Croydon Environment and Climate Change Partnership

Environment and Climate Change Strategy 2009-2011

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Foreword

By the Chair of Croydon Environment and Climate Change Partnership, Cllr Jason Perry

This strategy has been produced by the Croydon Environment and Climate Change Partnership with support from the sustainable development charity, Forum for the Future.

The Croydon Environment and Climate Change Partnership was created in 2003 to implement the environmental objectives of the Sustainable Community Strategy and consists of representatives from local businesses, schools, community and faith groups and regional and national organisations with environmental responsibilities (such as Transport for London, the Environment Agency and the Energy Saving Trust / Creative Environmental Networks).

This document sets out both the short-term priorities that have been agreed by the Environment and Climate Change Partnership and outlines a strategic framework for our response to climate change in the medium and long term.

Much has already been achieved by the Partnership in the last three years – there are over 600 businesses working to improve their environmental performance through the Envibe (Environmental Business Excellence) Sustainable Business Partnership. Over 120 Croydon schools have recycling facilities, 10 schools have renewable energy installations, 80 schools have developed travel plans and 50 schools have been successful in the London Schools Environment Awards. Over 600 tonnes of carbon has been saved through insulation of local homes in the borough through the promotion of grant and support schemes (such as Coldbusters, Warmfront and the £100 council-tax rebate offer in partnership with British Gas). Croydon Council is taking steps to reduce carbon emissions from its own activities with a successful internal Carbon Management Programme saving over 2,000 tonnes of carbon dioxide per year currently and pioneering Planning Policies which require high levels of sustainable and low carbon design for new developments in the borough. In 2005/06 the Council launched a £3m Smarter Croydon initiative which is having a marked effect on improving our public realm.

However this is not a time to be complacent. The borough faces significant environmental challenges in the future including tackling increasing resource use and waste generation and facing the threat of Climate Change. This is all within the context of large scale regeneration of Croydon and the need for increased economic growth.

This strategy outlines immediate short-term actions to achieve our environmental targets to 2011. These targets are summarised at the end of the document. Over the next three years the Partnership will work to develop medium and longer term targets and a programme of activity which will drive improvements to 2020, 2050 and beyond. As well as minimising our contribution to climate change, a vital part of the Partnership's work over the next three years will be to ensure that Croydon is adequately prepared for the possible impacts of unavoidable climate change, such as extreme weather events. This is outlined in the Strategic Framework at the beginning of the document.

Key short term activities will include:

- Further analysis of where the greatest carbon savings (and reduction in air pollutants) can be made in the domestic sector to target home energy advice, grants and incentive schemes for local residents with additional promotional activity
- Increasing the number of schools, businesses, faith and community groups reducing energy consumption, minimising waste and developing travel plans to reduce their carbon footprint using the 'Carbon Hub'
- Agree long-term carbon reduction targets that are appropriate for Croydon and for the scale of the global challenge
- Ensuring development and regeneration activity within the borough supports achievement of our priorities and LAA targets, for example by requiring low carbon developments.
- Implementing the Council's Air Quality Action Plan 2007-2010 and maximising opportunities for jointly tackling air pollution and greenhouse gas emissions
- Expansion of recycling services and promotional activities around waste minimisation
- Implementation and monitoring of the Council's street cleansing regime, increase in litter bins and graffiti removal
- Extending cycle and pedestrian routes, promoting car sharing and car clubs, public transport, walking and cycling and improving integration between transport modes

Our targets are ambitious but the benefits are manifold and go beyond a high quality environment to include improved health and wellbeing, prosperity and educational attainment.

This is a joint strategy and everyone has a role to play. It is the responsibility of all local partners collectively to ensure that Croydon meets the environmental challenges of the 21st century. If you would like further information, or would like to comment on this strategy please contact the Environment and Sustainability Team at Croydon Council on 020 8760 5791 / email sustainability@croydon.gov.uk

Introduction

This document sets out the short-term priorities that have been agreed by the Environment and Climate Change Partnership and outlines a strategic framework for our response to climate change in the medium and long-term. The strategy has two sections:

Section 1: Sets out the context for our strategy on climate change. It also identifies the implications of climate change for Croydon and outlines our medium and long-term priorities in relation to both reducing our contribution to climate change and in ensuring that Croydon is resilient to the likely impacts of unavoidable climate change.

Section 2: Sets out the short-term strategic priorities that have been agreed by the Environment and Climate Change Partnership which will guide the Partnership's work over the next three years.

This document sets the high level framework for action. The detailed activity in relation to the Partnership's work over the next three years can be found in a number of existing plans and strategies. If you want more detail about targets, performance or how we plan to deliver on each of our priorities you can refer to these documents:

- The Waste Strategy and Recycling Plan
- The Air Quality Action Plan and Supplementary Planning Document on air quality
- Croydon Council's Carbon Management Programme and Energy and Environmental Sustainability Strategy for Council Housing Stock (private sector housing energy and environmental sustainability strategy being developed)
- The developing Local Development Framework and current UDP
- The Croydon Local Improvement Plan relating to transportation

These documents are available on the Croydon Observatory: http://www.croydonobservatory.org and the Croydon Council website: www.croydon.gov.uk

The successful delivery of this Environment and Climate Change Strategy depends on close co-operation between many organisations and individuals. The Croydon Environment and Climate Change Partnership is responsible for the development of this Strategy and will also oversee its implementation and monitor performance against outcomes. The Partnership is one of the themed groups of the Local Strategic Partnership and leads on the priority of 'improving the environment.' The structure, membership and role of the partnership is set out in Appendix A.

What is our vision?

Croydon's Sustainable Community Strategy sets the overall vision for a sustainable Croydon:

We want Croydon to be regarded as a clean and green borough, that takes responsibility for its environmental and natural resources now and over the long-term, with great spaces to walk, cycle and relax. We will strive continuously to reduce our environmental impact by increasing reuse and recycling of materials, and working with residents and businesses to reduce carbon emissions. We will also be renowned for the strength of our local public transport network, including more tram lines, more buses and, consequently, less congested roads

Croydon aspires to be a "city" within a city and is embracing the opportunities and challenges this brings. The new Alsop vision for Croydon town centre - London's Third City - also sets out a range of objectives and aspirations:

- Improving connectivity – tackling the physical divides in Croydon town centre by making changes to Wellesley Road and Roman Way, and improving the link between West Croydon and East Croydon;
- Introducing water to the town centre – bringing the River Wandle back to the surface in various parts of the town centre;
- Improving access to and quality of the three parks close to the town centre;
- Increasing the town centre population - from 4,000 to 20,000 or more;
- Improving the shopping and living offer – including a redevelopment of the Whitgift shopping centre;
- Developing a University Quarter in the town – increasing access to higher education whilst providing the town centre with a more diverse population

SECTION 1 – Strategic framework for climate change activity

This section sets out the medium and long-term context for this Environment and Climate Change strategy. It identifies the implications of climate change for Croydon and sets out how we can reduce our contribution to climate change and ensure that Croydon is resilient to the likely impacts of unavoidable climate change. A strong and expanded set of longer-term objectives and actions will be developed by the Partnership in the next version of this strategy in 2011. Our activities will be prioritised in terms of their effectiveness, wider impact on sustainable development and deliverability. The Partnership will align these to the long-term vision for the borough which is being redeveloped during 2008/09 and will be set out in future versions of the Sustainable Community Strategy. This approach will ensure our response to climate change moves Croydon simultaneously in the direction of achieving broader partnership objectives; for example by tackling fuel poverty among disadvantaged groups or stimulating the local economy by connecting local businesses with the housing retrofit market.

Climate change is not an issue on its own. It is a signal that we are overusing the environment: that we are over-drawn at the bank in environmental terms. Starting with this Environment and Climate Change Strategy, Croydon's approach to climate change aims to find ways of generating more sustainable growth and wellbeing within the limits of our environment to support us.

This section covers four key areas:

1. Why long-term climate change is an immediate challenge for Croydon
2. What the key challenges, opportunities and priorities are for reducing Croydon's contribution to climate change
3. Communications and behavioural change
4. How Croydon will improve its resilience to the impacts of unavoidable climate change.

Why long-term climate change is an immediate challenge for Croydon

Climate change is a huge challenge that will have far-reaching effects on our economy, society and the environment locally in Croydon, as well as globally. It is already affecting the global economy and weather patterns. As the situation gets more urgent, we want to be prepared for a constraint on carbon dioxide emissions, and ensure we minimise the risks and seize the opportunities for people and businesses in Croydon. At a global scale, Croydon has a moral and leadership imperative to take bold and immediate action to avoid catastrophic climate change.

It's the responsibility of local government to ensure the future health, prosperity and success of all residents, businesses and wider society in Croydon. In order to provide vital services such as security of energy supply, local employment opportunities and health and leisure services well into the future, we must ensure that Croydon is prepared for the challenges and opportunities that a change in climate will bring.

The past two years have seen a steady rise in the public profile of environmental issues locally, nationally and internationally. The Stern review, published in 2006, offered the starkest warning yet: failure to act will result in devastating social impacts and trigger catastrophic global recession.

There is now an overwhelming consensus among the scientific community[1] and main political parties that the climate is changing and that this is almost certainly the result of human activities[2] and primarily due to the burning of fossil fuels.

