildings from GP Surgeries and health clinics to teaching and specialist hospitals and these range from <25GJ/100m^3 .

[40] The committee spoke to John Goulstron, acting Chief Executive of the Barts and London NHS Trust, Andrew Attfield, the Trusts' Regeneration Manager and Greg Chant-Hall, Environmental Manager, of Skanska. See Appendix 4 for a note of the visit.

An artist's impression of how the atrium at the Royal London will look in the new hospital

Artist's impression of the historic square at Barts, restored to its former glory as a pedestrian piazza

4.12 The transformation of the Royal London site is even more comprehensive. Most clinical services, including London's leading trauma and emergency care centre, the capital's second largest children's hospital and one of Europe's largest renal units, will be housed in a new 18-storey building expected to be complete in 2012 in time for the Olympic Games. London's Air Ambulance, which is based at the hospital, will operate from the top of the new building. Other elements of the hospital are due to be finished in 2016. Once complete, the two sites will accommodate about 1,250 beds and cover an area of 275,000 m2 – more than a quarter of the land covered by the GLA group's 893 buildings.

4.13 Capital Hospitals, a company recently formed by the Trust's private sector partners Skanska, Innisfree and Equion (part of John Laing plc), will manage the construction and running of the new buildings over the next 42 years, under a PFI arrangement.

4.14 There is much to be lauded about the redevelopment. The sustainability of the construction process has been managed successfully. Set a 60 per cent minimum for reuse or recycling of facilities, to date Sanska has reused or recycled 99 per cent of materials from the site. And there appears to be a robust and ambitious plan for managing waste. The Carbon Trust will work alongside the hospital managers once the facility is fully operational and there is both a financial incentive to reduce waste to landfill and contractual flexibility for more ambitious targets to be imposed with review periods built in every five to six years.

4.15 However, unlike at Guy's and St Thomas' the site has been limited in how much on-site renewables could be integrated onto the site.

- Combined Heat and Power (CHP) had been considered but has yet to be incorporated.
- Windmills and photovoltaic cells could not be used on the roof of the Royal London, as they would disrupt the operation of the air ambulance helicopter.
- There was not enough wind at Barts for wind turbines and there was a planning issue due to its proximity to St Paul's concerning photovoltaic cells and sightlines.

4.16 A NEAT (NHS Environmental Assessment Tool) excellence rating is required by 2016. It looks unlikely that the development will be able to score heavily by

reducing its CO2 emissions through on site generation. Due to a helipad and St Paul's Cathedral, one of the largest public sector redevelopments in the capital will not be able to generate any of its own energy, thus significantly hampering its ability to meet Kyoto targets.

4.17 The NHS NEAT toolkit, currently designed to keep major developments in line with Kyoto-tied planning legislation will be updated into a more stringent tool. NEAT is currently a self-accreditation process; the new BREEAM for Healthcare accreditation process due to be launched during 2008 will require independent assessments, setting harder targets.

Conclusions

4.18 Jonathan Porritt, Head of the government's Sustainable Development Commission, in his address to the NHS Confederation conference in June 2007, stated that the NHS 'were very, very unlikely' to met its statutory 15 per cent carbon reduction target by 2010. Indeed, he was disappointed that it was only at its conference in 2007 that the NHS Confederation had first debated the issue of sustainable development. The NHS is playing catch up – not in terms of strategic commitment but in being in a position to actually reduce energy consumption and increase energy generation.

4.19 However, significant changes are being made. The Good Corporate Citizenship agenda offers a framework for managers to adapt; the new building certificates are placing their efficiency performance into the public domain and toolkits and accreditation processes are beginning to enable NHS managers to deliver the change required. And the Foundation Trust governance structure provides more immediate autonomy, and accountability, for managers to push ahead on the energy agenda.

4.20 To ensure that this change is robust, the committee would welcome reassurances from the NHS that, for example, the NEAT 2 'Excellent' rating required of the redevelopment of the Royal London and Barts will be excellent by 2016 standards and not the 2002 less stringent, voluntary targets when the management contract was originally signed.

4.21 The committee welcomes that the NHS's bespoke new build standards are to be updated in line with rolling legislation and, in so doing, will place even more stringent demands on the NHS. The committee expects this review of standards to be a rolling commitment of BREEAM and their clients, with future carbon targets in mind.

Recommendation 3

The committee wishes to see a commitment for PFI projects to achieve at least a 'Very Good' BREEAM standards in line with evolving Kyoto tied legislation, so that these relatively new flagship public buildings do not, within years of their completion, become out of date.

