

# **First Annual Carbon Report**

Full Council

17 January 2011



## ***Foreword by Councillor Joe Goldberg***

### ***Cabinet Member for Finance and Sustainability***

For the last few decades, scientists, politicians and the media have been engaged in lengthy debates about global warming or, as we now refer to it, climate change. However, as we go into 2011 the question is now not whether human activity is causing climate change, but to what extent we can limit it. There is a general agreement that the average global temperature cannot rise more than two degrees centigrade without there being catastrophic consequences, but there is little consensus yet on how preventing this increase in temperature will actually be achieved.

Even at two degrees we are likely to face significant damage to our environment, alongside severe social and economic challenges. The Stern Review into Climate Change estimates that climate change unchecked will cost at least £1.85 trillion or £272 for every human being on the planet, which is equivalent to 5% of the global economy.

While there can be no doubt that overall global success to contain climate change will rely on inter-governmental agreement and collaboration, the progress at Cancun does not offer enough hope that action will be taken in time. It is too easy to fool ourselves that climate change is some far off issue that we can deal with later, but in truth if we don't start to take action now to ensure our emissions reach their peak by 2015, the costs of taking sufficient action later will not be affordable. In short, the longer we leave it, the more it will cost later, and the more it will impact on our lives and the lives of our children.

In the current fiscal climate, when the current Government is slashing local government budgets, many are falling into the trap of saying that the Green agenda is now a luxury we cannot afford. However in Haringey, we made a real commitment to tackle climate change – and to tackle it locally – by becoming the first major authority to sign up to a pledge to a 40% reduction in carbon emissions in our borough by 2020.

Admittedly it is an extremely ambitious target. The only real reductions in carbon emissions we have seen so far have been associated with economic decline, and the prospect of an end to this recession may lead to emissions going back up again. However, with the potential severity of the impact on the people of Haringey, tackling our emissions is an imperative we simply cannot afford not to take seriously. It is an investment to safeguard our future.

When we talk about *One Borough, One Future*, there is an added pertinence to this promise in the context of climate change. The effects of climate change will impact each and every one of us who live and work in Haringey, but the vulnerable in our society will be worst hit. It is likely to widen inequality, and create a future that is uncertain, unstable and bleak for us all.

Uneven access to environmental resources is a fact in our global society. The poorest pay more as a proportion of their total income for energy, than wealthier people. Managing carbon more effectively is therefore not only a matter of good environmental stewardship, it is also a matter of social justice.

We will not achieve our target alone. Reaching a 40% reduction in emissions will require support from national government and, more importantly, coordinated action from everyone in the borough, be that, businesses, faith groups, schools, public bodies, charities and every individual who lives in the borough. We all have a role to play, which is why we are creating Haringey 40:20, a membership organisation for all those who want to get involved in delivering the Borough's Carbon Management Plan.

This Annual Carbon Report is the first of its kind to be produced by a local authority. Furthermore, I am making a commitment to providing one at the start of each calendar year, so that everyone can see the progress we are making and the investment we are committing to safeguard our future.

Just like any Annual Budget, the objective is to give transparency, accountability and tangibility to the carbon emission levels of both the Council, and the Borough as a whole. My hope that our example will be followed elsewhere round the country and that through greater accountability will come greater understanding, and ultimately greater action.

This is a dramatic and ambitious new chapter for the borough. I hope you find this report an interesting source of inspiration to come and join us on the journey to a more sustainable future for Haringey.

## Introduction

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Climate change is happening now, but experts are agreed that it is not too late to avert a global climate catastrophe, and that doing nothing will end up costing much more. Haringey has responded to this challenge by setting a 40% carbon emissions reduction target for 2020, and this first annual carbon report looks at how this will be achieved.

### Climate change matters

Increasing levels of greenhouse gases (GHGs) are causing the planet to warm up, which is affecting our climate and will continue to do so. If GHG emissions are left unchecked, average global temperatures could rise by up to 6°C by the end of the century. This is likely to leave communities vulnerable to extreme weather and flooding, and the cost of adapting our infrastructure and lifestyles could significantly damage our economy. On a global scale we would also have to cope with famine and significant levels of population displacement in an already overcrowded planet. In Haringey, as in the rest of the world, climate change will have a disproportionate impact on the poorest and most vulnerable people in the community; those who lack the means to absorb the rising costs of heating their home and the increased cost of food and travel, however taking action now can benefit us all. Managing carbon more effectively makes economic, social and environmental sense.

Scientific evidence suggests that to avoid these catastrophic impacts, global emissions of GHGs will need to fall to at least 50% of 1990 levels by 2050. Some progress in addressing climate change has already been made, however, if no further action is taken beyond that already occurring, GHG emissions in the capital would fall to only 10% below 1990 levels by 2025, far short of that which will be required if London is to adequately contribute to global efforts.<sup>1</sup>

Climate change is not just about avoiding environmental disaster; it is about securing the future growth of our economy through green investment to create a prosperous and fairer future for all. Focused work to achieve GHG emission reductions can have significant benefits:

- Retrofitting our buildings to make them energy efficient and investing in low carbon technology could create thousands of new jobs. The Upper Lea Valley has been identified as the largest opportunity area in London and could become part of an internationally recognised green enterprise zone, helping to make London a leading low carbon capital.<sup>2</sup>
- In London up to 1m people live in fuel poverty, meaning they spend 10% or more of their weekly income on energy bills. Current cost pressures on energy are unprecedented. This situation will be further exacerbated, as fuel costs are

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<sup>1</sup> Mayors Draft Climate Change Mitigation and Energy Strategy, 2010

<sup>2</sup> Mayors Draft London Plan, 2010

expected to rise by 30% over the next 10 years<sup>3</sup>. Increasing the efficiency of homes and developing local energy supplies will help alleviate the impact of rising fuel prices.

- Haringey has a high proportion of small to medium enterprises (SMEs), and rising energy costs are a significant drain on their profitability. Improving fuel efficiency can help increase economic competitiveness and ensure that SMEs survive in a challenging financial climate.
- Mental and physical health problems cost the public sector £13billion per year.<sup>4</sup> However, a promotion of more sustainable modes of travel like walking and cycling, as well as a renewed involvement in local growing of food, could help to prevent many illnesses by encouraging residents to adopt more healthy and socially networked lifestyles.
- Production of oil and gas is peaking at the same time as global demand for oil is reaching unprecedented levels, a circumstance known as 'peak oil'. As demand starts to outstrip production, the price of oil will soar and shortages will become more commonplace. Localising energy production and finding alternative fuels for our transportation will therefore increase the security of supply and help to shield us from rising energy costs.

## The role of local government

The vast majority of GHG emissions are the result of every day activity, such as travel to work and providing heat and light in our buildings, and a significant proportion of the rest can be attributed to goods and services.

Much of what needs to be done to reduce carbon must be delivered through regulation and incentives put in place at a national, EU and international level. Decarbonising electricity supplied on the national grid by investing in large-scale renewable energy generation, enforcement of tougher emissions standards for vehicles, carbon emissions trading among industries, and so on, will all play a critical role in achieving long term carbon targets.

However, the country cannot achieve its carbon targets unless local areas act too, by putting the right support and incentives in place to enable everyone to play a part in reducing carbon emissions. Recent research also shows that there are also significant benefits to local action as locally led initiatives can often be cost effective and are more likely to get the necessary backing of a local community. Some examples of the unique role Local authorities can play in reducing carbon include:

- Spatial planning policy to reduce carbon emissions from new building developments and support sustainable lifestyles;

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<sup>3 3</sup> DECC energy price projections;

<http://www.decc.gov.uk/en/content/cms/statistics/projections/projections.aspx>

<sup>4 4</sup> Sustainable Development Commission (2010). *The Future is Local, Empowering communities to improve their neighbourhoods*

- Improving the energy efficiency of social housing;
- Coordinating action among public, private and voluntary sector partners at a local level;
- Using the Local Authority power of well being to invest in low carbon energy infrastructure;
- Managing its own estate and operations and offering up heat loads to enable the development of district heating networks; and,
- Sustainable procurement of goods and services purchased by the Council.