Global temperature rose by 0.7^{o}C over the 20th century. 2004 was the fourth warmest year on record globally and all but one of the warmest 10 years on record has occurred since 1990. This rise in mean temperature has been accompanied by an increase in extreme weather events in some parts of the world, including periods of storms, droughts, floods and unusually hot and cold temperatures. Croydon experienced unseasonal localised flooding during the summer of 2007 after drought during 2006.

The growing scientific consensus is that stabilising atmospheric CO_2 concentrations at 450 parts per million (ppm) is required to avoid catastrophic climate change. Current levels are around 380ppm - up from levels of 280ppm maintained for most of human history prior to the industrial revolution. This can only be achieved by substantial changes in how we produce and use energy.

Our key Local Area Agreement (LAA) target is for a 9.5% per capita reduction in CO_2 emissions in the borough by 2011, based on a 2005 baseline. However the Government has set a target for a 26% reduction in carbon emissions by 2020 and a 60% reduction in carbon emissions by 2050 within the Draft Climate Change Bill. Many Local Authorities have adopted this target within their Climate Change Strategies. The Mayor of London has set a target for London of stabilising emissions at 60% below 1990 levels by 2025. The Environment and Climate Change Partnership will consider if this long term target is appropriate for Croydon and how it could be met.

There has been an increase in policy and legislation which has moved the climate change agenda from a sometimes marginal activity into a core business consideration. Recent and forthcoming developments include the Energy Performance of Buildings Directive, the Carbon Reduction Commitment, the Climate Change and Sustainable Energy Act 2006 and Policy from the Greater London Authority including the London Plan, Mayor's Transport Strategy, Municipal Waste Management Strategy and the London Climate Change Action Plan. A detailed policy review has been undertaken to ensure that the elements outlined within this Strategy are in line with the direction of travel of existing local, subregional and regional bodies.

The key challenges and opportunities for Croydon

In 2005, Croydon was the 13th least polluting borough in London at 5.5 tonnes of carbon dioxide per capita (based on a population of 343,000). We need to cut carbon dioxide emissions from all of the main sources by reducing energy consumption, reusing and recycling resources, switching to zero carbon energy supplies and offsetting the carbon dioxide emissions that can't be avoided. The following sets out how we will tackle the main sources of emissions in Croydon.

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[1] IPCC synthesis report Nov 2007 states that "warming of the climate system is unequivocal"

[2] IPCC synthesis report Nov 2007 says that "Most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations."

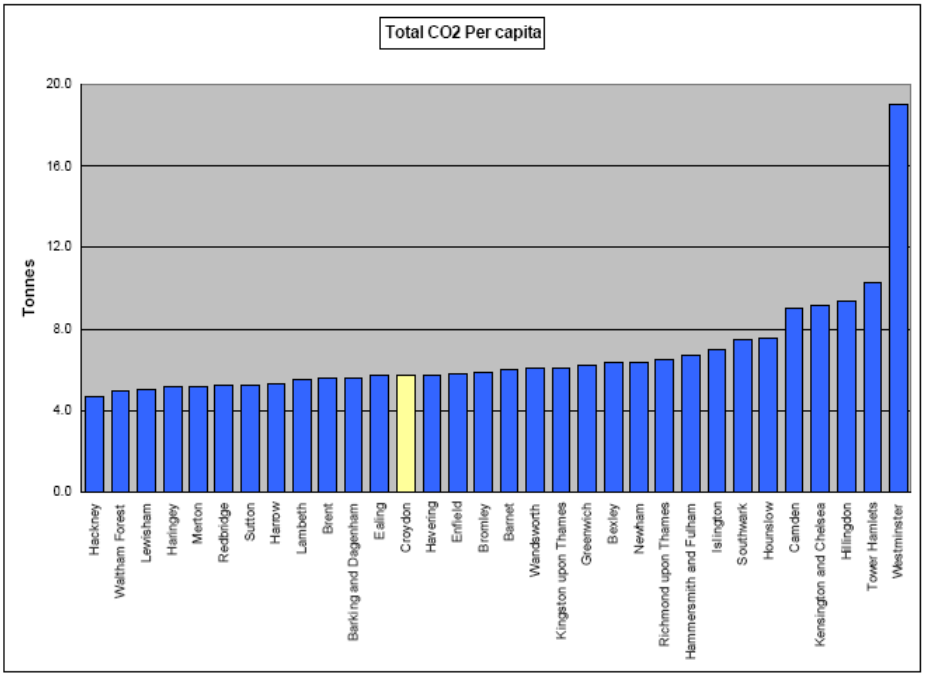
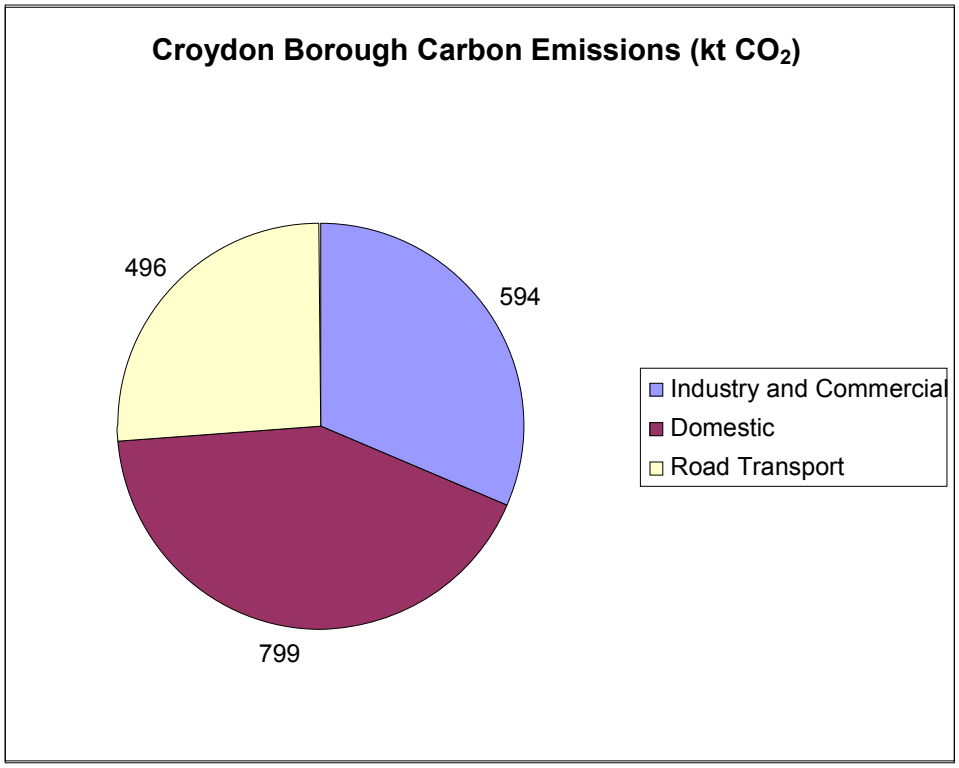


Figure 1 – CO_2 emissions per capita for all London Boroughs, source DEFRA 2005

In 2005, Croydon produced 1,889,000 tonnes of carbon dioxide, mainly from the residential and business sectors:

Figure 2 – Croydon's Carbon Footprint, source DEFRA 2005



Energy supply – challenges and opportunities

Croydon is about to embark on a massive programme of regeneration with around £3.5billion of new build offering office accommodation, leisure and shopping opportunities, and homes. This is both an opportunity to ensure low carbon developments but also a challenge in terms of increased energy demand.

Energy supply – priorities

Environmental protection will need to be embedded in this regeneration activity if Croydon is to achieve its environmental targets, for example through low carbon developments and ensuring that air quality objectives are met. Currently new developments have to meet the Code for Sustainable Homes level 4 / BREEAM Excellent and offset 10% of predicted carbon emissions through in-situ renewable technologies. This large scale regeneration activity offers opportunities for even greater carbon savings, for example through heat networks as proposed in Barking and Dagenham and the Elephant and Castle in Southwark. A priority will be to ensure that emerging Planning Policy and Strategy sets a new standard in zero and low carbon development, decentralised energy generation, green building design and sustainable land use planning. The Partnership can also make a contribution as a stakeholder to high level energy plans that coordinate integrated activity across London and the South East.

Domestic buildings – challenges and opportunities

Croydon is London's largest borough in terms of population at over 340,000 residents. This is reflected in its carbon footprint, where domestic carbon emissions are the largest contributor. The population is expected to increase to over 344,000 by 2012. Three quarters of domestic carbon emissions come from space and water heating.

New residential properties in Croydon will be built to very high standards of energy efficiency as outlined above (the requirement for level 4 of the Code for Sustainable Homes is a 44% improvement on building regulations). The Government has set a target for zero carbon homes by 2016. However, new build represents a fraction of the housing stock in the borough (around 1%).

Croydon has the largest private housing sector in London at over 116,000 homes, of which 84% are owned and 16% rented from a private landlord. 26% are pre-1919 and 60% are pre-1945. Due to the age of the stock the average Standard Assessment Procedure (SAP) rating is around 44. This is considerably lower than the national average of 51 and the Council's own housing stock which has a SAP rating of 79. This shows that there is scope for substantial improvement. The existing housing stock also poses a challenge for emissions of local air pollutants, primarily NOx. Certain energy saving measures are not appropriate for older buildings (particularly cavity wall insulation since older buildings do not have cavity walls; and double/triple glazing in some cases where buildings have listed status).