4.22 There also needs to be sufficient flexibility within the PFI contracts. It would not be impossible for the Chief Executive of the Royal London and Barts Trust to demand of Skanksa the introduction of a new CHP system on one of its two sites: not impossible, just very expensive. Clinically and operationally, the

contracts have been built with change in mind and with regard to waste management there are built-in review periods. On energy use and on-site generation however, any alterations are intrinsically more expensive and the disincentive is increased significantly because of the additional cost incurred by changing the contracts.

4.23 HM Treasury needs to address this question more widely, not just for major NHS developments but also the Building Schools for the Future programme, which is also a PFI funded scheme. Public sector managers need to be encouraged and ultimately supported in seeking to make sure recent developments are not just flexible in design, but in their management and evolution. Tackling climate change requires burgeoning ambition; ambition that should not be blocked by disincentives that place a disproportionate cost on significant, but necessary, investment.

Recommendation 4

The committee calls upon the Treasury to issue a Change Protocol for PFI projects that provide guidance to the public sector on how to negotiate changes in service agreements and buildings that permits PFI projects to meet the rolling legislative demands around climate change.

Appendix A – List of findings and recommendations

Chapter 2 – Local Councils

London's local authorities have responded effectively and positively to the challenges posed by climate change making significant contributions in reducing London's carbon emissions, developing detailed strategies, establishing vital baselines and putting into place workable and effective actions to deliver their services in a more sustainable manner. Toolkits provided by organisations such as the Carbon Trust and the Mayor have played a welcome and significant role in moving London's local authorities into becoming more sustainable organisations.

Green Electricity
Demand may appear to be outstripping supply for green electricity. Lewisham purchased 100 per cent 'green' electricity from 2000 until 2004, however this has reduced to 80 per cent at the current time, due to lack of supply. The Mayor has placed much emphasis on the need to decentralise electricity supply in his Climate Change Action Plan – which in many cases means generating electricity from renewable sources – and this it to be welcomed.

Recommendation 1 **The committee recommends that the Mayor consider adding 'green', renewably sourced electricity to the selection of green and recycled goods that the Green Procurement Code offers advice on and access to.**

Building Certificates
The committee has concluded that there has been an unnecessary delay in the UK implementing building ratings. The rating systems will become law next year, two and half years after its implementation across the rest of Europe. Had implementation started in early 2006, the benefits of the progress made now could have been brought forward by a vital couple of years. The UK is widely expected to miss their 2012 Kyoto target of a 15 per cent reduction in carbon emissions; the delay in implementing this robust performance measure is one contributing factor**.**

Chapter 3 – The GLA Group

The GLA Group is responding well to the new sustainability agenda. It is pleasing that through the London Climate Change Agency, City Hall was able to install solar panels - providing a working example that new developments can and should be constantly improved and made to work harder.

The LDA and LFEPA have engaged enthusiastically with the need to adapt their estate to tackle climate change, especially LFEPA. Eighty per cent of their fire stations have 'Good' BREEAM ratings, up from 65% in 2005. There will be wind turbines at 40 sites, micro CHP at 31, solar panels at 20. Two thousand tonnes of carbon will be saved.

The MPS by contrast lags behind. The committee hopes that the remarkable shift in spending on energy reduction witnessed last year, will trigger the cultural shift required to deliver the share of the carbon reductions required.

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The quality and consistency of information across the GLA group needs to improve, as recognised by the core GLA. As part of the London Assembly's budget review and approval process, the London Assembly would like to see:a detailed allocation of sustainabilty spend from the MPS and, where appropiate, a projected level CO2 savings in future budget submissions.

The London Assembly's Environment Committee would welcome the opportunity to work alongside the core GLA in establishing a robust and effective suite of indicators to judge the GLA group's overall performance in reducing its carbon footprint.

Reccomendation 2
The members of the GLA group,should, on an annual basis, present their sustainability strategies, progress reports and budgets to the London Assembly Environment Committee for consideration in advance of the budget process.

Chapter 4 – The NHS

Significant changes are being made. The Good Corporate Citizenship agenda offers the framework for managers to adapt; the new building certificates are placing its efficiency performance into the public domain and toolkits and accreditation processes are beginning to enable NHS managers to deliver the change required.

The committee welcomes that the NHS's bespoke new build standards are to be updated, in line with rolling legislation, and, in so doing, will place even more stringent demands on the NHS. The committee expects this review of standards to be a rolling commitment of BREEAM and their clients, with future carbon targets in mind.

Recommendation 3
The committee wishes to see a commitment for PFI projects to achieve at least a 'Very Good' BREEAM standards in line with evolving Kyoto tied legislation, so that these relatively new flagship public buildings do not, within years of their completion, become out of date.

Public sector managers need to be encouraged and ultimately supported in seeking to make sure recent developments are not just flexible in design but in their management and evolution. Tackling climate change requires burgeoning ambition; ambition that should not be blocked by disincentives that place a disproportionate cost on significant, but necessary, investment.

