APPENDIX (1)

Climate Change Strategy and Action Plan

for West Lancashire District Council

2008

CONTENTS

1 Introduction

West Lancashire District Council recognises that climate change will bring challenges and opportunities, and that action is needed now, both to reduce emissions of global warming gases in order to help reduce more serious changes in the future (often referred to as mitigation), and to help us to prepare for those impacts of climate change that are already unavoidable (adaptation).

This strategy document describes briefly the causes of climate change and the changes that are likely to be experienced by the District of West Lancashire. It defines the scope and objectives of the Council's activities in the context of actions being undertaken by other agencies. The strategy comprises a **review** of actions that the District Council is already undertaking, and proposes **additional** measures to tackle the causes and impacts of climate change.

For ease of communication and implementation, current and proposed actions have been grouped under a series of topics that loosely reflect the Council's divisional structure and relevant service areas:

- Management of land and buildings
- Transport
- Procurement and waste management
- Land use planning and building control
- Education, promotion and relevant corporate policy
- Major projects

Each section includes a description of how service areas can mitigate the causes of climate change and how the service areas will be affected by climate change. The proposed actions have been assigned to named sections of the Authority for implementation, and all have '**SMART' targets** (which are Specific, Measurable, Appropriate, Realistic and Time-planned).

Each action plan focuses primarily on measures to **mitigate** climate change by reducing emissions of greenhouse gases. Where applicable, however, actions have been included that relate to **adaptation** – enabling the Council or wider District to better withstand the anticipated effects of climate change. Further work is proposed on adaptation, identifying risks to the District (see Action E3 in Education, Promotion and relevant Corporate Policy section).

Each action plan contains a mix of one-off **short-term** measures that should bring quick wins, and more strategic proposals for **longer-term** but ultimately further-reaching effects.

The action plans will be **monitored** on an annual basis to ensure that targets are being met wherever possible. In addition, an annual **audit of carbon** dioxide (or carbon dioxide equivalents) emissions arising through the Council's operations will be undertaken to evaluate the effectiveness of the Council's actions in reducing its contribution to climate change. The results of both of these monitoring processes will be publicised annually.

It is anticipated that it will be possible for some of the actions proposed to be implemented using existing financial and staff-time resources. However, others will require either the tapping of additional external resources or, in some cases, the setting up of internal funding vehicles. It is proposed that resourcing options for funding climate change actions (external funding sources and internal resourcing mechanisms) be kept under review (see Action E4 in Education, Promotion and relevant Corporate Policy section).

2 What is climate change and why does it matter?

The causes of climate change

Climate change, also known as global warming or the enhanced greenhouse effect, results from the rise in global temperature attributed to increasing concentrations of certain 'greenhouse gases' in the atmosphere. These gases affect global temperature by inhibiting the radiation by the earth of heat received from the sun. Up to a point, the greenhouse effect is essential, and without it, the earth would lose too much heat and be too cold for habitation by humans. The relatively recent and significant increase in certain greenhouse gases has, however, upset the balance and the earth is warming.

There is overwhelming scientific evidence (e.g. as reported by the Intergovernmental Panel on Climate Change) that human activity is the primary cause of climate change observed over the last 50 years. Some sources advocate that action is needed within the next 5 to 10 years to cut emissions of greenhouse gases to a level that should avoid catastrophic and irreversible climate change.

Although water vapour has the greatest impact as a greenhouse gas, levels of this have remained relatively stable and it is the changing concentration of carbon dioxide (CO2) that is the main focus of action on climate change. CO2 contributes about 80 – 85% of the *enhanced* greenhouse effect, but other significant contributors include methane and nitrous oxide. The burning of fossil fuels such as oil and gas to provide heat and power, combined with large-scale deforestation (which both releases CO2 and reduces its absorption through plant growth), are the two main ways in which human activities are contributing to climate change on a global scale.

Global impacts of climate change

Average global temperature has risen by about 0.6°C over the last 100 years. Since 1860, twenty out of the twenty-one hottest years have occurred within the last 25 years; and globally, 2005 was the hottest year ever recorded.

The increased temperatures are causing the melting of ice sheets and the expansion of water in the oceans, leading to rising sea levels, as well as changes in ocean currents and increased surface ocean temperatures. These effects in turn contribute to changes in weather patterns and more unpredictable and extreme weather events.

The effects of climate change are likely to be felt in every country of the world, but it is the most vulnerable developing countries that are likely to experience

the worst impacts whilst being the least able to cope. An increased frequency of extreme weather events will result in more frequent droughts, expanding deserts, wide-scale flooding (especially of coastal zones where most people live) and shortages of basic human requirements such as food and water. The lives of hundreds of millions of people will be put at risk, and there will be increasing numbers of environmental refugees and international social unrest. The Stern Review Report of 2006 predicts the vast global economic cost of climate change and calls for urgent international action.