## **Haringey Carbon Management Plan**

In 2009 Haringey Council became the first major Local Authority to adopt a target to reduce carbon emissions by 40% by 2020. This was the result of a campaign led by Friends of Earth, involving hundreds of local residents.

Since then Haringey has started work alongside 9 other pioneering local authorities (such as those in Bristol and Manchester) to develop an ambitious robust, measurable and costed Carbon Management Plan for the borough during 2011. This will establish carbon budgets and set out the actions that need to be taken to achieve the associated carbon savings for each budget period. A carbon budget will enable Haringey to develop an understanding of its carbon in much the same way as public money is managed through financial budgeting.

Subsequent carbon reports from 2012 onwards will provide a transparent framework for reporting on progress to achieve the carbon target, as set out in the final section of this report.

### **About this report**

This report sets out the following;

- Explanation of carbon targets and comparison with regional and national targets
- Carbon footprint for borough and the Council's operations
- Challenges and opportunities about reducing carbon in Haringey and progress so far
- Next steps to develop a Carbon Management Plan for Haringey

# 1. Carbon Reduction Target for Haringey

In November 2009, Haringey became the first major local authority to adopt a target to reduce carbon emissions by 40% by 2020 (against a 2005 baseline), in response to a Friends of the Earth campaign involving hundreds of local residents.

Figure 1 below demonstrates how this target compares with national and regional targets, which focus on either carbon (CO<sub>2</sub>) or all greenhouse gases (GHG). The carbon reduction proposed for Haringey is broadly consistent with the regional targets. The target is set based on scientific consensus on the level of carbon reduction needed to avert runaway climate change. If a successor to The Kyoto Agreement is agreed, a new international agreement on reducing carbon emissions could lead the Government to increase its target from 34% to over 40%.

	Baseline year	Target reduction	Target year	Measure
UK	1990	35%	2022	GHG
London	2005	38%	2020	CO <sub>2</sub> only
Haringey	2005	40%	2020	CO <sub>2</sub> only

Table 1: UK, London and Haringey emissions reduction targets

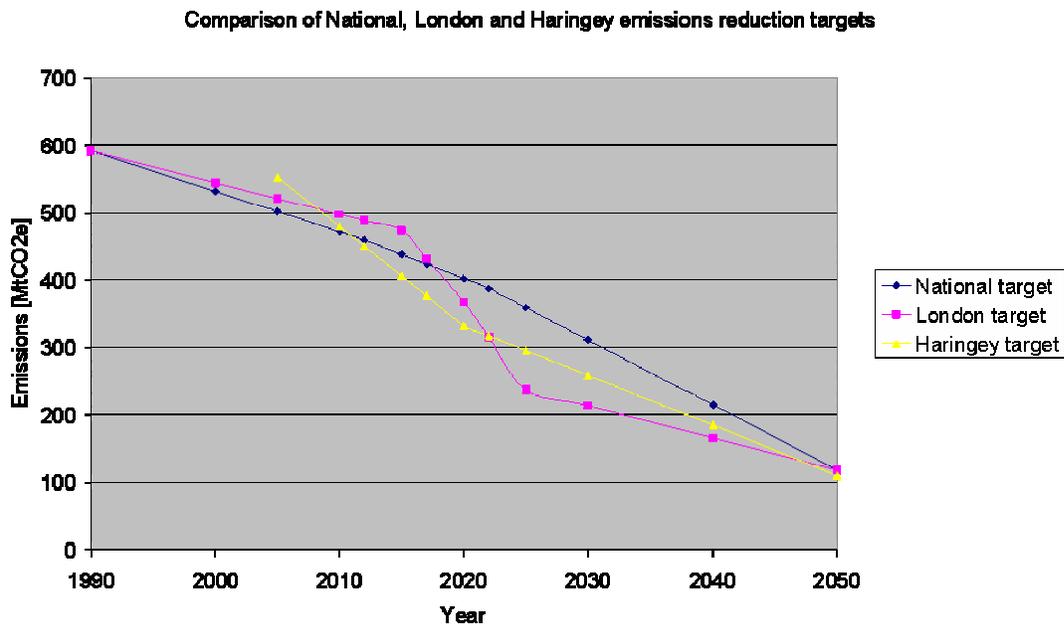


Figure 1: Comparison of National, London and Haringey carbon emissions reductions targets

## 2. Haringey's Community Carbon Footprint

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National policies on climate change look at emissions of a wide range of gases that are known to contribute to global warming, which are collectively called **greenhouse gases**. Carbon dioxide accounts for around 85% of all greenhouse gas emissions from the UK, with gases that include methane and nitrous oxide together making up the remaining 15%.

However, in Haringey these other gases only account for about 0.6% of the total greenhouse gas emissions, largely because the borough is an urban area with little heavy industry or agriculture. For this reason it is appropriate that Haringey's emissions target is based solely on carbon dioxide, as this accounts for over 99% of the borough's greenhouse gas emissions.

Carbon emissions resulting from activity in Haringey can be divided into two types:

- **Direct** emissions are those which relate to energy and transport fuels used in the borough.
- **Indirect** emissions are those which relate to goods or services used in the borough.

### 2.1 Direct CO2 Emissions

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#### 2.1.1 Calculation

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Direct CO2 emissions are calculated by measuring energy and fuel use in the borough, and then applying a standard national factor for each. This approach means that carbon emissions are attributed to the point where fuels are used, and so emissions from cars and buses travelling through the borough contribute to Haringey's carbon footprint.

#### 2.1.2 Performance

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Total carbon emissions for Haringey were 1,035 tonnes in 2008, equivalent to the emissions from 325,000 average cars over the course of a year, (which is around one tenth of all cars owned in London)<sup>5</sup>. The total emissions for London were 45,508,000 tonnes in 2008. Haringey therefore contributes around 2.3% of the total carbon footprint of the capital. Haringey has the ninth lowest emissions of boroughs in London and this is likely to be an indication of the relative affluence of people in the borough and low levels of commercial activity when compared with London.

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<sup>5</sup> Annual average car emits 3.184 tonnes CO<sub>2</sub> per car per annum (Defra 2008). In 2008 there were 2,707,218 licensed private and light good vehicles in London at the year end, so 325,000 represents 12% of all cars, or about one tenth. <http://data.london.gov.uk/datafiles/transport/vehicles-licensed-borough.xls>

London borough per capita CO2 emissions 2008

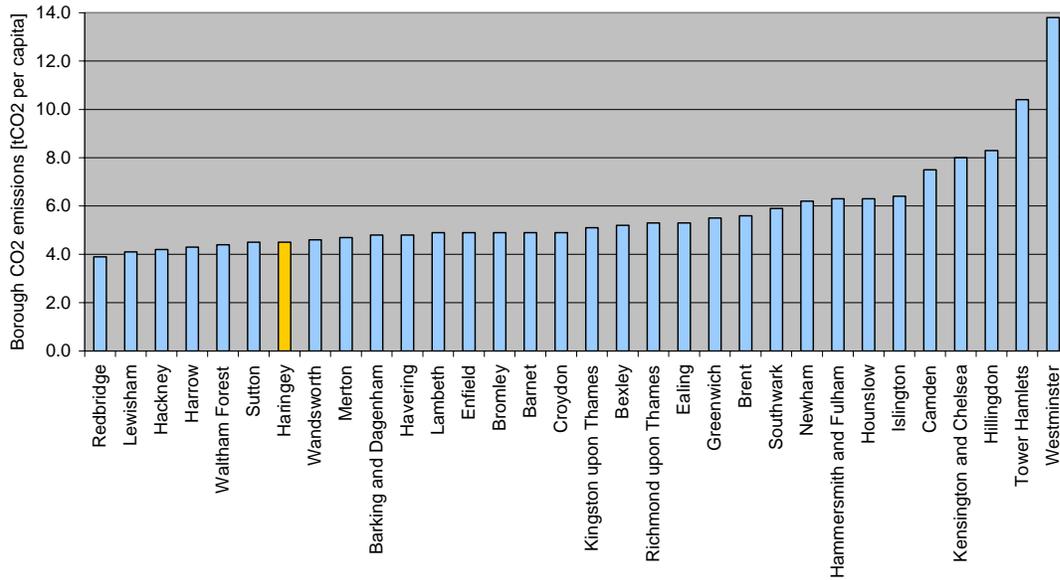


Figure 2: London Borough per capita emissions 2008

### 2.1.3 Analysis

Figure 2 shows CO2 emissions from the residential, commercial/industrial and road transport sectors for Haringey, London as a whole, and the UK.