Recommendation 4
The committee calls upon the Treasury to issue a Change Protocol for PFI projects providing guidance to the public sector on how to negotiate changes in service agreements and buildings, which permits PFI projects to meet the rolling legislative demands around climate change.

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Appendix B – List of Evidence

Site Visit
The committee undertook a site visit (notes of which are attached as Appendix F) to the London Hospital, 4 April 2007 where Darren Johnson AM and Mike Tuffrey AM met with John Goulstron, Acting Chief Executive of Barts and the Royal London Trust, Andrew Attfield, Regeneration Manager, Barts and the Royal London Trust, and Greg Chant-Hall, Environmental Manager, Skanska.

Written Evidence

The committee received written evidence from:

- NHS London
- London Councils (see Appendix D)
- London borough of Barking and Dagenham
- London borough of Greenwich
- London borough of Havering
- London borough of Lewisham
- London borough of Tower Hamlets

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Appendix C - London boroughs – Signatory checklist

London Boroughs	Nottingham Declaration (2000)	Procurement Code Signatories (2001)	Carbon Management Programme (2003-2008)
Barking and Dagenham	Y	Y	Phase 4
Barnet	Y	Y	-
Bexley	Y	Y	-
Brent	Y	Y	Phase 4
Bromley		Y	Phase 5
Camden	Y	Y	-
City of London		Y	-
Croydon	Y	Y	Phase 2
Ealing		Y	-
Enfield		Y	-
Greenwich		Y	Phase 3
Hackney		Y	-
Hammersmith and Fulham	Y	Y	-
Haringey	Y	Y	Phase 2
Harrow		Y	-
Havering	Y	Y	Phase 3
Hillingdon	Y	Y	-
Hounslow		Y	-
Islington	Y	Y	Phase 3
Kensington and Chelsea	Y	Y	-
Kingston upon Thames		Y	-
Lambeth	Y	Y	Phase 4
Lewisham		Y	Phase 1
LFEPA	N/a	Y	Phase 5
LDA	N/a	Y	-
Merton		Y	-
MPS	N/a	Y	-
Newham	Y	Y	-
Redbridge	Y	Y	Phase 4
Richmond upon Thames	Y	Y	Phase 5
Southwark	Y	Y	Phase 1
Sutton	Y	Y	-
Tower Hamlets		Y	-
Transport for London	N/a	Y	-
Waltham Forest	Y	Y	-
Wandsworth		Y	-
Westminster	Y	Y	Phase 4

Appendix D - Site Visit to the London Hospital, 4 April 2007

Present:

Darren Johnson – Chair of London Assembly Environment Committee
Mike Tuffrey – Member of the Environment Committee

John Goulstron, Acting Chief Executive
Andrew Attfield, Regeneration Manager
Greg Chant-Hall, Environmental Manager, Skanska

John Goulston gave an introduction to the work and redevelopment of the hospital, which was applying for foundation status.

Greg Chant Hill from Skanska[41] (the company responsible for building and operating the new hospital building under a PFI contract) gave a presentation about the redevelopment of the hospital that was a ten-year project. Each new starter had a half-day training session on environmental issues. The company had set up a small group of volunteers from its employees on the site to for a sustainable development group. The aim of the project was for the employees to be owners of environmental and sustainability objectives.

There were important targets for waste management for the redevelopment of Victorian buildings. The target for the re-use and recycling of materials was 60 per cent minimum with an ideal target of 80 Per cent. Sanska had achieved 99 per cent (as some material, such as asbestos could not be re-used). Old railings, radiators and sinks had been carefully removed and sent for reuse. Five per cent of the weight of the brickwork (equivalent to 500 pallets) had been cleaned and sent to be re-used. The rest was recycled (eg crushed and used as foundations for buildings). One hundred tonnes of waste had been diverted from landfill.

Waste was not allowed on site – for example the containers the supplies arrived in were re-used. All of the trade contractors had been allocated specific targets for waste following careful modelling. For example there was a ten per cent waste target for plaster-board with most other supplies having a target of five per cent. A bin ship system was used whereby all waste was weighed to see if the contractors had met their targets. The waste bins sat on drip trays in order to minimise the pollution. There was an appointed person for waste management.

There were 14 design partners in the project. The length of the project meant that design could be maximised.

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41 The consortium will be responsible for building, maintaining and operating the buildings of the new hospitals. The contract extends for 30 years from the completion of building. At the end of this time, the buildings will revert to NHS ownership. Throughout, Barts and The London NHS Trust will continue to be responsible for the delivery of all healthcare services to patients, just as it is now.

Client Relations – regular meetings were held with site managers and users to ensure that the buildings work progressed well.