Domestic buildings – priorities

The section on energy supply above outlines priorities in terms of delivering zero carbon homes by 2016. In addition to this activity, through the Planning and Enforcement work of the Council, there will need to be additional work to tackle carbon emissions from the existing housing stock in the borough. There is already a well established programme of work by the Council to improve the energy efficiency of its stock. More could be done to encourage social landlords to improve their SAP ratings, for example increased reporting and monitoring requirements.

The greatest challenge however is the private housing sector. Here there will need to be a combination of information provision, advice, grants and incentives for home owners (including private landlords). This will have to be targeted effectively to achieve behavioural change but could deliver significant savings, for example, if every light bulb in every London home was energy efficient, it could save 575,000 tonnes of CO_2 and £139 million per year; if all appliances in homes were energy-efficient, this could translate into savings of £150 million from electricity bills and 620,000 tonnes of CO_2 every year.[3]

Work is also needed to identify skills gaps in the sustainable energy industry and developing training (in collaboration with the relevant industry bodies) to improve the skills required to install and service energy saving and micro-renewable products and systems, particularly in relation to retrofitting properties with solid walls.

Commercial and industrial buildings – challenges and opportunities

Croydon's town centre is one of the most significant business, commercial, leisure and entertainment centres in the South East and dominates the local economy. Containing 2.5 million sq ft of retail space and with a GDP of about £2.5 billion, the town centre is one of the top twenty shopping centres nationally and a major financial services centre, attracting over 140,000 workers and home to 20 "blue-chip" companies. The concentration of business, commercial, industrial and warehousing activity along the Purley Way corridor provides a further major focus for economic growth and local employment in the borough.

Croydon has also been recognised in the London Plan as one of four major economic opportunity areas. A key challenge will be decoupling economic growth from increased energy demand and associated carbon emissions.

Croydon has more office floorspace than anywhere else in South London. The available floorspace in Croydon Town Centre is 58,000 sqm (on 16 sites over 929 sqm). However, a disproportionately high proportion is old stock (1940-1970) and only 6% is new (1990- 2003) compared to 57% in Reading and 60% in Crawley. Commercial buildings are typically refurbished every ten years, and energy efficiency improvements can be more easily made during refurbishment.

Carbon emissions from the commercial sector come primarily from electricity usage, including lighting and computing, although as the climate continues to warm, energy used for cooling buildings could become increasingly significant. Since current electricity provision has 125% higher carbon intensity than for heating, the carbon emissions from the commercial sector are amplified. Substantial savings can be achieved through simple actions like turning off appliances at night and avoiding inefficient heating and cooling of buildings. New working practices and technological innovations within the IT sector (such as 'server virtualisation') will also support a reduction in electricity usage. These carbon savings can lead to significantly lower energy bills, and will boost Croydon's economy. If economic activity slows over the next few years due to a global recession these cost savings could be even more valuable.

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[3] From the London Climate Change Action Plan 2007

Commercial and industrial buildings – priorities

New build commercial and industrial premises will reach significantly higher levels of energy efficiency to accord with Planning Policy, however more work could be done to improve energy efficiency within refurbishment projects and to encourage commercial landlords to upgrade their buildings. There is also the potential for better use of space and multi-use of buildings, particularly community buildings. Through the 'Building Schools for the Future' programme the council has the opportunity to create a new generation of energy efficient schools which are exemplars of sustainable design.

Over 600 local businesses have signed up to the Environmental Business Excellence Support programme 'Envibe' which offers free tailored support to reduce energy consumption. Expanding this programme and developing a centralised method for monitoring, recognising and rewarding carbon savings could deliver significant improvements.

Transportation – challenges and opportunities

There has been a dramatic growth in road traffic in the UK over the last few years as a result of changes and growth in population, retail, leisure and commercial activities. Nowhere have the effects of these been felt more heavily than in London and the South East. The most significant component of traffic growth has been in the use of the car, which has been made worse by increased levels of freight on the roads and a relative decline in public transport. Lifestyles and travel patterns have generally become increasingly car dependent.

Initially, greater mobility undoubtedly offered improved access, convenience and freedom of choice for all of those with access to a car. Unfortunately in recent years traffic demands have been growing faster than our ability to deal with the problems they create – and the Government's forecasts suggest that traffic will continue to grow. There is a growing recognition that the greater freedom offered by the car has not been without its costs. The consequences can be seen in increasing congestion in many parts of the borough, deterioration in environmental quality due to pollution, disturbance, severance and noise and disadvantages to the local economy because of delays caused by congestion.

Despite this, the borough has excellent public transport links. East Croydon is one of the busiest stations in the UK with fast and frequent rail services to London, Gatwick and the South Coast. The construction of Croydon Tramlink in 2000 brought a sustainable transport system that regularly carries more than 70,000 passengers per day and also links parts of the borough and South London previously ill-served by public transport. Tramlink has made a major contribution to reducing traffic congestion and from its early days was taking more than 7000 vehicles off the roads each day. An extension to Crystal Palace and Upper Norwood is currently under consideration by Transport for London, with full support from Croydon and Bromley Councils. Croydon will also benefit from the Extension of the East London line scheduled to start services in the summer of 2010. This will put Croydon on the Underground map; improve connections to Canada Water and cross river links to Highbury and Islington.

One of the key challenges is behavioural change; encouraging local people to increase their travel decisions beyond single occupancy car use. Currently only 74 local businesses have published Travel Plans. Linked to this is the need to secure sufficient investment to maintain and grow good public

transport services and synchronising investment in transport to maximise development opportunities.

Transportation – priorities

In order to achieve behavioural change the infrastructure for sustainable travel must be well developed. Across the borough a shift towards lower carbon modes of transport can only be achieved by increasing the relative attractiveness of these more sustainable modes, by providing more pleasant, reliable and sometimes faster journeys, by making the most of travel demand management policies, by improving the quality of urban design and environment, and by taking steps to ensure that the cost of each transport mode reflects its true cost in terms of carbon emissions. A key issue will be increasing the capacity of our train stations- especially at East and West Croydon and making stations and stops safer and more hospitable. An issue for long term consideration is to ensure patterns of new development reduce the need for car parking provision through the emerging LDF.

Waste – challenges and opportunities

Each year, the UK generates about 100 million tonnes of waste from households, commerce and industry. Most of this ends up in landfill where the biodegradable part generates methane as it decomposes. Methane is regarded as the most potent greenhouse gas and is 21 times more warming than carbon dioxide in terms of its contribution to climate change. Also, valuable energy is used in extracting and processing new raw materials to make new products if waste materials are not recycled.

In 2006/07, Croydon Council handled approximately 187,000 tonnes of household and commercial waste through a wide range of services. Of this about 140,000 tonnes was household waste (including recycling/composting). In comparison with other London authorities, Croydon's performance for diverting waste for recycling and composting has been poor. In 2004/05 Croydon ranked 27th out of the 33 London authorities and in 2005/06 this position had worsened to 29th. However improvements in 2006/07 saw a recycling rate of 20.11% and has ranked the Council 23rd. The Waste Strategy and Recycling Plan 2008/11 sets out how the Council will increase the amount of waste re-used and meet the Council's ambitious recycling target of 40% in 2010.

Croydon faces a considerable challenge over the next few years in achieving its recycling targets and landfill diversion obligations. Current waste growth estimates by the GLA indicate that Croydon's waste will increase at approximately 0.5% each year up to 2020. There are a number of factors affecting this, including a rising population and an increase in the number of smaller households, both of which generate more household waste per head of population.

In accordance with the London Mayor's waste strategy, there is a hierarchy for utilising waste and Croydon must consider options to reduce and recycle prior to generating energy from waste. However, there is still significant opportunity to generate energy from the remaining waste, the majority of which is currently diverted to landfill sites. A series of non-incineration technologies can be utilised to transform the different types of biomass/waste into bio fuels including anaerobic digestion, pyrolysis, gasification and mechanical biological treatment.

Waste – priorities

A key priority will be reducing waste in line with the waste hierarchy: 1) prevent waste, 2) re-use, 3) recycle/ compost, 4) energy recovery, 5) disposal. This will include increasing recycling and

composting services for residents and businesses and greater promotional work with schools, community groups and businesses.

From September 2008 the South London Waste Partnership (SLWP) will work together to establish contracts for the transfer, transport and disposal of waste, management of household Reuse and Recycling Centres and management of recycling facilities, composting and additional treatment. Waste disposal/landfill diversion will continue to be a key focus to ensure the Council meets its obligations under the Landfill Allowance Trading Scheme (LATS). Through the partnership opportunities for energy generation through waste will also be explored and these will be reflected in the emerging LDF.

Air pollution – challenges and opportunities

Clean air is vital to human health. High levels of particulate air pollution are estimated to have caused 1,031 accelerated deaths and 1,088 respiratory hospital admissions in London in 2005. The Environment Act 1995 requires the Council to undertake a process of Local Air Quality Management (LAQM). This involves reviewing air quality in the borough and assessing whether or not it will meet air quality objectives set by the Government. Where the prescribed air quality objectives are unlikely to be met, local authorities must designate Air Quality Management Areas (AQMAs) and produce an Air Quality Action Plan setting out measures they intend to take to work towards objectives.

Croydon has met and will continue to meet existing statutory air quality objectives for all but one pollutant: nitrogen dioxide. Away from busy roads, annual average levels of nitrogen dioxide are well below air quality objective levels. However, the Council's monitoring of current air quality shows that the air quality objective for nitrogen dioxide is not met at roadside monitoring stations and this is likely to remain the case beyond 2010. At present, the major cause of air pollution in Croydon is road traffic. However development will overtake road transport as the major source of emissions by 2010 as measures like tighter Euro standards and the London Low Emission Zone come into effect to reduce emissions from vehicles, however there has been very little concerted effort to reduce emissions from buildings. Other contributions come from industrial plant and premises, and domestic energy production.