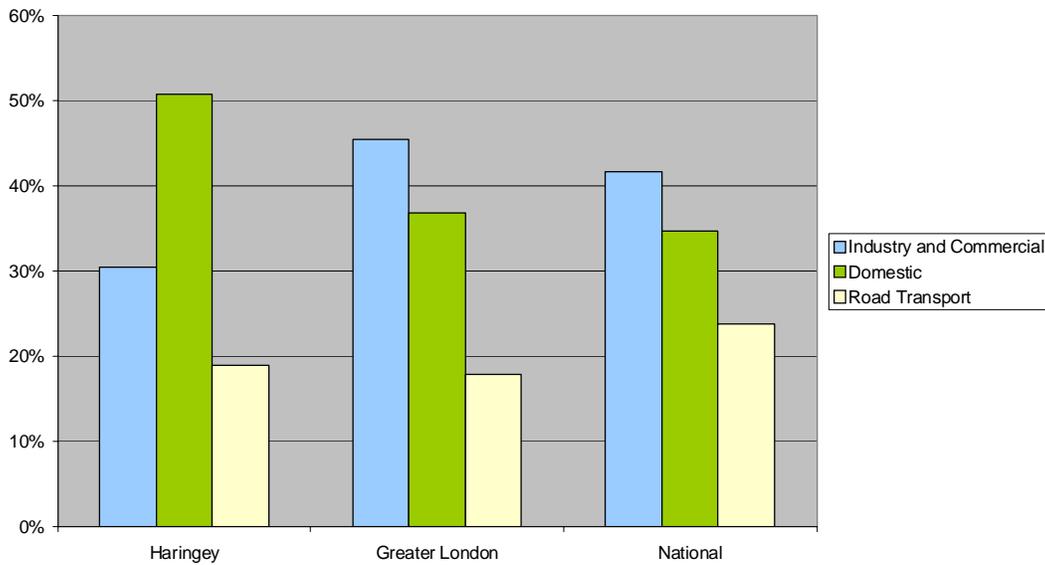


Figure 3: Comparison of CO2 emissions by sector for Haringey, Greater London and the UK

This clearly shows that CO2 emissions from the domestic sector account for over 50% of total emissions in Haringey, compared with only around 35% for the rest of London and the UK.

Conversely, the contribution of the commercial and industrial sector to the emissions in Haringey is much lower (at about 30%), compared to over 40% for London and the UK.

Road transport accounts for a similar proportion of the emissions in Haringey as it does in London, but both are lower than for the UK as a whole.

### 2.1.4 Local Variations

Within Haringey there are significant variations in the direct CO2 emissions, which broadly correlate with factors such as affluence/deprivation and housing density.

The figures below show the gas consumption across each ward in Haringey. There is a broad link between high income groups and large carbon footprints, as those on higher incomes are more likely to live in larger homes requiring more electricity and heating.

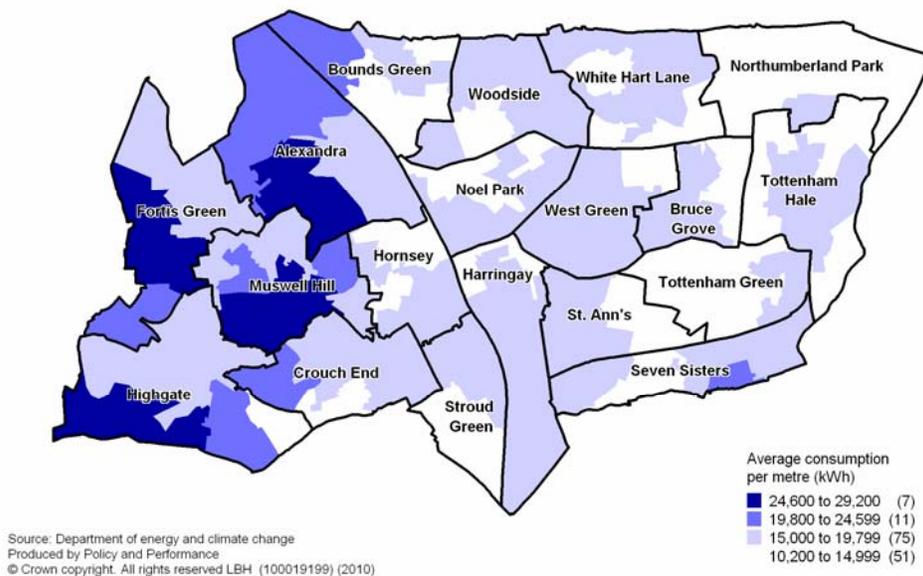
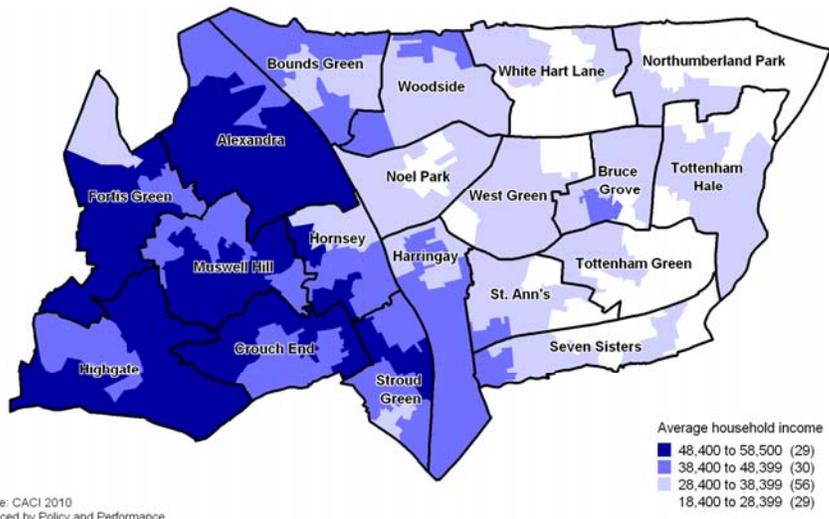


Figure 4: Domestic gas consumption 2008, Haringey Lower Super Output Areas



Source: CACI 2010  
 Produced by Policy and Performance  
 © Crown copyright. All rights reserved LBH (100019199) (2010)

Figure 5: Average household income, Haringey Lower Super Output Areas

## 2.2 Indirect & Total CO2 Emissions

An analysis of indirect CO2 emissions takes into account the energy that has gone into producing the goods and services that are used in Haringey, with these emissions often happening outside the UK. The things we buy, from food & drink to consumer goods and entertainment, all have a carbon impact irrespective of where they are produced. The people who live and work in Haringey therefore have a role in contributing to CO2 emissions elsewhere in the world.

Considering the indirect energy use alongside the direct sources already discussed more than doubles Haringey’s carbon footprint (from 1,035kt to 2,533kt per year).