'*Climate change threatens the basic elements of life for people around the world – access to water, food production, health, and use of land and the environment.*' (Stern Review Report 2006)

The view has been expressed that climate change is just a symptom of a larger global problem – the 'real' issue being that people living in the more developed countries are consuming the planet's resources at a rate exceeding that at which they can be renewed or replenished through natural processes. Proponents of this view cite evidence of increased rates of extinctions of species and other impacts that cannot be accounted for by climate change alone. Whatever the case, action to tackle climate change is a step forward, as many actions to reduce greenhouse gas emissions will bring indirect benefits such as reduced consumption of manufactured goods and more efficient use of energy and water, as well as a heightened awareness of the impact that our lifestyles are having on the planet.

'*No-one can predict the consequences of climate change with complete certainty, but we know enough to understand the risks. Mitigation – taking strong action to reduce emissions – must be viewed as an investment, a cost incurred now and in the coming few decades to avoid the risks of very severe consequences in the future*.' (Stern Review Report 2006)

A national and regional perspective

The impacts of climate change to date, and probable future impacts have been studied and modelled through the UK Climate Impacts Programme (UKCIP), funded by DEFRA.

UKCIP reports that the decade of the 1990s was the warmest in central England since records began in the 1660s. Hot summer days with temperatures exceeding 25°C occurred almost twice as often in the 1990s as in the first half of the twentieth century. Air frosts are declining in frequency and the growing season is longer than at any time since 1772. UK winters are getting wetter, and a larger proportion of precipitation is falling in heavy downpours. Summers are getting drier. Sea levels are rising by an average

around the UK of 1mm per year, after adjustment for land movements. An increased frequency of gales was observed in the last decade.

The table below illustrates likely expressions of climate change through temperature, precipitation (rain and snow fall) and sea level changes for the UK and NW England.

Temperature	Rise in annual average temp; More warming in summer and autumn than in winter and spring; Increased frequency of high summer temps.; fewer very cold winters; Warmer coastal waters
	North West by 2050: Average daily temperature increase of between 1 and 3°C
Precipitation	Wetter winters, drier summers, esp. in S and E. Extreme winter precipitation more frequent; less snowfall; very dry summers more frequent
	North West by 2050: uncertain trend in summer rainfall patterns; increase in winter precipitation of up to 15%
Sea level	Big regional variations in net sea level due to interaction with land movements. Greatest rise in SE England. Extreme sea levels, due to combination of high tides, sea level rise and changes in winds, will be more frequent.
	North West: net rise of approx. 2.5mm/year to 2025, increasing to 13.0mm/year from 2085. (DEFRA 2006)

Sources: UKCIP02 unless stated otherwise.
DEFRA 2006 – supporting documentation for Planning Policy Statement 25

Climate change impacts in West Lancashire

Much of the change in climate over the next 30 to 40 years has already been determined by historic emissions and because of inertia in the climate system. We are likely, therefore, to have to adapt to some degree of climate change however much future emissions are reduced.

Based on consideration of the changes predicted above, it is possible to anticipate a range of impacts on aspects of life in West Lancashire. Some of

these effects are positive, other less so. They are likely to include the following:

Land drainage	Increased incidence of flooding associated with high winter rainfall events and fluvial inundation, and increased risk of sea inundation during extreme sea level events (high tides, storm surge conditions).
Farming	Longer plant growing season, fewer frosts, greater need for summer irrigation/winter water storage. Possible change in cropping away from crops such as potatoes, towards maize, sunflowers etc. New pests and diseases, some pests able to breed faster. Potential for soil waterlogging and loss of soil structure in winter. Increased soil erosion due to wind and surface water run-off. Opportunities for diversification into tourism, renewables, biodiesel, biomass crops. Increased risk of salination in some areas.
Wildlife	Wide range of impacts, often species-specific, many not yet understood. Species at southern end of range will be forced to move north or perish. Impact depends on capacity to migrate. Reduced summer rainfall and higher temperatures will mean low water levels in ponds and watercourses, combined with higher concentrations of pollutants (less dilution) and lower dissolved oxygen levels. Some species will benefit from managed retreat in reaction to flood risk. Flooding bad for many non-mobile species. Higher annual temperatures will favour new species moving in from the south.
Health	Summer health problems, affecting especially the elderly, infirm and young children could increase, including those associated with heat, UV radiation and elevated levels of air pollutants such as ozone. New pests and disease organisms could move in from the south, including mosquitoes. There could be more stomach upsets and food poisoning incidents. On the positive side, there will probably be fewer cold-related deaths.
Economy	Likely boost for tourism, especially outdoor summer leisure activities. Opportunities relating to energy efficiency and renewable energy. Higher costs associated with cooling, and refrigeration, lower heating costs. More frequent disruption to transport networks due to flooding and road and rail buckling.
Building managers including householders	Higher summer cooling costs, lower winter heating and lighting costs. More frequent storms and increased incidence of flooding will increase maintenance and insurance costs. Saving opportunities from energy efficiency, renewable energy and rainwater harvesting. Higher landscape maintenance costs due to increased storm damage, faster and longer season of plant growth, and increased need for summer watering.