The Council has an Air Quality Action Plan containing measures it is currently taking and intends to take in the future to improve air quality. Many of these actions will help in reducing emissions of greenhouse gases since they focus on reducing sources of emissions of local air pollutants (such as dealing with idling vehicles and encouraging the use of hydrogen fuel cells) and this also reduces carbon dioxide emissions. However, there are potential trade-offs which need to be taken into account, in order to ensure that steps to reduce greenhouse gas emissions do not increase local air pollution levels and vice versa. One such trade-off is the emissions of particles from the use of biomass as a renewable energy source. Although the objective for particles is currently met in the borough, the 2007 National Air Quality Strategy introduced a new exposure reduction regime for $PM_{2.5}$, tiny particles associated with respiratory and cardiovascular illness and mortality which have no known safe limit for human exposure. The new regime will, for the first time, attempt to reduce the exposure of all urban dwellers, alongside the existing method of reducing hotspots of PM exposure. This approach will help to improve human health across our towns and cities but is at odds with increased use of biomass combustion, which is a source of $PM_{2.5.}$ The use of biomass in development therefore needs to be carefully considered and in built up areas where there is potential for public exposure, it is not the best renewable energy to choose.

Air pollution – priorities

A key priority for the Council is to devote similar levels of activity to the domestic and commercial sector as have been spent on road traffic in terms of bringing down emissions of local air pollutants. One of the key issues will be for the Council to quantify the impacts on emissions of oxides of nitrogen and particles of measures that are in place and proposed in future to tackle climate change throughout the residential and commercial sector, so that we can understand how well these trade-offs are working and try to optimise them. In 2009 the Council will produce a draft domestic emissions reduction strategy, aimed at identifying simple, low-cost, quick-win measures that could be taken to reduce emissions of air pollution from homes and identify how these could be funded. One way in which such a scheme could work would be to use the financial contributions from new developments that are unable to reduce their emissions beyond certain thresholds. These contributions (known as planning obligations) could pay for measures that would reduce emissions of air pollution and greenhouse gases from existing homes in the vicinity of the development or elsewhere in the borough - a kind of air pollution off-setting scheme. This might, for example, take the form of additional grants to householders for energy efficiency measures or replacing householders' older, polluting boilers with newer, more energy-efficient, less polluting ones.

In the medium-term the Council will consult on proposals in a new Core Strategy (the Council's key planning document) for new developments to demonstrate that the emissions of air pollution from the development are lower than the emissions from the previous or current land use on the site, in order to bring about an overall reduction in emissions of air pollution from the built environment of the borough. There are opportunities for this to be linked to current (or any proposed) policies on reducing carbon emissions from development.

Communications and behavioural change

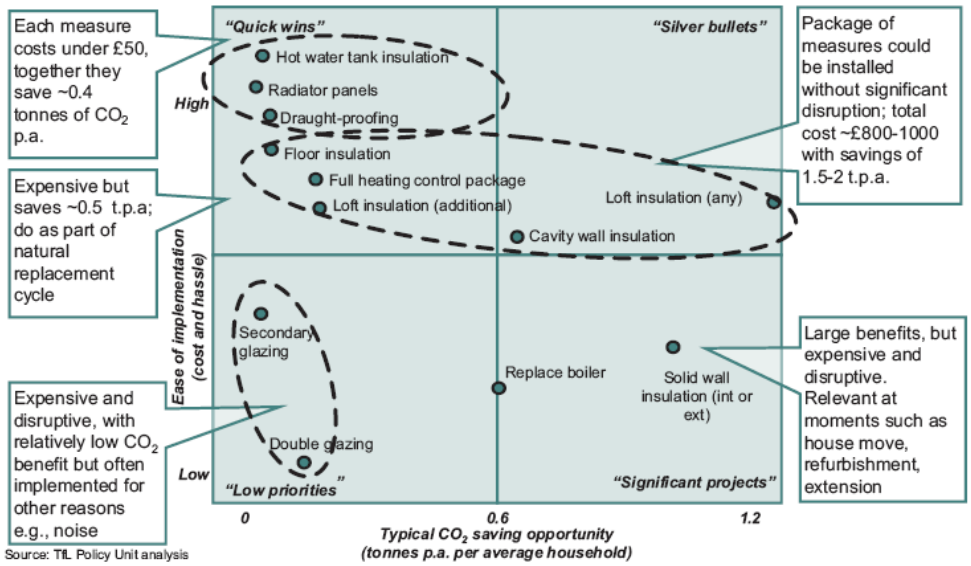
Communication will be central to the delivery of this strategy because helping local residents and businesses to reduce their own carbon footprint offers the greatest opportunities to cut emissions quickly, cost effectively and with significant additional benefits. However, Croydon is diverse and complex in its social make up and geography. Parts of the borough share inner-city characteristics while others offer some of the most expensive and sought after housing in outer London. Local communities speak more than 100 languages and ethnic minority groups make up 36% of the population, but this is higher in some northern parts of the borough. These factors all affect where and how services relating to environmental protection need to be targeted – for example, activities to promote home energy efficiency need to meet the needs of both high-income families with a larger disposable income and larger homes and those with less financial resources to carry out home improvements. Promotional activity will also need to be informed by detailed market research into current understanding, attitudes and behaviours relating to climate change.

For residents, substantial reductions in energy consumption can be made through simple, cost-free actions to cut out wasteful energy use, for example:

- turning off lights when we leave rooms, washing clothes at 30°C not 40°C
- Reducing necessary electricity use by increasing the take-up of energy efficient lightbulbs and appliances

- Reducing energy used for heating and cooling by improving the thermal efficiency of homes. Space and water heating represents 75% of emissions from homes.

Figure 3 – Range of measures available to householders to reduce heating and cooling, source the London Climate Change Plan 2007



Barriers which currently exist to saving energy or investing in cleaner forms of fuel and power for residents typically include:

- Lack of awareness: "I didn't know there was something I could do"; "I don't know whether doing this will have any impact".

- Perceived or actual cost: "I would do it, but it's too expensive"; "I didn't know it made such a difference in reducing my energy bill".

- Availability/ access: "I know what I need to do but I don't know who to call or where to go to buy it"; "there isn't anyone who can help me install it".

For businesses there are similar barriers to the uptake of energy efficiency measures. One reason why the Envibe business support programme has been so effective is that it addresses the barriers outlined above by providing information and signposting to organisations who can provide free services (such as energy audits). Increasing the number of businesses supported by Envibe would make a significant contribution towards reducing carbon emissions. Unlike homes, where decisions to turn lights and appliances on and off have to be made by individuals every day, in commercial premises many of these decisions can be programmed for the whole building by facilities managers. For example, through installing motion-sensor lighting which are only activated when a room is occupied.

In Croydon there are a range of organisations with a direct remit for the provision of advice and information relating to reducing carbon emissions (in particular the Energy Saving Trust / CEN and utility companies). There is also significant potential for local organisations without a direct remit to

take on a communications role (for example a school can reduce its own carbon footprint and also be in a position to educate students about saving energy in the home). Government backed or sponsored communications campaigns are increasing (such as the 'Act on CO_2' campaign) and should be used to 'piggyback' a local message or raise general awareness locally. The Environment and Climate Change Partnership will need to better co-ordinate these sources of advice and information to ensure that consistent information is available in the most appropriate way. However, it should be noted that generally, social and behavioural change programmes can only deliver change in about 20% of the population through voluntary measures. Greater uptake typically requires pricing measures or mandate from national government.[4]

Climate Resilience

Some climate change is now inevitable through the legacy of our past greenhouse gas emissions and the time it will take for actions we are currently taking to reduce emissions to take effect. This is why it is important that Croydon is prepared for change. Current forecasts suggest that south-east England will experience progressively warmer, wetter winters, and hotter, drier summers. On top of these changes to our average climate there will be an increase in the frequency and intensity of extreme weather events, such as heatwaves, storms and heavy rainfall. By the latter part of this century, an extreme weather event of a magnitude that might happen once every 100 years today, may occur every three or four years, and a new intensity will define the 'once in a 100 years' event. Sea levels will continue to rise for centuries.

The impacts of these changes on Croydon could be to increase the risk of flooding, droughts and uncomfortably hot weather. There will also be secondary and indirect impacts, including an increased risk of winter storm damage, poor air quality periods in summer and changes to biodiversity.

Climate change adaptation is not about drafting lots of new policies. It is about understanding how climate change may affect the world around us and then building this understanding into decision making processes. Climate change forecasts are only projections and therefore contain uncertainties. Because of the natural variability of the climate and the uncertainty inherent in forecasts, decision makers must employ a risk-based approach. Croydon needs to fully develop a risk based approach to assessing the impacts of climate change and embedding the management of these risks into decision making processes. The publication of the next generation of climate scenarios by the UK Climate Impacts Programme in late 2008 will provide an opportunity to improve the ability of decision makers to make risk based decisions provided they are able to identify critical thresholds whereupon an impact becomes significant.