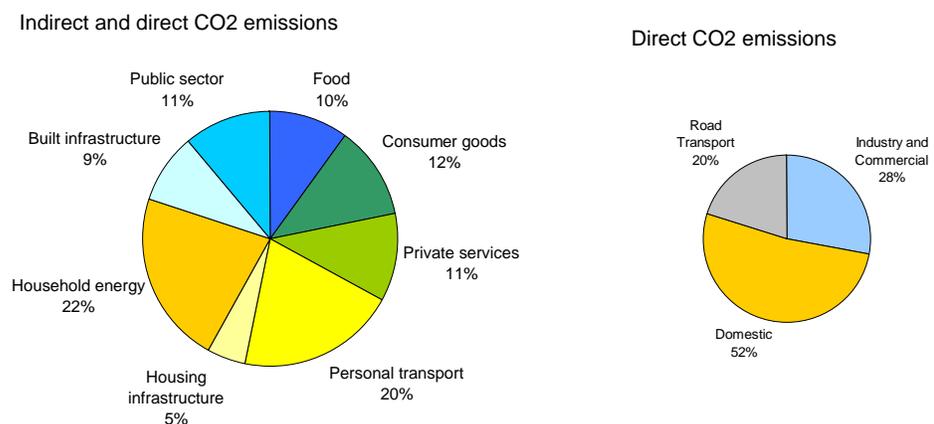


Figure 6: Comparison of indirect and direct CO2 emissions in Haringey

Reducing carbon emissions from goods and services does not have to mean consuming less but rather finding more sustainable methods of production and consumption. The need to de-link consumption from unsustainable impacts is a driving force for considerable economic growth. Spending on sustainable goods and services in the UK grew by 58% from £13.5 billion in 1999 to £36 billion in 2008.<sup>6</sup>

In Haringey reducing carbon emissions from consumption and production could provide opportunities for existing green businesses to grow and new businesses to emerge. In 2008/9 the combined turnover from green enterprise in Haringey which includes renewable energy technologies, waste management and alternative fuels, was £267 million and also provided over 1000 jobs.<sup>7</sup>

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<sup>6</sup> Cooperative Financial Services, Ethical Consumerism Report 1999-2008

<sup>7</sup> London Development Agency, London Low Carbon Sector, Borough Data, 2010

### 3. The Council's Carbon Management Plan

Haringey Council is the borough's largest employer, and with a number of buildings, a large vehicle fleet and wide array of services being provided, it is one of the more significant sources of non-domestic emissions. As at April 2007, the Council's own operations accounted for 3.5% of total borough-wide CO2 emissions.

It is therefore important for the purposes of meeting the borough wide 40% carbon reduction target that the Council takes measures to reduce its own carbon emissions. However, this will also be key to the success of other initiatives, as the Council will be leading by example and providing a benchmark for other organisations in the borough.

#### 3.1 Emission Baseline and Target Setting

The Council's CO2 2006/7 baseline has been calculated to be 36,583 tonnes. The following pie chart and table presents a percentage breakdown of the sector emissions and associated costs.

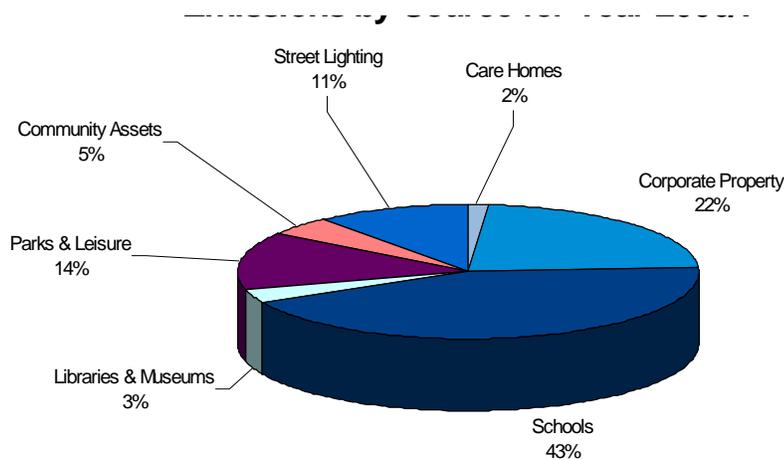


Figure 7: Carbon emissions from Council operations listed by source for 2007

Priority 4 of the Greenest Borough Strategy commits the Council to lead by example in promoting environmental responsibility and reduce carbon (CO2) emissions from Council buildings, schools and transport by 10% in 2010/11, compared with 2006/7 levels. The Council met this target in the first quarter of 2010/11, but acknowledged that much more is required of us to tackle climate change.

As a result, the Council agreed a Carbon Management Plan for its own operations in March 2010. This sets out an action plan to achieve a 40% reduction in carbon emissions by 2015, half a decade ahead of the target for the wider community. Over the next 5 years Haringey Council is being transformed in to a low carbon organisation by:

- ▶ Increasing the involvement of all our staff, especially groups which have not been engaged previously.

- ▶ Supporting the wider target of investigating decentralised energy and setting up an Energy Services Company (ESCo),
- ▶ Incorporating carbon management into key strategies such as our Travel Plan and Procurement Strategies. It also links into the Council's Decentralised Energy, Air Pollution and Water Strategies.
- ▶ Strengthening our strategic partnerships with schools.
- ▶ Ensuring that finance available for carbon reduction projects through our two sustainable investment funds; via external funding, such as the Salix Finance loan scheme; and allocation of capital investment funds. The Salix Finance Scheme is an interest free loan provided to public sector bodies to undertake energy efficiency improvements to their buildings. It is a match-funding scheme, and the loan can only be used when matched by an internal scheme, such as the Council's award winning Sustainable Investment Fund (SIF).

### 3.2 Projects and Progress to Date

The Sustainable Investment Fund is £0.5m, ring-fenced from Council reserves, which supplements Business Unit budgets ensuring that installations and works are not simply replaced, but upgraded to include environmental enhancements. Prior to the creation of this fund, the Council would renew end-of-life equipment with like-for-like. The Programme has mainstreamed whole-life-costing by removing the 'price premium' barrier and focusing on the combined costs of price, operations and disposal. Several projects which otherwise would not have been commissioned have been completed on the strength of the swift return on investment through energy, water and waste savings. The scheme can also be used to finance entire projects requiring significant capital investment, with a return on investment of under five years through energy cost reduction. The loan is open, interest free, to all business units, and is repaid in installments matching energy cost savings made. The Council benefits from CO2 reductions immediately.

A number of projects have already been implemented that will contribute towards the carbon savings needed to achieve the 40% reduction by 2015. These include:

Energy Projects	Site	Installed	CO2 Savings (tonnes) p.a.	09/10 Cost Savings
Voltage Optimisation	River Park House	Aug 08	116	£16,582
	Alexandra House	May 08	42	£6,092
	Central Library	May 08	36	£5,164
	48 Station Road	April 08	24	£3,375
Variable Speed Drives	Park Road Swimming Pools	July 08	21	£2,954
	Tottenham Green Leisure Centre	July 08	120	£17,158
Swimming Pool Covers	Park Road Swimming Pools	Sept 09	84	£13,555

	Tottenham Leisure Centre	Green	Sept 09	113	£18,352
Regenerative Water Filtration	Tottenham Leisure Centre	Green	Dec 09	106	£17,167
Boiler Works	Haringey Children's Home	Park	Feb 10	4	£693
	The Red House		June 10	20	£3,288
	48 Station Road		April 10	24	£3,964
	40 Cumberland Road		May 10	4	£623
	639 High Road		April 10	0	£53
	Chestnuts Recreation Ground		Mar 10	6	£973
	Ermine Road Day Centre		May 10	16	£2,619
<b>Total</b>				<b>736</b>	<b>£112,612</b>

**Table 1: Carbon saving measures implemented 2008-2010**

This has contributed to the following result by the end of 2009/10:

Year	Target		Actual Reduction		Actual vs Target	Cars off the road <sup>8</sup>
	Tonnes	%	Tonnes	%		
			45,566	Baseline	-	-
<b>2006/7</b>			45,411	-0.34	-	49
<b>2007/8</b>	44,427	-2.5	44,285	-2.81	↓	402
<b>2008/9</b>	43,060	-3 (5.5 Cumulative)	41,894	-8.05	↓	1153
<b>2009/10</b>	41,009	-4.5 (10 Cumulative)				
<b>2010/11</b>	38,731	-5.0 (15 Cumulative)				
<b>2011/12</b>						

**Table 2: Carbon savings achieved 2009/10**

*NB: The carbon tonnage reported in this table is weather corrected. This accounts for the discrepancy in the emissions baseline (based on actual emissions). Weather correction provides a better indication of trends in energy consumption without extreme weather affecting the figures.*

### 3.3 Financial Benefit of Action

Energy prices are currently increasing by 20% each year, meaning the Council's energy bill (which includes schools and elements of the housing portfolio) could rise from our existing costs of £7.5m to potentially £18.5m in 2014/15.