3 Legislative, policy and general context

International context:

- **Kyoto target** – legally binding since February 2005. For the UK, emissions of greenhouse gases to be reduced to at least 12.5% below 1990 levels by the period 2008-2012.

- **Energy Performance of Buildings Directive 2003** – intended to contribute to meeting the Kyoto protocol by reducing energy use in buildings across Europe (currently responsible for 40% of CO2 emissions). Facilitates the measuring of energy use in buildings by: introducing agreed measures of relative energy performance; regular inspections and re-evaluations; requiring higher standards for upgrading larger buildings; and improving standards for new buildings. Implemented in England and Wales by the Energy Performance of Buildings (Certificates and Inspections)(England and Wales) Regulations 2007 and the Housing Act 2004 (see below).

- **EC Directive on the promotion of electricity produced from renewable energy sources** – set target of 12% electricity from renewable sources by 2010 and requires Member states to set their own renewable energy targets.

- **EC Directive on the promotion of the use of biofuels or other renewable fuels for transport** – requires Member states to source 2% of transport fuels from renewable sources by 2010.

- **EC Directive on end use efficiency and energy services**. Requires each member state to introduce a mandatory target for the annual amount of energy to be saved, attributable to energy services, energy efficiency programmes and other energy efficiency measures. Also requires a target for the annual amount of energy to be saved in the public sector, attributable to energy services, energy efficiency programmes and other energy efficiency measures.

- **EC Directive on the promotion of combined heat and power (CHP).** This aims to increase energy efficiency and improve security of supply by creating a framework for promotion and development of high efficiency CHP.

National context:

- **Energy Performance of Buildings (Certificates and Inspections) (England and Wales) Regulations 2007**. Requirements: (1) an Energy Performance Certificate and recommendation report must be provided to any prospective buyer or tenant whenever a building is to be sold or rented. (2) From April 2008 (subsequently relaxed to October 2008), large buildings occupied by public authorities or frequently visited by members of the public must have a clearly visible Display Energy Certificate and a valid advisory report. WLDC buildings affected will include 52 Derby Street, Stanley Depot, the Investment Centre, and also Park Pool, Nye Bevan Pool, and the three sports centres in Skelmersdale, Burscough and North Meols. (3) Air conditioning units above a certain rated output are to be inspected at specified intervals.

- **Housing Act 2004** – resulted in the introduction of Home Information Packs (HIPs) and Energy Performance Certificates (EPCs). EPCs were to be introduced for all marketed sales of private sector domestic dwellings from June 2007 but a gradual phasing in has replaced this. Housing in all other sectors will require EPCs from Jan 2009 at the latest, and probably for social housing from Oct 2008.

- National **government target** – emissions of CO2 to be reduced by 20% below 1990 levels by the period 2008-2012

- **Energy White Paper 2003** (Our energy future – creating a low carbon economy) / UK Climate Change Programme – 10% of electricity to come from renewable sources by 2010, 20% by 2020; Reduction of domestic energy consumption by 30% by 2010; and 10,000 MW installed CHP generation by 2010. Set a goal to put the UK on a path to cut CO2 emissions by 60% by 2050.

- **Energy White Paper 2007** (Meeting the Energy Challenge). This aimed to define a long-term strategic vision for energy policy combining environmental, security of supply, competitiveness and social goals. The EWP has four key goals:

    1. to put the UK on a path to cut CO2 emissions by 60% by 2050 with real progress by 2020;
    2. To maintain the reliability of energy supplies
    3. To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve the country's productivity
    4. To ensure that every home is adequately and affordably heated.

The EWP emphasises the leadership role that local authorities are expected to play.

- Government aspiration (published in '***Building a Greener Future****: Towards zero carbon development' 2006*) – when considered over a period of a year, net carbon emissions from energy use in the home to be zero for all new-build homes by 2016. To be met by changes in the Planning framework, tightening of the Building Regulations and the Code for Sustainable Homes.

- **Local Government White Paper** (published October 2006). Set out a new performance framework for local government comprising 198 indicators for local authorities and local area agreements. Placed a duty on local authorities to lead their community and their partners on climate change. Full definitions of each indicator, including formula for calculation, are not expected until March 2008, though the reporting period covered by at least one of the indicators starts on 1st January 2008. Four of the indicators relate to climate change, including:

  (1) NI 185 – CO2 reduction from local authority operations. Where data reveal high levels of CO2 per capita, local authorities may be encouraged to set improvement targets in their Local Area Agreements with central government. Other greenhouse gases may be included. Likely to cover energy use in corporate buildings, fleet emissions, business travel and staff commute.
  (2) NI 186 – Per capita reduction in CO2 emissions (to be determined and reported by DEFRA)
  (3) NI 187 – Tackling fuel poverty
  (4) NI 188 – Adapting to climate change. This might be measured using a 5-step climate risk assessment process similar to that included in the Nottingham Declaration. It begins with an assessment of which priority services, plans or policies need to be adapted and how, before moving on to developing the capacity to make the changes and implementing them. The fifth stage requires councils to establish a robust monitoring and review process.