Based on the best available information at present, significant climate impacts in Croydon are anticipated in the following key areas:

- Buildings
- Utilities and infrastructure

[4] London Climate Change Action Plan

- People
- Open Space and Ecology

Buildings

Levels of discomfort for those in poorly designed, insulated and ventilated buildings may increase, particularly in 'urban heat islands' where lack of green shade and abundance of heat absorbing materials results in heat accumulation. This could result in higher demand for air conditioning and hence higher energy costs (and increased emissions). This applies to human living and working conditions, conditions in hospitals and also animal husbandry.

Increased winter rain and episodes of extreme summer rain could lead to increased soil erosion and subsidence. Flooding from rivers, flash floods, surface run-off, and from overflowing water tables may also cause localised damage to buildings. Increased storm severity could lead to greater variability in rainfall, sunshine, humidity and wind-speeds.

The strategic adaptation priority for Croydon is to embed the management of these risks into the emerging local development framework, for example through strategic flood risk assessment, identification of 'urban heat islands' and a requirement that new developments are built in ways which can limit and cope with these risks, for example Sustainable Urban Drainage Systems, green roofs, natural ventilation which vents heat above street level etc.

Utilities and infrastructure

There has been a decrease in summer rainfall of up to 20% over last century and predictions suggest that summer rainfall may be reduced by up to 10% by 2050s. In the drought of summer 1996, several reservoirs and lakes in the region were reduced to less than 10% normal levels, or completely emptied[5] . This will affect domestic use (e.g. drinking, washing, gardens, etc), agriculture (e.g. irrigation) and other industry and commerce. This could have specific implications for commercial processes which are water intensive and recreational facilities.

Increased temperatures could lead to higher demand for air conditioning and hence higher energy costs (and increased emissions). If fuel costs rise due to fuel scarcity this could lead to an increase in fuel poverty amongst residents and affect the profitability of energy intensive industry. Fossil fuel demand/prices will likely affect the logistics of all sectors of trade, making reliance on sourcing from far afield potentially risky as well as costly. Local supply chains and low-carbon transportation methods will likely become increasingly attractive options.

Flooding and storm damage could affect power distribution, water supplies, transport networks and sewage treatment. Increased storm severity (e.g. wind) could lead to increased damage to utility infrastructure. Reduced availability of fossil fuels will likely affect prices of electricity and gas for spatial heating, cooking, running appliances and machinery (domestic and industrial/commercial), etc. Energy security will become more pressing. Rising cost of fossil fuels may lead to changes to transport modes and the amount of transport undertaken.

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[5] UKCIP 1998

The strategic adaptation priority in this area for Croydon would be promotion of water and energy saving measures across the borough. Close working with utility and transport companies to ensure that emergency plans are in place for extreme weather events will also be a priority.

People

Higher temperatures could lead to increased risk of heat stress and related deaths (as in summer 2003), increased risk of sunburn, food poisoning and communicable diseases and increased levels of air pollution and related illness. There may be a risk to health from increased winter rain, episodes of extreme summer rain and pollution from contaminated flood waters. Flooding and storm damage could increase insurance costs, and increase costs to those who are uninsured but affected (people living in deprived areas may be particularly vulnerable).

The strategic adaptation priority in this area for Croydon would be developing contingency plans for water scarcity and flooding. Close working with the Primary Care Trust to plan for the implications of climate change for human health and pollution prevention and control work would also need to be priorities.

Health outcome	Known effects of weather/climate
Heat stress, cold stress	Deaths from cardiopulmonary diseases (i.e. diseases that are related to both the heart and the lungs) increase with hotter and colder temperatures Heat-related illnesses (heat cramps, heat exhaustion and heat stroke) and death increase during heatwaves
Air pollution related morbidity and mortality	Weather affects air pollution concentrations Weather affects the distribution, seasonality and production of air transported allergens
Morbidity and mortality resulting from weather disasters	Floods and windstorms cause direct effects (deaths and injuries), infectious diseases, long term mental health problems, and indirect effects (temporary limitations on access to health and social care services)
Vector-borne diseases	Higher temperatures shorten the development time of pathogens in vectors and increase the potential transmission to humans Vector species have specific conditions (temperature, humidity) necessary to be sufficiently abundant to maintain transmission
Water- and food-borne diseases	Survival of important bacterial pathogens is related to temperature Increases in drought conditions may affect water availability and water quality (chemical and microbiological load) due to extreme low flows Extreme rainfall can affect transport of disease organisms into water supply
Cataracts, skin cancers and sunburn	More cloud-free days and higher temperatures may encourage public behaviour that increases the risk of over-exposure to UV

Figure 4 – The anticipated health impacts of climate change, source the Draft London Climate Change Adaptation Strategy 2008

Open Space and Ecology

Croydon is one of the greenest London boroughs with over 300 highly diverse parks and open spaces covering more than 1750 hectares. The benefits of these green areas in relation to adapting to a changing climate are significant:

• supporting biodiversity

• reducing flood risk by absorbing and temporarily retaining rainfall

• moderating the temperature through offsetting the urban heat island effect

• reducing energy demand by providing shade and reducing windspeeds

• helping to reduce noise and air pollution

• providing places for recreational and leisure activities that improve health.

Modelling work based on Manchester suggests that increasing the green space cover by 10% in high-density residential areas and town centres could keep surface temperatures at or below the baseline 1961-1990 level for most of the century. However, removing 10% green cover from these areas, increased maximum surface temperatures by up to 8.2^{o}C by the 2080s, assuming the highest emissions scenarios.[6]

There are also risks to green spaces and biodiversity as a consequence of climate change. Current climate forecasts suggest that increased human demand for water in summer months will decrease the availability of water in ecosystems through abstraction, affecting wildlife. Altered physical conditions affecting temperature of water, air, soil, and humidity levels can be expected to affect species distributions. Species and ecosystems adapted to cooler conditions will suffer: Species may be unable to 'move' in response to changing conditions due to the rapid changes in climate and landscapes that are not continuous enough to enable species to travel through. Increased temperatures and humidity are also likely lead to increased diversity and concentration of mosquitoes, and alterations to insects such as butterflies - with consequent effects throughout food chains (for example, on birds and other predators). Tree distribution is likely to alter as there are risks to drought intolerant species such as beech, thereby affecting distribution of insects and birds. Trees may also suffer a greater incidence of storm damage.

These ecosystem services are essential to Croydon's resilience to the impacts of climate change and the wellbeing of local people. Improving the quality, quantity, connectivity and diversity of green spaces will increase their resilience and therefore increase the capacity of Croydon and Croydon's biodiversity to adapt to a changing climate:

- Quality: improve the resilience of Croydon's green spaces and networks through management and by reducing harmful impacts (such as pollution, surface run-off, invasive species etc).

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[6] The Draft London Climate Change Adaptation Strategy 2008

- Quantity: protect existing green spaces and increase the area of green space through seeking new opportunities, even where there is no apparent 'space' for greening the city (for example street trees, green roofs and green walls).
- Function: design new green spaces into new or refurbished development to maximise function. Identify and pursue opportunities to enhance the green infrastructural performance of existing green spaces (for example, breaking rivers from their concrete culverts and allowing natural processes, such as seasonal flooding, to occur by creating flood plains and providing adjacent areas of habitat for refuge).
- Connectivity: Many green spaces would be enhanced by increased connectivity. New green spaces should be designed to improve links between new / existing spaces for people and wildlife.
- Communication: ensure good communication and coherency across all organisations working on delivering new and managing existing green spaces.

The planting and management of street trees and other trees in parks and gardens will need to ensure that trees are suitable for the changing climate, and anticipate the claims of tree induced structural damage.

SECTION 2 – Key activity to 2011

This section summarises the environmental priorities of the Sustainable Community Strategy which can be delivered over the next 3 years.

What are the priorities of the Sustainable Community Strategy to 2011?

The remainder of this Section is structured according to the four environmental priorities of the Sustainable Community Strategy:

- Tackling Climate Change by Reducing CO_2 emissions
- Improving Waste Recycling and Reducing Waste to Landfill
- Continuing Improvement of Street Cleanliness
- Promoting Public Transport and Reducing Congestion

In each of these sections we set out:

- What we want to achieve
- Our key targets to 2011
- What we are currently doing
- What we plan to do over the next three years
- Who has overall responsibility for the priority

Tackling Climate Change by Reducing CO_2 Emissions

What do we want to achieve?

We want a low carbon Croydon, where renewable and low carbon technologies power the borough. We want local people to have warm homes which are not expensive to heat. We want businesses to be more profitable as they have lower running costs. We want people to move easily around the borough without dependence on fossil fuels. In particular we want:

- The existing residential housing stock to be as energy efficient as possible, and for residents to be aware of low and no cost energy saving measures they can use
- For new developments in the borough to meet high environmental standards and incorporate renewable energy and low carbon technologies
- For local schools, businesses and faith groups to set targets for carbon reduction and work together to achieve these in line with the overall target for the borough

Our key targets to 2011 are…

Our key Local Area Agreement (LAA) target is for a 9.5% per capita reduction in CO_2 emissions in the borough by 2011, based on a 2005 baseline.

Our key Local Public Service Agreement (LPSA) target is to reduce emissions of carbon dioxide in the domestic sector by 601 tonnes by April 2009, based on a 2004 baseline.

What are we currently doing?