<sup>8</sup> "The figure for the number of cars equivalent equals 3.184 tonnes CO<sub>2</sub> per car per annum." Defra 2008

Cost avoidance will be achieved in each year prior to 2014/15, but it will be relative to the utility costs and consumption reduction per year. Should the Council achieve a 40% reduction in our energy consumption (and hence carbon emissions) by 2014/15 as per our corporate target, the Council could potentially avoid utility costs of £7.4m in 2014/15, across Council buildings, schools and a portion of the housing portfolio.

Furthermore, the reduction of carbon emissions from 36,583 to 21,350 tonnes will reduce the Council's yearly carbon tax (under the Carbon Reduction Commitment) by £182,796.

## **4. Reducing Carbon Emissions in the Community**

There is great potential for reducing carbon emissions in Haringey, through coordinated action from residents, businesses, the council and other public sector organisations.

Since the launch of the Greenest Borough Strategy in 2008, Haringey has made significant progress in tackling carbon from the borough at large. A number of pilot projects are underway to test community engagement methods and area based retrofit of housing, including the Low Carbon Zone in Muswell Hill which is one of ten flagship schemes in London. Significant funding has been leveraged for wide scale roll out of home energy efficiency measures and a number of sustainable transport initiatives have been developed to promote low carbon travel and improve public transport. A summary of key achievements is provided in the Appendix 5.

During 2011 the Council will lead on the development of a Community Carbon Management Plan, to identify the actions needed from 2011 to the target year of 2020. This is detailed further in section 4.4.

### **4.1 Opportunities and Challenges**

A number of the key opportunities for reducing carbon emissions are highlighted below, along with some of the challenges that will be faced:

#### **Opportunities**

- The most significant source of emissions in Haringey is from electricity and gas use in homes. Fortunately this can be tackled relatively easily by retrofitting properties with energy efficiency measures and micro renewable energy. This will also help to reduce the financial burden of energy bills on residents.
- Many residents in Haringey experience fuel poverty, causing health problems as a result of insufficient heating. The national Green Deal scheme being launched in 2012 will provide support for the upfront costs of investing in efficiency in buildings, that can be repaid using fuel cost savings. However for those people experiencing fuel poverty who are already under heating their homes, energy efficiency improvements may not lead to fuel cost savings. In addition, those on low incomes are unlikely to want to take on. What may be perceived as long term debt, to pay for energy efficiency improvements. Haringey will campaign for new obligations on energy suppliers and a Green Deal framework that supports those suffering or at risk of fuel poverty.
- Haringey is an urban area with a dense population, which means that many parts of the borough have the potential for decentralised (or district) energy networks supplying hot and cold water by insulated pipes underground. Decentralised energy can be supplied using combined heat and power technology that is up to 50% more efficient than conventional boilers and can run on low carbon fuels or gas.

- Because Haringey is an urban area, many journeys made are short in distance and therefore adaptable to low carbon forms of transport such as walking, cycling, buses, and electric vehicles.

## Challenges

- Haringey has pockets of economic and social deprivation, and the regeneration of these areas remains a focus for the Council and other agencies. However, affluence and commerce must increase in a sustainable way that does not lead to an increase in carbon emissions.
- A target of 6,800 houses are set to be built in Haringey over the next 10 years, which could contribute 21,760 additional tonnes of CO<sub>2</sub> emissions per year<sup>9</sup> (equivalent to 9,070 cars<sup>10</sup>) by 2050. The direct impact of these will be minimised through tougher planning standards, but the corresponding population increase could have a significant impact on indirect emissions.
- The global economy has grown to be dependant on the consumption of goods and services that are carbon intensive. Patterns of consumption will need to change in order to reduce indirect carbon emissions, whilst continuing to promote sustainable development and prosperity.

## 4.2 Carbon Saving Measures

A Carbon Management Plan for Haringey will include actions to increase the take up of carbon saving measures, focussing on the following:

- Retrofitting homes and businesses with energy efficiency measures such as solid wall insulation and draft proofing, and completing the installation of insulation in all lofts and cavity walls.
- Retrofitting small renewable energy installations on domestic and non-domestic buildings, such as solar photovoltaic panels and solar thermal cells.
- Installing decentralised energy networks, using combined heat and power technology to supply hot water via underground pipes to groups of dwellings or buildings, and which produce electricity locally.
- Sustainable transport infrastructure: cycle lanes & cycle parking; electric vehicles and charging points; car clubs; bus and rail network improvements.
- Behaviour change and advice on low carbon food; saving energy in the home; choosing low carbon ways to travel; and reducing waste.

An indication of the scale and mix of the measures that could be needed to meet the 40% target has been provided using 'carbon reduction scenario modelling' that has

<sup>9</sup> Based on Zero Carbon Hub estimate for a house built to 2006 building regulations emitting 3.2 tonnes CO<sub>2</sub> per annum. [www.zerocarbonhub.org/definition.aspx?page=2](http://www.zerocarbonhub.org/definition.aspx?page=2)

<sup>10</sup> Based on 2007 estimate of average car emissions from DFT of 2.4 tonnes CO<sub>2</sub> pa. [webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/statistics/datatablespublications/vehicles/licensing/vehiclelicensingstatistics2007](http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/statistics/datatablespublications/vehicles/licensing/vehiclelicensingstatistics2007)

been carried out for Haringey, (extrapolated to 2020), and is as detailed in Table 3 below.<sup>11</sup> Over the next year, the Carbon Management Plan for Haringey will establish the actual scale and mix of measures required for Haringey, as well as how this can be achieved.

Carbon saving measure	Measurement	Number/capacity required by 2020	Capital costs [M£]	Carbon saving [ktCO2pa]
CHP community heating	MWe	89*	206	241
Heat from power station (used in community heating)	MWth	15	8	31
Domestic renewables	Dwellings	26,180	63	35
Large scale renewables	MWp	97	66	69
Domestic insulation measures	Installations in dwellings	58,449	75	40
Commercial energy efficiency measures	Thousand meters squared treated	925	15	9
Efficient street lighting	Lamps	8,524	2	1
Transport measures	Combination**	-	-	47
<b>Total</b>			<b>437</b>	<b>472</b>

**Table 3: Indicative carbon reduction scenario for Haringey**

\* 89 Megawatts electrical of combined heat and power can supply approximately enough heat to meet the needs of 31,000 homes and enough electricity for 124,000 homes.

\*\* Transport measures include increasing the efficiency of vehicles, reduction in car use, a shift to more sustainable transport modes and switching road freight to rail.

The indicative investment needed in the period to 2020 is over £400m. However, it should be noted that this is the cost to the overall economy, as opposed to the cost to the Council, and would need to be delivered by the Council, Mayor of London and Government working to facilitate private sector investment and the investment choices of residents.

<sup>11</sup> Carbon Reduction Scenarios to 2050, Technical Report, (2007) Sea/RENUE

### 4.3 Funding for Community Action on Climate Change

The public sector is currently facing unprecedented cuts to funding, which will limit the ability of the Council to directly deliver many of the measures outlined earlier. However, it is estimated that to deliver a 40% carbon reduction by 2020 could require investment in the region of several hundred million pounds over the next 10 years. It will therefore be essential for the Council, its partners and other tiers of government to work to unlock investment from the private sector.

In 2009/10 Haringey Council leveraged around £1m of external funding for carbon reduction projects, including feasibility studies, area-based pilot projects and capital measures. The Council is establishing a Carbon Management & Sustainability Team to ensure that it can continue to access sources of external funding that may become available to local authorities, but also so that it can provide support to the community in accessing these funds.

There are a range of sources of grant funding from UK and European sources, these include the following:

- **Green Deal**

The Green Deal, being launched in 2012 will provide a mechanism for residents and SME businesses in private and rented accommodation to invest in the upfront costs of energy efficiency measures and repay this using savings from their energy bills. The Green Deal could provide approximately £10k upfront investment per property in Haringey.

- **Energy contracting**

Energy contracting with energy services companies can be used by businesses and organisations to finance and deliver energy efficiency measures and decentralised energy projects. Energy contracts guarantee cost and results over the lifetime of the project, typically 10-15 years, (see for example the Mayors RE:FIT programme).

- **London Green Fund**

This will provide a £100m repayable investment fund for decentralised energy, energy efficiency and waste infrastructure projects, managed by the European Investment Bank.