- **The Water Act 2003** – imposes a duty on local authorities to further the conservation of water both within their own buildings and across all residents and businesses (essentially to support the local water authority who have specific duties in this regard).

- **Home Energy Conservation Act (HECA) 1995**. Focuses local authorities' attention on improving the energy efficiency of all homes and, in so doing, seeks to tackle fuel poverty and climate change. Every UK local authority with housing responsibilities must identify practicable and cost-effective measures to reduce energy consumption of all residential accommodation by 30% over a 10 to 15 year period. Annual progress reports to be produced. The HECA is currently being reviewed.

- **Sustainable Energy Act 2003**. This aims to make provision for the development and provision of a sustainable energy policy in the UK, using the same measurable objectives as in the Energy White Paper (2003). Section 4 of the Sustainable Energy Act makes it clear that those energy conservation authorities in England and Wales who are falling short of their targets under the HECA can be held to account and may become subject to energy efficiency directions requiring them to improve their performance.

- **Climate Change and Sustainable Energy Act 2006**. Aimed at encouraging energy efficiency and microgeneration and reducing fuel poverty. Places a new duty on local authorities to have regard to climate change in all their functions. The Act will:

  (1) Require the secretary of state for DEFRA to report to Parliament each year on the UK's greenhouse gas emissions and progress on the steps taken to reduce them.
  (2) Require government to set targets for the take up of microgeneration
  (3) Extend the time that local authorities are able to prosecute against breaches of Part L of the building regulations
  (4) Require government to report to Parliament on compliance with Part L
  (5) Include provisions to ensure energy companies pay a fair price for electricity from microgeneration
  (6) Make it easier for microrenewables to access the renewable obligation system
  (7) Set requirements for local authorities to do more to encourage energy efficiency
  (8) Allow energy companies to use emission reductions from microgeneration to meet their targets.

- **Climate Change Bill** – expected to become law in summer 2008. This sets the government's commitment to 60% reduction in CO2 emissions by 2050 in statute, along with a series of measures to reach this target; establishes an independent Climate Change Commission; contains powers to enable the government to introduce an emissions trading scheme; proposals for annual reporting to Parliament on adaptation to climate change.

Regional and sub-regional context:

- **North West Regional Sustainable Energy Strategy** – by 2010, 10% of electricity supplied in the region is to come from renewable energy sources (15% by 2015 and 20% by 2020).

- **A Climate Change Action Plan for England's North West 2007 – 2009**. 'Rising to the Challenge' (Nov 2006). Includes target for a 30% cut in CO2 emissions by 2020 based on 1990 levels.

- **Draft Lancashire Climate Change Strategy 2008 – 2013**, drawn up by the Lancashire Climate Change Partnership, of which West Lancashire District Council is a member. Consultation period ended January 2008. Includes target of reducing CO2 emissions by at least 30% by 2020 relative to 1990 levels.

Local context:

- **Sustainable Community Strategy for West Lancashire 2007 – 2017**. This document includes the following key objectives: To contribute to sustainable development through the wise use of natural resources; and to protect and improve West Lancashire's environment including safeguarding our biodiversity. In addition, sustainability is one of the cross-cutting themes that should underlie all that the Local Strategic Partnership does to achieve its objectives.

  Energy management is one of the 9 priority projects that will be concentrated upon in order to meet the objectives of the strategy. This will involve encouraging local businesses, other organisations and individuals to reduce their energy use and install renewable energy technologies in order to reduce the district's contribution to climate change. A task group is to be set up within a year of publication to develop the energy management project and the actions are to be substantially implemented within 5 – 10 years of publication.

  Targets relating to energy consumption and expenditure are included in the Action Plan developed by the Natural Environment Thematic Group of the Local Strategic Partnership to implement part of the Community Strategy.

- **West Lancashire District Council's corporate priorities** include 'Protecting and improving streetscene and the environment'

Other drivers:

- The rising cost of energy, due to dwindling national and global reserves of accessible gas and oil and the impending decommissioning of many of the UK's existing nuclear power stations.

- The Climate Change Levy effectively increases the price paid for use of fossil fuels such as gas, coal and electricity from non-renewable sources

- Issues around the security of future supplies of gas and oil, an increasing proportion of which will be sourced from outside the UK

4 The role of West Lancashire District Council in relation to climate change

"Local authorities are uniquely placed to provide vision and leadership to local communities, raise awareness and help change behaviours. In addition, through their powers and responsibilities….they can have a significant influence over emissions in their local areas." (from 'Climate Change – the UK Programme: Tomorrow's climate, Today's challenge')

As a shire district council, West Lancashire District Council contributes to the *causes* and, to some an extent, can influence the *effects* of climate change through many of its activities and services. For some of these activities, the Council can be considered to have a strong controlling influence, in relation to others the influence is less.