Croydon was the first borough to require that new residential developments offset 10% of predicted carbon emissions through in-situ renewable technologies and the second to require this of non-domestic developments. There are over 130 developments being built in Croydon which include renewable technologies and these are designed to very high levels of energy efficiency (44% higher

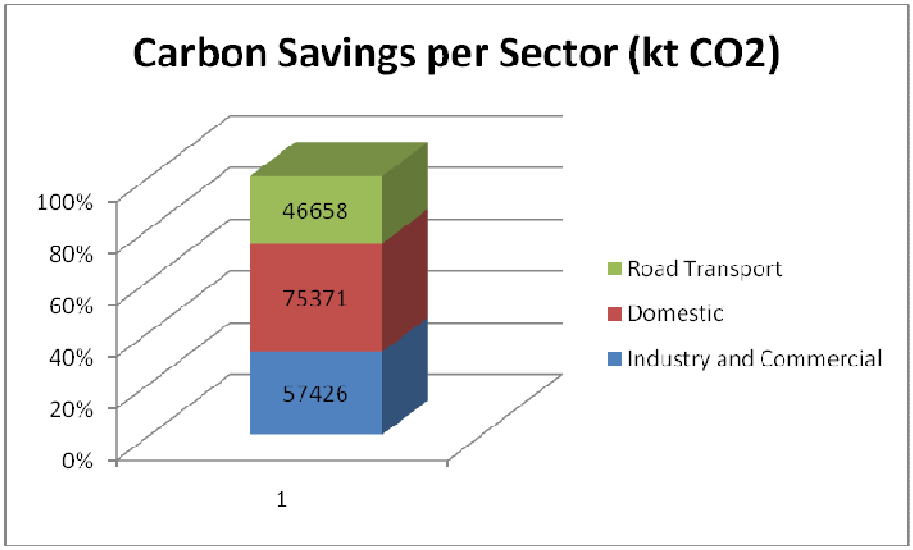
than building regulations for domestic properties). In the last 2 years over 600 tonnes of carbon has been saved through home insulation schemes for existing houses within the borough. Croydon's social housing stock is the second most energy efficient in London.

Over 600 businesses have joined the 'Envibe' Environmental Business Excellence Support programme which offers free support for businesses to reduce waste and conserve resources such as energy. To date over 50 schools have invested in energy efficiency measures such as heating and lighting controls through the Council's Carbon Management Programme and 10 schools have renewable energy installations, with 7 more schools currently bidding for external funding.

What do we plan to do between 2008 and 2011?

Assuming current levels of population, to achieve a 9.5% reduction in carbon emissions by 2011 we will need to save 179,455 tonnes of carbon dioxide from the 2005 baseline. If proportional savings to the current carbon footprint are assumed this means that the bulk of the savings will come from the domestic sector, followed by the commercial then through road transport. This section of the Strategy is concerned with domestic and industrial/ commercial emissions; those from transport are considered under the transport 'theme'.

Figure 4. Stable population scenario for carbon savings per sector to 2011



To achieve these savings we will:

- Carry out further analysis of where the greatest carbon savings can be made in the domestic sector to target home energy advice, grants and incentive schemes for local residents with additional promotional activity

- Extend the council's requirements for low carbon new developments within the emerging Local Development Framework, including decentralised energy. Ensure that the predicted impacts of climate change are addressed within the LDF.

- Increase the number of businesses within the Envibe programme and agree carbon reduction targets which support the overarching 9.5% reduction target for the borough

- Increase the number of schools involved in carbon saving activity and agree carbon reduction targets which support the overarching 9.5% reduction target for the borough

- Work with faith and community groups to see how carbon reductions can be achieved for their organisation and communicated to local people to encourage more to take action

- Publish and begin to implement a strategy to reduce emissions of local air pollutants (mainly oxides of nitrogen) from homes, which will also result in more energy efficiency measures and reductions in carbon emissions

Who will make it happen?

The Executive Director of Planning, Regeneration and Conservation, Emma Peters

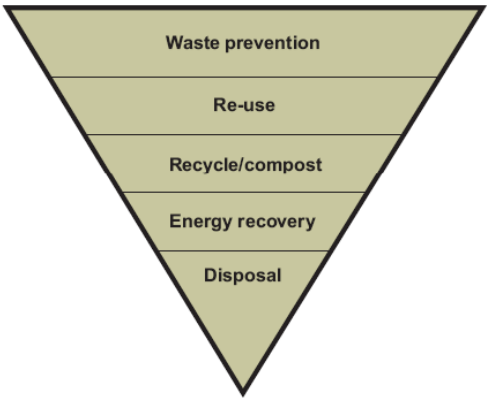
Improving Waste Recycling and Reducing Waste to Landfill

What do we want to achieve?

The overall aim is to reduce the growth of waste in Croydon. To achieve this we will:

- Improve promotion and raise waste awareness
- Increase the amount of waste re-used and meet the Council's recycling target of 40% in 2010.
- Meet the Landfill Directive obligations of diverting waste from landfill as they apply to Croydon
- Work together (the community, commercial sectors and with other Local Authorities) to create opportunities for economies of scale in delivering services
- Strive for to be viewed as a beacon of excellence regards waste management by 2010

Figure 5 – the waste hierarchy.



The Council's strategy seeks to manage waste in accordance with the waste hierarchy and a number of challenging action plans will be set to optimise waste reduction, reuse, recycling and composting.

Our key targets to 2011 are…

The EU Landfill Directive sets targets for member states to divert biodegradable waste from landfill. Croydon Council must comply with the Landfill Allowance Trading Scheme (LATS) which sets targets for biodegradable waste diversion for 2009/10 this is 75,700 tonnes. For 2012/13 this is 50,421 tonnes.

Target Years	Tonnage permitted to landfill
2005/06	118,839
2009/10	75,700
2012/13	50,421
2019/20	35,282

In addition to this there are national targets set for:

- recycling and composting of household waste, and these are:
    - 40% by 2010
    - 45% by 2015
    - 50% by 2020
- recovery of municipal waste, and these are:
    - 53% by 2010
    - 67% by 2015
    - 75% by 2020

Croydon has adopted the national target for 40% of household waste recycled and composted by 2011 for its new Local Area Agreement.

Our key LPSA target is to increase the tonnage of commercial glass recycled to 880 tonnes by April 2009, based on a 2004 baseline.

What are we currently doing?

The Waste Strategy and Recycling Plan 2008/11 outlines current waste and recycling services provided by the Council for residents and businesses. In addition to a weekly domestic refuse collection service the following recycling initiatives were introduced in 2007/08:

- Fortnightly collection of glass bottles and jars, mixed cans, paper, textiles and shoes to 120,000 properties
- An extended collection of plastic/card from 12,000 to 50,000 households
- Extended Fortnightly collection of garden waste from 24,000 properties to a 50,000
- Fortnightly collection of 'dry' recycling to a further 400 blocks of flats/housing estates
- Refurbishment of Factory Lane Reuse and Recycling Centre
- Recycling of Electrical and Electronic equipment at 3 Recycling sites
- Introduction of plastic and cartons at Neighbourhood Recycling sites
- Trialling kerbside collection of Food waste to over 2,500 properties
- Launch of Real Nappy Incentive scheme
- Collection of Christmas trees at 21 sites

- Publicity and promotional campaigns encouraging waste reduction, reuse, and recycling

The Appliance Reuse Centre (ARC) collects washing machines, electric cookers, fridges and freezers along with household and office furniture. Items are refurbished and sold at a reasonable price. The ARC offers a free collection service for reuseable items.

The Council also provides recycling services for businesses including a glass recycling service and paper/card recycling. In 2007/08 there were 196 businesses recycling paper/card and 104 recycling glass using the council's scheme.

What do we plan to do between 2008 and 2011?

- Expansion of recycling services - The Recycling Plan seeks to expand kerbside collections of plastic and cardboard and green waste to all households in 2008/09, and to introduce estates recycling sites to a total of 2,350 sites by 2009.

- Campaigns to encourage domestic waste minimisation and recycling participation including door-knocking, road-shows, attendance at community events, media adverts – linking in to annual national campaigns.

- Raise awareness of the environmental impacts of waste generation in schools, within community and faith groups, and at Neighbourhood Partnerships, and increase the number of schools, community and faith groups who are reducing waste and recycling.

- Through the Sustainable Business Partnership, engage businesses in developing good practice in reducing waste/packaging and increasing recycling. This includes the "Envibe" Award scheme as an incentive for businesses.

- A network of Recycling and Street Champions will continue to be supported by Council Officers to encourage recycling initiatives in their area, and to report environmental issues

- From September 2008 the South London Waste Partnership (SLWP)will work together to establish contracts for the transfer, transport and disposal of waste, management of household Reuse and Recycling Centres and management of recycling facilities, composting and additional treatment. Waste disposal/landfill diversion will continue to be a key focus to ensure the Council meets its obligations under the Landfill Allowance Trading Scheme (LATS).

Who will make it happen?

The Director of Community Services, Tom Jeffrey

Continuing Improvement of Street Cleanliness

What do we want to achieve?

The cleanliness of streets is important for the local environment and is a major factor in determining overall satisfaction and well being. It also links to reducing fear of crime and is important in attracting and retaining businesses to the area. We want a better environment – a cleaner and greener borough which local communities can be proud of.

Our key targets to 2011are…

Our LAA targets for improved street and environmental cleanliness (levels of graffiti, litter, detritus and flyposting) will be set in late 2008.

Our key LPSA targets are:

- To reduce levels of litter and detritus to 17% by April 2009, based on a 2004 baseline.
- To reduce the average time between a report of graffiti received by Croydon or its partners and the complete removal of the graffiti to 5.5 days by April 2009, based on a 2004 baseline.