- **Incentives for renewable energy generation**

The Feed In Tariff (Clean Energy Cash Back Scheme) provides an incentive for small scale renewable energy generation (alongside the Renewables Obligations for large scale renewable electricity). This enables individuals or organisations to invest in low carbon electricity, in return for a guaranteed payment both for the electricity they generate and export back to the national grid. It is expected that a similar scheme will be launched to incentivise low carbon heat in 2011/12.

- **En10ergy**

Haringey Council's Green Innovation Fund (2008/9), provided grant funding to set up the development of a social enterprise company selling shares to residents (which

can be refunded after 3 years), supporting the Muswell Hill Low Carbon Zone. The company is operating a growing revolving fund for investment into carbon saving initiatives, funded and delivered by local people. If successful the scheme could expand in future to operate across the borough. En10ergy is also running a bulk purchasing scheme negotiating discounts for efficient boilers and solar renewable energy on behalf of residents.

## **4.4 Haringey Carbon Management Plan**

Haringey will develop a community wide Carbon Management Plan during 2011, which is expected to be launched in the autumn. Outlined below are the key stages to developing the action plan:

### **1. Haringey 40:20**

Haringey 40:20 is being launched in January 2011, and will be a membership organisation for all residents, businesses and organisations contributing to the Carbon Management Plan for Haringey. Haringey 40:20 will offer support and subsidies to organisations involved, helping them to access free and discounted services to reduce their carbon footprint. Organisations and groups will be asked to submit their pledges to contribute to the Carbon Management Plan and play a wider role in supporting the overall development of the plan, by sharing their views and encouraging friends and colleagues to sign up.

A website ([www.haringey4020.org.uk](http://www.haringey4020.org.uk)) will provide a forum to network members and establish local groups at a neighbourhood level, following in the footsteps of the Muswell Hill Low Carbon Zone. An overview of how different partners will be able to contribute and become involved in Haringey 40:20 is given on the next page.

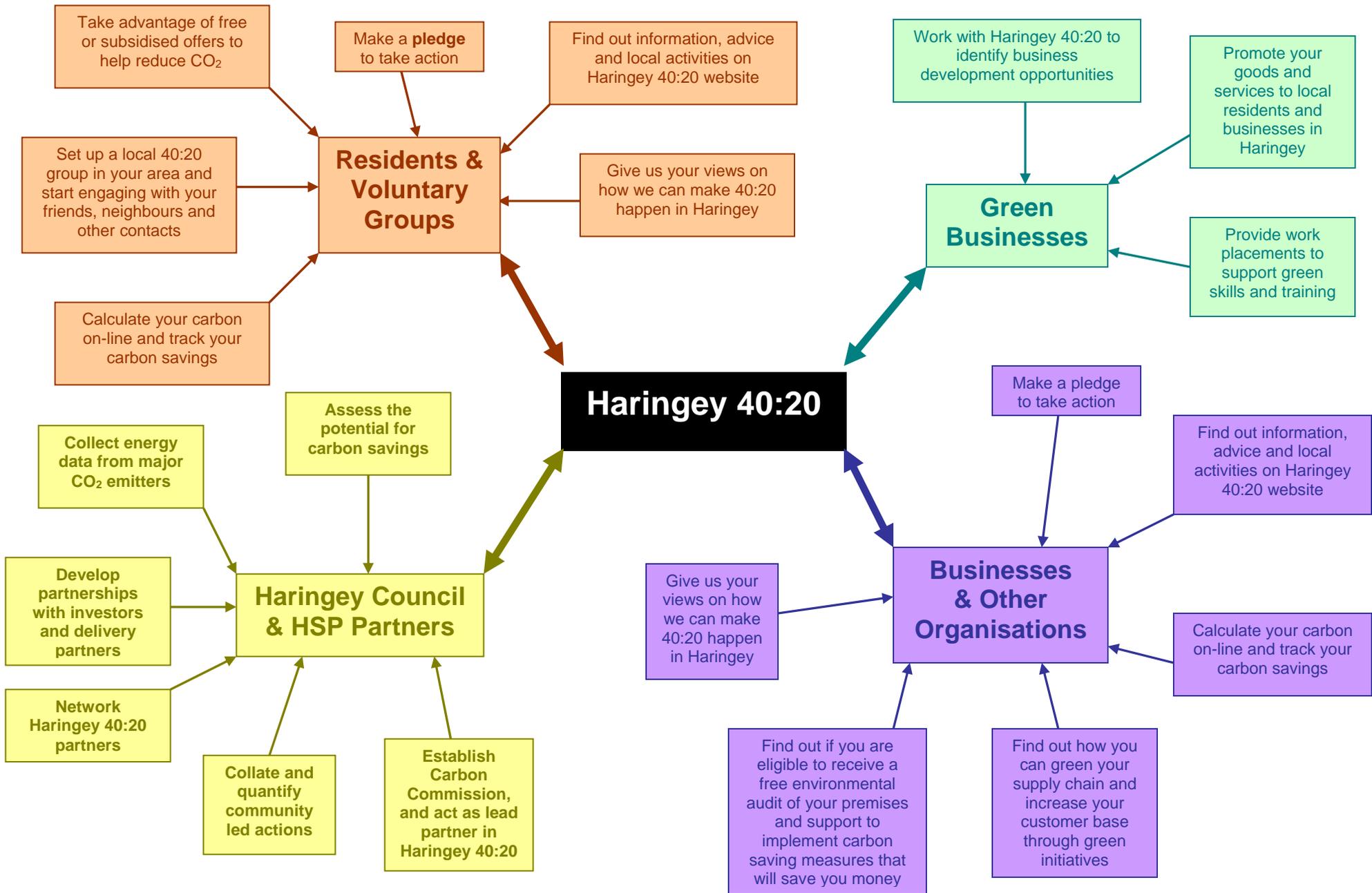
### **2. Carbon Commission 40:20**

A Carbon Commission will be set up by recruiting experts to help develop the strategies, networks and funding to achieve the 40:20 target. Members of Haringey 40:20 will have the opportunity to feed into the work of the Commission through workshops and online forums. Experts will be drawn from the across the fields of academia, charities, energy companies and other businesses who can help Haringey 40:20. Key challenges that the Carbon Commission will help Haringey 40:20 to address include:

- Operating in a period of constrained public sector finance, to attract private investment and develop new models of service delivery to achieve Haringey's carbon objectives;
- Engaging and supporting communities, including those with diverse needs and multiple deprivations to collectively reduce our carbon footprint;
- Supporting the growth of green industries, skills and employment;
- Enabling better partnership working across delivery agencies, the private sector and voluntary sector for the promotion of sustainable development.