Those in the controllable category include the use of gas and electricity within corporate buildings and sheltered housing, the use of fuel in Council vehicles and for staff business travel, and the quantities (and types) of goods purchased and waste produced by the Authority. Activities and service areas that are influenced to a lesser extent by the Council include the use of gas and electricity in Council housing stock (other than sheltered housing accommodation) and private sector housing, use of fuel by Council staff commuting to and from work, and the quantities of goods consumed and waste produced by households across the District.

WLDC has a range of powers that can be used to influence the decisions and activities of other organisations and individuals. These include its regulatory powers in relation to land use planning and building control, licensing (e.g. of hire cars and taxis) and air quality. Through corporate policies on matters such as household recycling arrangements, it can significantly influence the amount of waste produced in the District that is consigned to landfill.

Influence can also be exerted through partnership working (e.g. via the Local Strategic Partnership), supply chain pressures (influencing suppliers), conditions of grant funding (particularly to businesses), arts and cultural activities (heightening awareness), informal education (e.g. via the Countryside Ranger Service), through public relations and by lobbying (e.g. of central government).

Arguably, one of the most powerful tools of influence that councils have in relation to other organisations is that of setting a good example – putting their own 'houses' in order and being a good community leader. Development and implementation of this strategy and associated action plans represents

West Lancashire District Council's commitment to being a wise and effective community leader.

Strategic Focus

It is proposed that actions be targeted on Council operations which have high levels of greenhouse gas emissions (generally CO2) over which the District Council has a strong control, although some actions will also be targeted at areas of lesser influence where emissions are potentially high.

Operations from which greenhouse gases (generally CO2) are emitted include the following:

• Energy use in corporate buildings • Fuel use by fleet vehicles • Staff and Councillor business travel • Waste produced through Council operations disposed of at landfill	high influence
• Staff commuting between home and work • Energy use by Council housing stock • Energy used in leisure buildings owned but not managed by WLDC ▪ Goods and services procured by WLDC • Waste from households disposed of at landfill	some influence
• Energy used in private sector housing • Energy associated with new developments • Energy used by businesses	little influence but high emissions

In addition, it is also proposed that existing opportunities for heightening the awareness of the wider community should be capitalised upon where this can be done without significant demands on staff time or financial resources (for example, through existing Council newsletters).

Indirect benefits of tackling climate change

Although carrying out these actions will take time and resources, there are many benefits for the District, as listed in the Local Authorities' Coordinators of Regulatory Services (LACORS) climate change toolkit for regulatory services:

- Financial savings – from increasing energy efficiency and reducing waste

- Improving air quality – reducing emissions of CO2 will also reduce emissions and atmospheric levels of other pollutants and reduce the incidence of respiratory illness.

- Reduced traffic congestion – many actions aimed at reducing traffic emissions, such as promoting public transport and non-car travel, will reduce traffic and improve people's physical and mental health through air quality improvements, opportunities for physical exercise and greater social interaction.

- Job creation and local economic development – renewable energy and environmental technology is the fastest growing sector in the North West; jobs and business opportunities can be created by acting on climate change.

- Enhanced community liveability – the combination of all the benefits resulting from activities to reduce greenhouse gas emissions will result in more environmentally-friendly and habitable communities.

5 Objectives, implementation and monitoring

Overall aim of strategy

To reduce greenhouse gas emissions associated with the operations of West Lancashire District Council whilst maintaining and, where possible, improving the quality of services provided to the residents of the District.

A target has been set to reduce emissions of those greenhouse gases directly associated with WLDC operations* by at least 25% by 2020 against a 2006/07 baseline.

***including energy use in corporate buildings, fleet transport and staff/Elected Member business travel**

Note on derivation of target:

Any target that is chosen for CO2 emission reduction must be realistic in terms of what should be achievable, as well as challenging enough to ensure the changes that are needed.

The Climate Change Bill, published in 2007, sets the target for reducing UK CO2 emissions by 60% by 2050 based on 1990 levels, with an intermediate target of 26 – 32% by 2020. These targets are in line with aspirations and targets in the Energy White Paper published in 2007.

According to DEFRA's statistics and projections for CO2 levels in 2006, emissions of CO2 are likely to have fallen by 5.14% between 1990 and 2006. Thus to meet the government's intermediate target of around 30% cut by 2020, CO2 emissions from all sources need to be reduced by 25% between 2006 and 2020, or around 2% every year.

This is the basis for the target set out above.