The Environment Agency visited quarterly and there was a monthly visit from the Tower Hamlet's environmental health officers.

An acoustic screen, manufactured in Germany and not used before in the UK, was used to insulate the working parts of the hospital from sound and vibrations from the building works. The screen was expensive but could be disassembled and re-used elsewhere.

The site was unique in that it was the only one on which dust levels were measured. The threshold was 80mg/ 15 minutes. There was also a seismograph on site to measure vibration.

The scaffolding boards were made from renewable materials and the generator used was a low-level sulphur diesel.

Andrew Attfield – Regeneration Manager

In terms of socio economic sustainability the main principal of the project was maximum health gain from regeneration with the minimum ecological footprint. The hospital employed 6,500 staff and there were up to 1,000 construction staff on site.

Action for Community Employment (ACE) set targets for the employment of local people. There was a drive to recruit local people particularly from the Bangladeshi and Somali communities. The hospital worked with the local job centre and other local group. The project received funding from the LDA. John Goulstron was a partner on the Whitechapel masterplan group.

The hospital was also a major purchaser and staff worked with the contractors, Capital Hospital Ltd and Sanska, and with the local business liaison officers to cut down on transportation of good to the site. The LDA had also been helpful in developing sustainable procurement.

The following responses were given to questions from members:

Combined Heat and Power (CHP) had been considered but it was not incorporated at the moment. The building was thermally sealed. Only 30 per cent of the exterior wall space was windows with the rest being insulation meaning that solar gain was minimised. The original specification for the hospital had been amended to include air-conditioning. A borehole with open loop had also been considered but there was not enough water for such a system.

It had been hard to incorporate on-site renewables into the plans. Windmills and photovoltaic cells could not be used on the roof of the Royal London as they disrupt the operation of the air ambulance helicopter. There was not enough wind at Barts for wind turbines and there was a planning issue due to its proximity to St Paul's concerning photovoltaic cells.

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There was some flexibility in the design to allow for future changes of use. The wards were interchangeable. Variations did come at a cost so flexibility had been built in, for example medical gases were pumped round the hospital. The operating theatres could not be changed that easily although they could be developed into interventional imaging suits. The Intensive Care Unit would not be changed however, as this was too expensive.

A NEAT (NHS Environmental Assessment Tool) excellence rating[42] was required by 2016. Sanska was being proactive with an audit every six months and external verification. Best practice had been established from the start in order to avoid a massive paper chase at the end of the period. The assessment was primarily for design and construction and areas of operation ie Recycling points would be shown on the hospital floor plan

The design of the hospital followed Department of Health guidelines. The design for the Royal London had been submitted to the GLA and changes had been made to the original plans, ie to maximise public space.

There was flexibility in the PFI contract that allowed for re-scoping with additional items to be added at an agreed cost. There was an enormous price disincentive however to add items in. Three hundred clinicians had been involved in the internal design, through 30 working groups, to specify matters right down to where the plugs should be.

The 40-year contract for facilities management (which was renewed every five to six years) was based on government guidelines and targets set down in April 2006. There would be changes throughout the life of the contract. There was a general pressure on hospitals to deliver to target whether they had PFI contracts or whether FM was run in house (such as Guy's and St Thomas').

The contract with Capital Hospital Limited covered utilities and waste. The waste work stream separates out the types of waster for which there were different measurements with the objective to decrease tonnage, for example by crushing waste on site.

The hospital was undertaking work with the Carbon Trust although this would be limited until the new hospital was built.

In response to a question about the contractor's incentive to save energy and therefore the hospital money if they did not pay for the energy bills, it was noted that energy was a 'pass-on' cost. The hospital's intention was to minimise energy use so the incentive is on the hospital side. The hospital was about to embark on efficiency reviews of 17 parts of the interim service contract.

Water was also a pass-on cost so the incentive was with the hospital. Waste was also a pass on cost. The contracts were based on cutting down volume where there was an

[42] The NHS Environmental Assessment Tool (NEAT) is a software tool designed to assess the negative impact of healthcare facilities on the environment. NEAT can be applied to any type of NHS healthcare facility and is suitable for use by NHS trusts and organisations who act on behalf of the NHS. NEAT aims to identify the environmental impact created during day-to-day operational activities. Buildings assessed using NEAT are rated as Excellent or Very Good.

incentive to control volume ie laundry was volume driven as was the wastage of food. Monthly statistics were provided for the Trust.

In terms of meeting Government targets for CO_2 emissions, the risk was on the hospital. Would have to negotiate with Capital Hospital and calculate the impact. A due diligence procedure was used.

Mike Tuffrey in response to a question about discretionary items, it was noted that best value targets were higher than the national average five per cent. There were various investments to save projects.

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Appendix E – Orders and translations

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