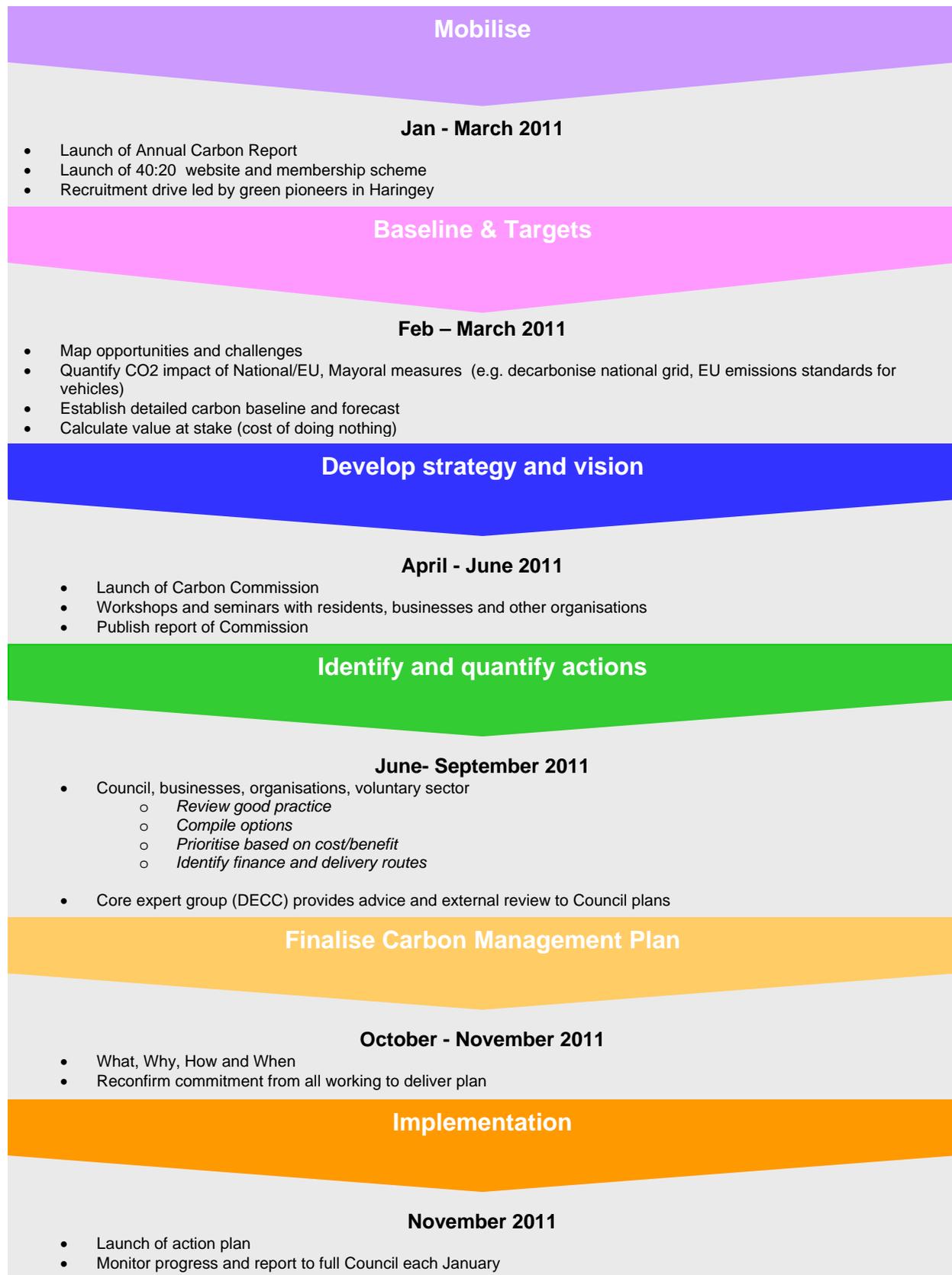
It is proposed that the principal activities of the Commission include:

- Discussing, developing and agreeing a coherent and coordinated overall framework for action, including recommendations for immediate and longer-term action;
- Developing broad consensus with residents, stakeholders, government and key partners on the framework and the proposed way forward;
- Promoting coherent and coordinated communications and information on the approach to be taken across services, and the wider community.



### 3. Haringey Carbon Management Plan

Detailed action planning will be carried out by the Council and members of Haringey 40:20. The flow chart below shows the process and timescales for the action plan:



## 5. Carbon Budget and Reporting

Haringey Council is one of the first local authorities to commit to introducing local carbon budgets. A carbon budget is an allocation of carbon for a given period, established to ensure that longer term carbon targets are met. Carbon budgets are important, as they:

- Increase transparency and accountability in action on climate change
- Ensure there is regular reporting emissions to be able to measure progress on long term targets
- Increase understanding of the types and scale of measures needed locally to achieve our target
- Effectively target resources to tackling climate change

### 5.1 Annual Carbon Report 2012

The next annual carbon report to be presented to Full Council in January 2012 will include a full rundown of the carbon budget.

Budget periods will be set for periods of more than one year, allowing for long lead times required for major capital infrastructure projects, with the first budget period being published in autumn 2011. The Carbon Report will describe progress that has been made during the current financial year and actions projected for the next financial year, including details of costs, delivery partners and timescales where available, demonstrating how the carbon budget will be met. The report will also describe national and regional initiatives which impact on delivery of the target. A breakdown of the data to be provided is shown in Table 4 below.

40% carbon reduction by 2020 on 2005 baseline forecast for growth	472 kilo tonnes CO2 58 kilo tonnes projected growth (current projection)
Baseline (direct emissions only)	1034.93 kilo tonnes CO2 (equivalent to 344,000 cars). (2005 NI 186 Local Authority Emissions)
Budget periods	Multiple budgets set for the period up to 2020
National, EU and regional targets and policies, legislation	Estimated CO2 saving potential
Haringey lead initiatives	Estimated CO2 saving potential, cost, timescale, delivery partners (if applicable)
Haringey Carbon Management Plan	Estimated CO2 saving potential, cost, timescale, delivery partners (if applicable)
Commitments from public sector, third sector and businesses	Estimated CO2 saving potential, cost, timescale, delivery partners (if applicable)
Commitments from individuals	Estimated CO2 saving potential

Table 4: Annual Carbon Report, inventory of data

Haringey Council will investigate the possibility of setting carbon reduction targets, (for its own operations), in the business planning cycle of each of the Council's business units. This would require installing new metering equipment to enable measurement of energy use for each business unit. SMART targets will be expected to be included by every part of the Council's business.

### **5.1.1 Data and monitoring progress**

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There is currently a two year time lag in publication of data for gas, electricity and fuel consumption at a local authority level (e.g. in autumn 2010, data was published for 2008). Annual carbon reports will be based on estimates of the potential carbon mitigation from measures, working with the Department of Energy and Climate Change (DECC) to agree a methodology for this and the recent emissions data.

Progress against Haringey's carbon target will be measured using a range of sources from national, regional and local data, as well as information that is voluntarily submitted by partner organisations. A full inventory of this data is provided in Appendix 4.

Haringey will need to build relations with the community at large to collect carbon reporting data from a range of businesses and organisations on a voluntary basis. This information will be used to supplement data on fuel use and transport fuels and provide a detailed snapshot of progress being made by the community. Businesses and organisations will be able to enter their data through an on-line web portal.

At present there is no established methodology to measure indirect emissions at a local level (such as the CO<sub>2</sub> impact of food produced outside the UK). The Mayor's draft Climate Change Mitigation and Energy Strategy proposes to develop a methodology for London. If viable this method will be adapted to include indirect emissions in the scope of Haringey's Annual Carbon Report.

The Core Expert group set up by DECC to support the Local Carbon Framework Pilot, (of which Haringey is one of 9 pilot authorities and the only London Borough), will review and make recommendations on consistent method for local authorities reporting on community CO<sub>2</sub> emissions.

## **6. Summary**

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Haringey has made significant commitments to reducing the carbon emissions of both its own operations, and from the wider community in the borough. Through the adoption of the Greenest Borough Strategy and, more recently, the decision to adopt a 40% carbon reduction target, the Council has helped to establish itself as one of the leading London boroughs in climate change mitigation.

The coalition government's spending cuts pose a significant challenge to the Council and its partners, as staffing resources and available budget to continue this work will both be reduced. Haringey has had a great deal of success in leveraging regional and national government grants to support its work on carbon reduction, but a new approach involving greater involvement from the private sector will now be needed if the borough is to meet its stated targets.

During early 2011, and subject to the outcome of the ongoing review of the Council's services and structure in light of the spending cuts, it is envisaged that Haringey will take further bold steps through the creation of a Haringey 40:20 and the formation of a Carbon Commission. These will be instrumental in galvanising residents and businesses in Haringey into action, and of course in unlocking financial investment from the private sector.

## Appendix 1: Council Carbon Management Plan – measures proposed

The table below shows the carbon saving measures proposed for the period 2011-2013.