Strategic objectives:

- To reduce greenhouse gas emissions associated with gas and electricity use by reducing demand, improving energy efficiency and increasing the use of low carbon or renewable sources of energy

- To reduce greenhouse gas emissions associated with transport, including those from the Council's own fleet vehicles, staff and Elected Member business travel and staff commuting

- To reduce greenhouse gas emissions associated with resource consumption, by reducing waste and increasing recycling, making more efficient use of resources, and through more environmentally-aware procurement

- To assess the likely impacts of climate change at a local level and implement appropriate adaptation measures

- Wherever feasible in the course of Council business to influence others in the wider community to tackle the causes and impacts of climate change

Implementing and Monitoring

West Lancashire District Council has agreed this Strategy and first year's Action Plan and the Council's Cabinet is responsible for monitoring its implementation. It is a cross-cutting strategy and actions are attributed to all Council divisions and portfolios.

Executive Managers are responsible for actions that fall within their divisions, and Executive Members for actions that fall within their portfolio, and also for taking climate change issues into account in all Council decisions including service planning and procurement.

The Executive Manager Planning and Development Services supported by the Environmental Strategy Officer is responsible for co-ordinating and reporting on the overall implementation of the Action Plans.

The Strategy and Action Plans will be monitored in accordance with the Council's performance monitoring arrangements and Cabinet will undertake a formal annual review. This process will include an annual audit of carbon emissions (or equivalent) associated with Council activities and the monitoring of relevant indicators as appropriate.

Wherever feasible, actions will be included in relevant service action plans and staff job descriptions.

The new performance framework for local authorities and local area agreements includes indicator NI 185 which will require local authorities to monitor and report CO2 emissions from specified operations. However, the target set in relation to this climate change strategy does not embrace all the emission sources covered by NI 185 because some emission sources are not directly controllable by the Council. For example, whilst the Council may raise awareness of staff in relation to CO2 emissions from car travel and seek to encourage travel by non-car means, it has no control over the distances that

staff travel to work or how they choose to travel. The table below summarises the emission sources likely to be covered by NI 185 and the target set for this strategy:

	Source to be monitored for NI 185?	**Source covered by strategic target?**
Energy use in corporate buildings	Yes	Yes
Fleet transport	Yes	Yes
Staff business travel	Yes	Yes
Staff commute	Probably	No
Energy use in social housing	No	No

6 Greenhouse gas emissions

Introduction

Carbon dioxide (CO2) is the principal greenhouse gas believed to be contributing to climate change (contributing 80 – 85% of the effect), the other major contributions being from methane and nitrous oxide. CO2 is released in large quantities from natural processes such as respiration, volcanoes and forest fires. Releases from respiration are balanced by the uptake of a similar quantity through photosynthesis by green plants. Man-made releases of CO2 account for just around 4% of the total, but it is these sources that are thought to be the main cause of climate change.

Fossil fuel combustion for energy generation causes about 70 – 75% of man-made CO2 emissions. The remaining 20 – 25% are caused by land clearance and burning and by emissions from vehicle exhausts.

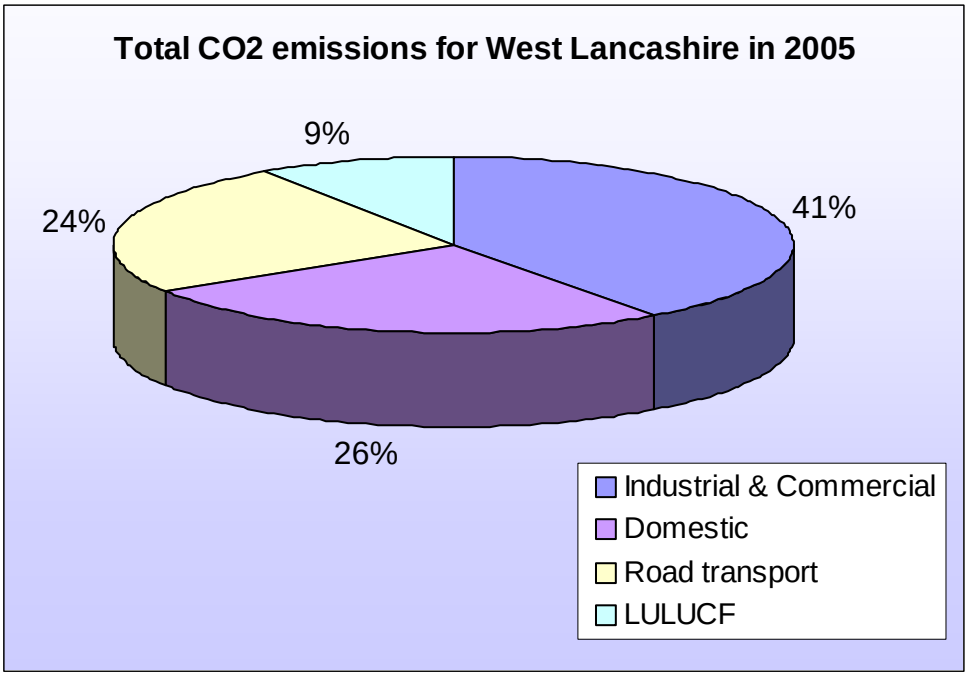
Emissions from road vehicles are the fastest growing source of greenhouse gases across the UK, accounting for about 25% of emissions nationally. Traffic levels have risen nationally by 1 – 2% per annum.