What are we currently doing?

The Council continues to use the Clean Neighbourhoods and Environment Act 2005 to take action against those who are intent on damaging the environment. This has included fixed penalty notices against those who drop litter flytip and perpetrate other acts of vandalism such as graffiti and flyposting. The Council also undertakes stop and search exercises with the Safer Neighbourhood Police Teams. These exercises aim to combat flytipping as vehicles are stopped and drivers are requested to provide evidence that they are a registered waste carrier.

The Council has continued to prioritise spending to deliver improvements in the public realm and local environment (recently published in the 'Your Streets' Charter in January 2007). This action seems to be making an impact with satisfaction with street cleaning having increased by 14% to 61% and achievement of 100% abandoned vehicle and graffiti removal. We have also introduced a clearly advertised telephone and SMS number for Croydon residents to inform the Council of graffiti, fly-tipping etc, so that these issues can be dealt with swiftly.

Street champions (volunteer residents) are surveyed every four months and their views are sought as to the quality of the street cleansing service. We also work closely with District Centre Management staff. These managers are charged with making the district centres attractive places for people to visit. Their comments about the frequency and quality of cleanse in the district centres are valued and acted upon where possible. A focus on known litter hotspots has resulted in a significant improvement from the position in 2005/06 and currently 96% of Croydon's streets are free from noticeable levels of litter and detritus.

What do we plan to do between 2008 and 2011?

- Monthly cleansing in all areas
- Extra cleansing of problem areas such as town centre
- Cleansing regime to be monitored on a regular basis
- Installation of litter bins
- Every ward visited on 14 day cycle to identify graffiti for removal
- Streetscene Officers, Safer Neighbourhood Teams and NEOs tasked to report graffiti
- Reports of offensive graffiti immediately phoned through to graffiti removal team

Who will make it happen?

The Director of Community Services, Tom Jeffrey

Promoting Public Transport and Reducing Congestion

What do we want to achieve?

Our aim is for Croydon to be made more accessible by public transport, by cycle and on foot, with a reduction in traffic congestion and air pollution. These improvements will assist the regeneration of the borough and maintain the attraction of central Croydon as a commercial and retail centre. We have a considerable asset base to work on with well developed and used radial rail routes and the orbital Tramlink corridor supported by a network of bus routes, providing a Public Transport Accessibility Level [PTAL] indicator comparable with that of Central London. Nearly half the working population of the borough uses public transport, walking or cycling to get to work and many of these routes converge at East and West Croydon Stations in Croydon Town Centre. Here there are key objectives to secure expansion and improvement of the public transport interchanges as new gateways to the town centre in a way that maximises the opportunities for development alongside and over the stations.

Our key targets to 2011 are…

Our LAA targets for promoting public transport and reducing congestion will be set in late 2008.

The Council's objectives for the Borough of Croydon are very much in line with those of the Government and the Mayor of London:

- Reduce congestion and the dependency on car travel.
- Reduce levels of air pollution and noise from transport.
- Improve the accessibility and encourage the use of environmentally-friendly modes of transport.
- Raise awareness of the impact of transport and travel decisions.
- Reduce the risk and perception of risk of danger from the use of all modes of transport.
- Promote sustainable growth in terms of economic development and land-use planning.

What are we currently doing?

As a direct result of introducing Tramlink, 7,028 vehicles a day have been removed from the road network (Transport Supply and Demand Study). Car usage has dropped from 59% to 32% on weekdays and from 72% to 41% at weekends along the tram routes; a decrease of 27% and 31% respectively.

Other activities include:

- The London Bus Initiative and sponsoring new bus services with TfL.
- Improving railway stations and interchanges with GoVia and TfL.
- Working with train operators to secure improved services, including the East London Line Extension and Thameslink 2000 projects.

- Examining with TfL the potential for extensions to Tramlink.
- Extending cycle and pedestrian routes in conjunction with TfL.
- Encouraging the re-routing of through traffic around the Borough.
- Promoting the transfer of freight to the railways and providing support to the freight sector through the South London Freight Quality Partnership.
- Promoting improved orbital communications as part of the "Orbit" multi-modal study, particularly public transport services to nearby centres and Heathrow Airport.
- Promoting improved radial access to these orbital routes.
- Promoting the Coulsdon Inner Relief Road.
- Supporting TfL in the implementation of the London low emission zone and implementing other measures to reduce air pollution, noise and CO_2 emissions via the Air Quality Action Plan.
- Raising awareness of sustainable travel choices and encouraging walking, cycling and the use of public transport through promotion of 'imovelondon'.
- 80 schools and 74 businesses have developed travel plans.

What do we plan to do between 2008 and 2011?

- Promote the extension of Tramlink
- Increase walking and cycling and extend cycle and pedestrian routes
- Promote car sharing and car clubs
- Ensure patterns of new development reduce the need for car parking provision
- Improving integration between transport modes
- Increase the number of local schools and businesses with travel plans and improve monitoring arrangements
- Promote the transfer of freight to the railways through the South London Freight Quality Partnership
- Promote improved orbital communications as part of the "Orbit" multi-modal study, particularly public transport services to nearby centres and Heathrow Airport.
- Provide more buses to outlying locations in the south of the borough though the London Bus Initiative

Who will make it happen?

The Executive Director of Planning, Regeneration and Conservation, Emma Peters

Appendix A – the Croydon Environment and Climate Change Partnership

Membership of the Croydon Environment and Climate Change Partnership includes:

- Croydon Council
- The Environment Agency
- Transport for London
- Veolia
- Creative Environmental Networks / Energy Saving Trust
- Representatives from schools, faith groups, community groups
- Envibe and representatives from the business sector

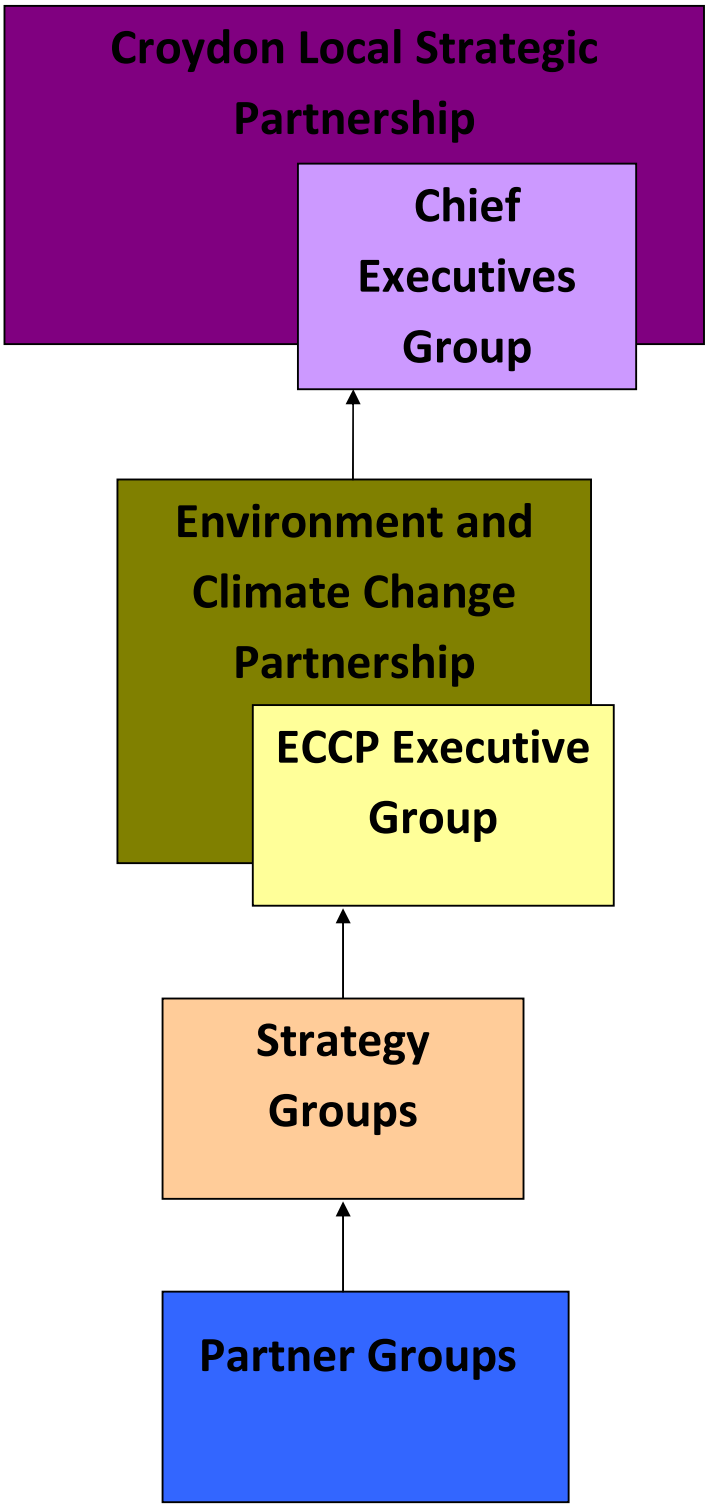
Leadership

The delivery of this strategy poses leadership challenges in terms of the scale and pace of action needed, co-ordination of local activity and delivering behavioural change. The Partnership will need to address these issues by ensuring that there are good communication channels both within the Partnership and beyond. For example, faith groups are in a position to both reduce the environmental impact of their own activities but also influence their wider faith community, and this activity must feed back to the full Partnership.