Carbon saving projects	Cost (£)	2011/12	2012/13
Boiler Optimum Start Controls	23,649	Y	
Replacement Streetlight Lamps	4,188	Y	
Replace Lighting to T5 efficient	62,487	Y	
Thermostatic Radiator Valves (Care Homes)	30,642	Y	
BMS Installation in Swimming Pool Halls	22,247	Y	
Voltage Optimisation in Offices	99,227	Y	
BMS Fine Tuning	61,892	Y	
Thermal Insulation in Corporate/Leisure Buildings (Phase 1-20 Buildings)	150,000	Y	
Street lighting Electronic Gear Controls	102,748	Y	
Variable Speed Drives in Offices	3,000	Y	
Office Pipe work Insulation	3,809	Y	
Lighting Controls (Offices)	720,739	Y	
Zoning	575,471	Y	
Upgrade to Condensing Boilers	321,353	Y	
Equipment Timer Controls	404,658	Y	
LED Floodlights (Sports Grounds)	115,722		Y
Draught Proofing (Corporate Property)	84,434		Y
CHP Park Road Swimming Pool	174,100		Y
Swimming Pool Heat Recovery	67,153		Y

**Table 5: Carbon saving measures proposed for 2001- 2013**

## Appendix 2: Carbon Saving Potential – loft and cavity wall installations

The map below shows the potential lifetime carbon saving from loft and cavity wall insulation by ward in Haringey. This is based on Home Energy Check data collected by Energy Suppliers and other providers which is then extrapolated to owner occupiers in each area based on Census data.

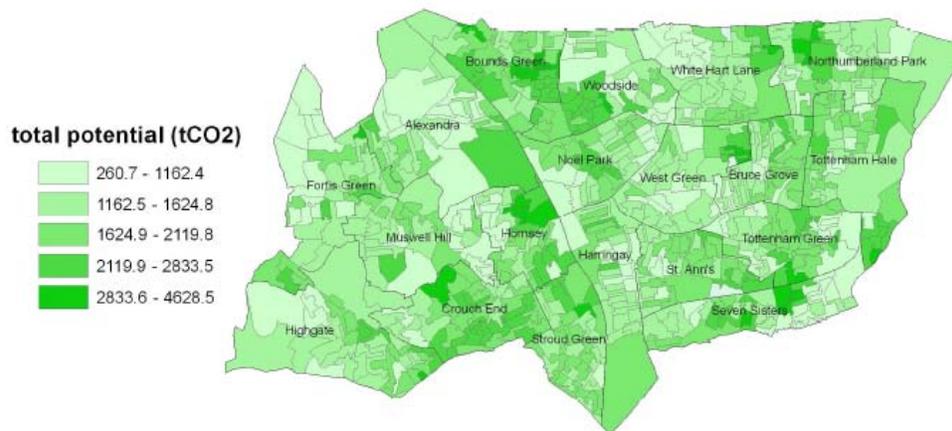


Figure 8: Lifetime carbon saving potential from loft and cavity wall insulation in Haringey

### Appendix 3: Heat density in Haringey

The excerpt from the London heat map being produced to identify where there is potential for the development of district heating networks. The excerpt from the map shown below includes data from all Council property including Homes for Haringey managed building stock. Dark red shaded areas indicate where there is the highest heat density (i.e. heat usage per 50 square meters). Heat density mapping is used to identify opportunity for district heating networks. Public sector organisations, social housing providers and other large heat users are encouraged to submit their data (For further information contact: [environmental.resources@haringey.gov.uk](mailto:environmental.resources@haringey.gov.uk)).



Figure 9: Excerpt from the London Heat Map ([www.londonheatmap.org.uk](http://www.londonheatmap.org.uk)) 2010

## Appendix 4: Inventory of monitoring data

The table below provides a list of data that will be used to measure progress on the Haringey Carbon Management Plan. Some data sources are not currently made available to local authorities but it is hope that this will be made available in the near future.

	Housing	Organisations/Businesses	Transport
LA collected	<ul style="list-style-type: none"> <li>-Housing stock assessment</li> <li>- Registered social landlord stock assessments</li> <li>- Data on own stock and public buildings</li> <li>- Thermal imaging survey</li> <li>- Installations performed as a result of local authority supported activity</li> <li>- Carbon Reduction Commitment data</li> <li>- Number and type of contacts with Energy Saving Trust advice centre</li> <li>- Carbon Emission Reduction Target</li> <li>- Cavity Insulation Guarantee Agency data; Warm Front; Corgi Works Notification; Clear Skies; Low Carbon Buildings Programme; Fenestration Self-Assessment Scheme</li> <li>- English House Condition Survey</li> <li>- Warm Front annual report</li> </ul>	<ul style="list-style-type: none"> <li>- Pledges made as a result of local awareness campaigns</li> <li>- Energy use data from Local Strategic Partners or other partnerships/community groups and businesses designed to reduce energy/share data on energy use</li> <li>- Census data: distance travelled to work; numbers of homes with/without central heating</li> <li>- Electricity and gas consumption: type and average consumption per meter</li> <li>- NI 186 local CO<sub>2</sub> estimates</li> <li>- Sub-national energy consumption statistics</li> <li>- Low Carbon Buildings Programme applications/installation</li> <li>- MayDay data - businesses in communities</li> </ul>	<ul style="list-style-type: none"> <li>- National Travel Survey; includes mode of transport and average distance</li> <li>- Road and traffic data: Vehicle km; vehicles per day</li> <li>- Public transport data: Bus and light rail journeys; bus kilometers</li> <li>- Freight transported by road</li> <li>- Passenger journeys by rail by destination and origin</li> <li>- Fuel consumption in road transport</li> </ul>
Not yet Available	<ul style="list-style-type: none"> <li>- Energy Performance Certificates</li> <li>- HEED survey data: only available at ward level</li> </ul>	<ul style="list-style-type: none"> <li>- Smart metering District Network</li> <li>- Operator Substations</li> </ul>	

	<ul style="list-style-type: none"> <li>- HEED installation data: only available at ward level</li> <li>- Warm Front- Annual Report at ward level only</li> <li>- Low Carbon Buildings Programme - ward level only</li> <li>- Installer self generated installations and able to pay activity</li> <li>- CERT activity (not all provided to HEED)</li> </ul>		
	<ul style="list-style-type: none"> <li>- Carbon Trust data</li> <li>- Fuel use data (Smart metering) for homes and businesses</li> </ul>		

**Table 6: Carbon reduction monitoring, data sources available (2010)**

## **Appendix 5: Key carbon reduction achievements 2009/2010 – 2010/11**

Haringey has been highly successful in a number of areas of its work, being delivered as part of the Greenest Borough Strategy. A selection of key achievements are listed below. For a full account of work and achievements in this area please see the Greenest Borough Strategy Progress Report 2011.

### » Retrofitting Energy Efficiency Measures to Homes

- £419,441 investment leveraged from Warm Front into priority groups
- Selected to deliver London Development Agency pilot £124,900 investment through pilot area based retrofit RE:NEW, retrofitting 527 homes

### » Sustainable Transport

- Smarter travel programme being developed for 2011-2014
- DIY pilot area base retrofit of smart travel measures in Turnpike Lane in partnership with Sustrans
- 35 new car club bays installed (total 74 in the borough)
- 12 electric charging points installed this year and further 9 planned
- 513 residents provided with sustainable travel advice on the door step

### » Carbon reduction requirements for new buildings

- Draft Core Strategy and Sustainable Design and Construction guidance for Haringey requires a 44% reduction in carbon emissions for new build Housing and for commercial properties to achieve BREEAM “Very Good in 2011/12. By 2016 all housing developments will be carbon neutral and by 2019 all commercial new build will be carbon neutral.

### » Decentralised energy using combined heat and power

- Heat mapping for all Council buildings completed and mapping of strategic partners underway, enabling opportunity assessment for decentralised energy (London Heat Map)
- Draft Feasibility studies have been produced for Broadwater Farm and Hornsey Town Hall redevelopment with a combined carbon saving potential of 3,292 tCO<sub>2</sub> per annum

### » Muswell Hill Low Carbon Zone

- 100 homes surveyed so far and a range of energy efficiency measures installed
- Social enterprise company En10ergy established, with over 100 local investors

- Bulk purchasing group established for renewable energy technologies and efficient boilers
- Only London Borough selected to take part in the Low Carbon Communities Challenge, awarding over £300k for renewable energy technologies and demonstration projects.

» Community engagement

- 2900 pupils reached through sustainability education programmes
- 1657 people reached through events such as Energy Saving Week
- 263 people met Haringey Energy doctor at their local library for one-to-one advice on saving energy in their home
- 2894 people provided with advice on saving energy and water and reducing waste on their door step

» Sustainable food

- 37 new food growing spaces created since January 2010
- Draft sustainable food strategy launched