When seeking to evaluate the relative effectiveness of measures to tackle climate change by reducing greenhouse gas emissions associated with energy use, it is worth remembering that the use of 1kWh of electricity leads to the emission of more than twice as much CO2 as the use of 1kWh of gas. This reflects the significant energy (principally heat) losses that are inherent with a centralised electricity generation and distribution system, whether through coal, oil, gas or nuclear power stations.

Emissions of CO2 in West Lancashire

In 2005 (the latest year for which data are available), experimental statistics of CO2 emissions for Local Authority and Government Office Region areas compiled on behalf of DEFRA indicate that activities in West Lancashire contributed approximately one million tonnes of CO2 to the atmosphere, equating to 9.9 tonnes of CO2 per head of population. The per capita figure is slightly higher than the UK average of 9.3 tonnes, due almost entirely to higher emissions in West Lancashire associated with land use, land use change and forestry – particularly land drainage and conversion of land to settlements.

The pie chart below shows estimated total CO2 emissions for West Lancashire in 2005 (all sources)(total = 1,075,000 tonnes).



Source: DEFRA 2007

This chart shows emissions attributable to end users, which means that emissions from power stations and onshore oil and gas refineries have been allocated proportionately to energy consumers. It does not include allocated emissions from aviation, shipping or exports. Public sector sources are included in the 'Industrial and Commercial' sector.

Compared with the UK as a whole, a higher proportion of the emissions for West Lancashire is associated with land use, land use change and forestry and a smaller proportion with the other three sectors.

For the same year, domestic emissions per capita were 2.6 tonnes per year, which was higher than the UK average (2.5).

The relatively high domestic per capita emissions for West Lancashire are likely to be attributable to a high annual domestic consumption of gas and electricity. Statistics from the Audit Commission for 2006 indicate that domestic gas consumption for West Lancashire was 20,127 kWh, markedly higher than the British average of 18,241 kWh. Domestic electricity consumption for 2006 was 4,798 kWh, which was well above the British average of 4,457.

Domestic emissions can be influenced by the types of fuel used, the type and condition of the housing stock (including its insulation), the average temperature, average household size, type of household, and the income and preferences of its occupiers.

Looking now at industrial and commercial energy use, DTI Regional and Local Electricity/Gas Consumption Statistics for 2006 indicate that gas sales per customer to the industrial/commercial sector in West Lancashire were 743,635 kWh – significantly higher than the average for Lancashire County of

619,873 kWh) and the 4th highest Authority area in Lancashire (incl. Blackpool and Blackburn with Darwen). The consumption figures do not include the large industrial customer whose particularly high gas consumption would otherwise distort the figures.

DTI statistics for electricity sales per customer in 2006 indicate that sales to the industrial/commercial sector in West Lancashire amounted to 88,358 kWh. This was higher than the average for Lancashire County (79,482 kWh) and the 5th highest Authority area in Lancashire (including Blackpool and Blackburn with Darwen).

Fuel consumption associated with road transport in West Lancashire

The DTI's Regional and Local Road Transport Consumption statistics indicate that in 2005, total fuel consumption associated with road transport accounted for 70,300 tonnes of fuel. Personal road transport, which includes buses, diesel and petrol cars and motorcycles, was responsible for around two-thirds of the total, and freight transport (HGVs, and diesel and petrol LGVs) accounted for the rest. Compared with other districts in Lancashire County, West Lancashire rated 5th highest for personal fuel consumption and 6th for freight transport.

Data availability for emissions associated with WLDC operations

The overall aim of this strategy is to reduce greenhouse gas emissions associated with the activities of West Lancashire District Council, whilst maintaining and, where possible, improving the quality of services provided to residents of the District. As described in an earlier section (Role of West Lancashire District Council), there are many activities and operations that give rise to emissions of greenhouse gases which can be influenced to some extent by the District Council.

In order to prioritise action and assess progress in tackling the causes of climate change, it is important that we are able to monitor emissions of greenhouse gases, notably CO2, from the various sources over time. Obtaining the relevant data will be a major challenge for some areas of activity, and in some cases it will be impossible.

In connection with the new local authority performance indicator NI 185 on emissions of CO2 from local authority operations, DEFRA provides a spreadsheet tool and associated conversion factors for calculation of CO2 emissions in its draft guidance. For consistence, this spreadsheet has been used to calculate the Council's baseline CO2 emissions.

For some emission sources, new or extended data collection systems will have to be set up, such as an extended system of meter reading for corporate sites.

For other activities covered by this strategy, such as private sector housing, land use planning and procurement, it will only be possible to monitor *indirect* indicators of progress that relate to a factor that itself affects carbon emissions, rather than to determine *actual* emissions.

For example, in relation to land use planning, an increase in the capacity of renewable energy installations is likely to reduce carbon emissions from the burning of fossil fuels, but it is not possible to specify the exact extent of the emissions reduction.