The Partnership will also co-ordinate local activity through a web-based community platform – the Carbon Hub: https://www.thecarbonhub.com The Hub is a mixture between a carbon footprinting tool and a social networking site. It creates a carbon footprint using data on energy use, waste generation and transportation from each member of the Partnership and co-ordinates activity against agreed reduction targets. This facilitates data capture and also knowledge exchange.

The Full Environment and Climate Change Partnership will meet annually to oversee this work. The Executive Board of the Environment and Climate Change Partnership will be responsible for reporting to the LSP on an annual basis to show progress against agreed targets against the 4 priority themes. The Strategy Groups will be responsible for reporting on an annual basis to the Executive Board and Full Partnership on the agreed action plan for each year. The Partner Groups will use the Carbon Hub to show achievements (including energy savings, waste diverted from landfill and reduction in emissions from transport). This Strategy will be reviewed and updated by the Partnership in 2011.

Figure 1. Structure of the Environment and Climate Change Partnership



Appendix B. Responsibility for short term activity 2008-2011

Priority	Our key targets to 2011	What we are currently doing	What we plan to do over the next three years	Who is responsible?
Tackling Climate Change by Reducing CO2 emissions	Our key Local Area Agreement (LAA) target is for a 9.5% reduction per capita reduction in CO_2 emissions in the borough by 2011, based on a 2005 baseline. Our key Local Public Service Agreement (LPSA) target is to reduce emissions of carbon dioxide in the domestic sector by 601 tonnes by April 2009, based on a 2004 baseline.	New developments offset 10% of predicted carbon emissions through in-situ renewable technologies and built to high BREEAM / Code levels Home insulation schemes for existing houses within the borough Improvements to Croydon's social housing stock. Over 600 businesses have joined the 'Envibe' Environmental Business Support programme Schools programme to include energy, waste and water conservation and sustainable travel. Carbon Management Programme for Council properties	Carry out further analysis of where the greatest carbon savings can be made in the domestic sector to target home energy advice, grants and incentive schemes for local residents with additional promotional activity Extend the council's requirements for low carbon new developments within the emerging Local Development Framework, including decentralised energy. Ensure that the predicted impacts of climate change are addresses within the LDF Increase the number of businesses within the Envibe programme and agree carbon reduction targets which support the overarching 9.5% reduction target for the borough Increase the number of schools involved in carbon saving activity and agree carbon reduction targets which support the overarching 9.5% reduction target for the borough Work with faith and community groups to see how carbon reductions can be achieved for	The Executive Director of Planning, Regeneration and Conservation, Emma Peters

Priority	Our key targets to 2011	What we are currently doing	What we plan to do over the next three years	Who is responsible?
			their organisation and communicated to local people to encourage more to take action Publish and begin to implement a strategy to reduce emissions of local air pollutants (mainly oxides of nitrogen) from homes, which will also result in more energy efficiency measures and reductions in carbon emissions Support the Pollution Service's projects and initiatives in the Air Quality Action Plan and the Supplementary Planning Document on air quality.	
Improving Waste Recycling and Reducing Waste to Landfill	Croydon has adopted the national target for 40% of household waste recycled and composted by 2011 for its new Local Area Agreement. Our key LPSA target is to increase the tonnage of commercial glass	Fortnightly collection of glass bottles and jars, mixed cans, paper, textiles and shoes to 120,000 properties An extended collection of plastic/card from 12,000 to 50,000 households Extended Fortnightly collection of garden waste from 24,000 properties to a 50,000 Fortnightly collection of 'dry' recycling to a further 400 blocks of flats/housing estates Refurbishment of Factory Lane Reuse and	Expansion of kerbside collections of plastic and cardboard and green waste to all households in 2008/09, and introduce estates recycling sites to a total of 2,350 sites by 2009 Campaigns to encourage domestic waste minimisation and recycling participation including door-knocking, road-shows, attendance at community events, media adverts – linking in to annual national campaigns Raise awareness of the environmental	The Director of Community Services, Tom Jeffrey

Priority	Our key targets to 2011	What we are currently doing	What we plan to do over the next three years	Who is responsible?
	recycled to 880 tonnes by April 2009, based on a 2004 baseline.	Recycling Centre Recycling of Electrical and Electronic equipment at 3 Recycling sites Introduction of plastic and cartons at Neighbourhood Recycling sites Trialling kerbside collection of Food waste to over 2,500 properties Launch of Real Nappy Incentive scheme Collection of Christmas trees at 21 sites Publicity and promotional campaigns encouraging waste reduction, reuse, and recycling 27 'bring' recycling sites and 3 Reuse and Recycling facilities The Appliance Reuse Centre (ARC) which offers a free collection service for reusable items. Management of a composting site at Conduit Lane, a domestic and trade clinical waste service, collection and disposal of household hazardous waste, clearance of flytipping and	impacts of waste generation in schools, within community and faith groups, and at Neighbourhood Partnerships, and increase the number of schools, community and faith groups who are reducing waste and recycling Through the Sustainable Business Partnership, engage businesses in developing good practice in reducing waste/packaging and increasing recycling. This includes the "Envibe" Award scheme as an incentive for businesses A network of Recycling and Street Champions will continue to be supported by Council Officers to encourage recycling initiatives in their area, and to report environmental issues From September 2008 the South London Waste Partnership (SLWP)will work together to establish contracts for the transfer, transport and disposal of waste, management of household Reuse and Recycling Centres and management of recycling facilities, composting and additional treatment. Waste disposal/landfill diversion will continue to be a key focus to ensure the Council meets its obligations under the Landfill Allowance	

Priority	Our key targets to 2011	What we are currently doing	What we plan to do over the next three years	Who is responsible?
		collection of abandoned vehicles. Recycling services for businesses	Trading Scheme (LATS)	
Continuing Improvement of Street Cleanliness	Our LAA targets for Improved street and environmental cleanliness (levels of graffiti, litter, detritus and flyposting) will be set in late 2008. Our key LPSA targets are: To reduce levels of litter and detritus to 17% by April 2009, based on a 2004 baseline. To reduce the average time between a report of graffiti received by Croydon or its partners and the	In 2005/06 we launched our £3m Smarter Croydon initiative which is having a marked effect on improving our public realm 'Your Streets' Charter published in January 2007 -satisfaction with street cleaning has increased by 14% to 61% 100% abandoned vehicle and graffiti removal. Telephone and SMS number for Croydon residents to inform the Council of graffiti, fly-tipping etc. Street champions (volunteer residents) surveyed every four months as to the quality of the street cleansing service Close working with District Centre Management staff. For feedback on the frequency and quality of cleanse in the district centres A focus on known litter hotspots so that 96% of Croydon's streets are free from noticeable	Monthly cleansing in all areas Extra cleansing of problem areas such as town centre Cleansing regime to be monitored on a regular basis Installation of litter bins Every ward visited on 14 day cycle to identify graffiti for removal Streetscene Officers, Safer Neighbourhood Teams and NEOs tasked to report graffiti Reports of offensive graffiti immediately phoned through to graffiti removal team	The Director of Community Services, Tom Jeffrey

Priority	Our key targets to 2011	What we are currently doing	What we plan to do over the next three years	Who is responsible?
	complete removal of the graffiti to 5.5 days by April 2009, based on a 2004 baseline	levels of litter and detritus		
Promoting Public Transport and Reducing Congestion	The Council's objectives for the Borough of Croydon are very much in line with those of the Government and the Mayor: Reduce congestion and the dependency on car travel. Reduce levels of air pollution and noise from transport. Improve the accessibility and encourage the use of environmentally-friendly modes of	The London Bus Initiative and sponsoring new bus services with TfL Improving railway stations and interchanges with GoVia and TfL Working with train operators to secure improved services, including the East London Line Extension and Thameslink 2000 projects Examining with TfL the potential for extensions to Tramlink Extending cycle and pedestrian routes in conjunction with TfL Encouraging the re-routing of through traffic around the Borough Promoting the transfer of freight to the railways and providing support to the freight sector through the South London Freight	Promote the extension of Tramlink Increase walking and cycling and extend cycle and pedestrian routes Promote car sharing and car clubs Ensure patterns of new development reduce the need for car parking provision Improving integration between transport modes Increase the number of local schools and businesses with travel plans and improve monitoring arrangements Promote the transfer of freight to the railways through the South London Freight Quality Partnership Promote improved orbital communications as part of the "Orbit" multi-modal study,	The Executive Director of Planning, Regeneration and Conservation, Emma Peters

Priority	Our key targets to 2011	What we are currently doing	What we plan to do over the next three years	Who is responsible?
	transport. Raise awareness of the impact of transport and travel decisions. Reduce the risk and perception of risk of danger from the use of all modes of transport. Promote sustainable growth in terms of economic development and land-use planning.	Quality Partnership Promoting improved orbital communications as part of the "Orbit" multi-modal study, particularly public transport services to nearby centres and Heathrow Airport Promoting improved radial access to these orbital routes Promoting the Coulsdon Inner Relief Road Supporting TfL in the implementation of the London low emission zone and implementing other measures to reduce air pollution, noise and CO_2 emissions via the Air Quality Action Plan Raising awareness of sustainable travel choices and encouraging walking, cycling and the use of public transport through promotion of 'imovelondon' An increasing number of businesses and schools have developed travel plans	particularly public transport services to nearby centres and Heathrow Airport. Provide more buses to outlying locations in the south of the borough though the London Bus Initiative	