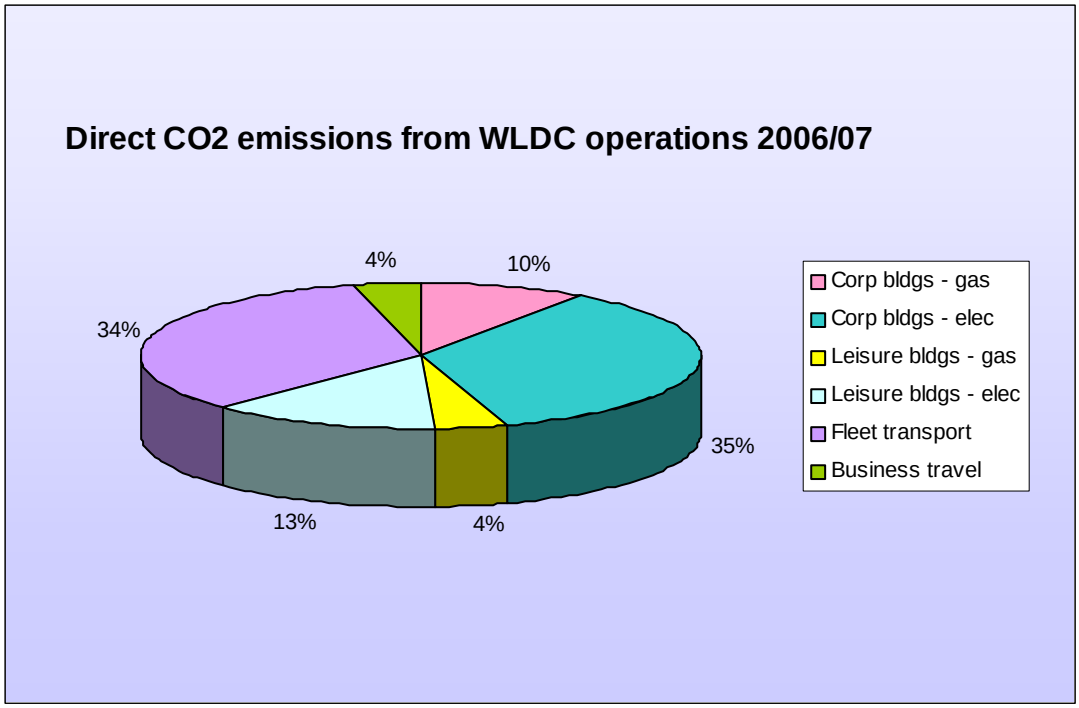
The table below reviews the data availability for a range of emission sources over which the Council has some level of influence. More detailed information on data sources used in calculating emissions is presented in the Appendix (Council Carbon Footprint 2006/07).

Source of emissions	**Data sources**
Energy use in corporate buildings	Quarterly/annual metered data of gas and electricity use in main corporate buildings (kWh). Around 20% of electricity used is for a large number of small supplies (e.g. pay and display machines) for which meters are not currently read.
Fuel use by fleet vehicles	Quantity of each fuel type dispensed, except for LPG where procurement data used, taken from consignment notes.
Staff and councillor business travel	For car travel, data are compiled for P11D tax returns from monthly car mileage claims. Non-car business travel (by train, bus, taxi and air) details taken from travel and subsistence claims, as is car distance for attendance of regular training courses.
Staff commuting	Some distance-related data for base year obtained from responses to staff survey distributed in connection with green travel plan for new office building. Regular questionnaire will be required in future years.
Energy used in leisure buildings owned but not managed by WLDC	Data obtainable from Leisure Trust
Waste produced by council operations disposed of to landfill	Concerned here with landfilled office waste only. Data not currently compiled. Likely to be inaccurate anyway, as relies on assumptions

	made of waste composition and landfill site management.
Goods and services procured by WLDC	Associated emissions impossible to quantify. Data collection is complicated by non-centralised purchasing arrangements. May be able to compile annual consumption figures for bulk purchases such as copier paper and PCs as indicators of consumption trends. Information available on % electricity purchased from renewable sources.
Energy used by social housing stock	Not possible to compile energy consumption data for housing stock other than sheltered housing, as each tenant makes their own arrangements with energy suppliers. For sheltered housing where WLDC recharges tenants, data could be obtained from gas and electricity invoices or from meter readings.
Energy used in private sector housing	SAP rating will provide an indication of energy efficiency.
Waste from households disposed of at landfill	From landfill statistics
Energy associated with new developments	Not quantifiable. May be able to obtain data on energy efficiency standard of new developments (e.g. Sustainable Homes/BREEAM Rating). Data available on capacity of renewable energy installations where planning permission required.
Energy used by businesses	Not quantifiable

Emissions of CO2 from WLDC operations for 2006/07

These are summarised in the chart below, and actual emission tonnages are presented in the table. Further detail on the data sources, calculations and assumptions behind the figures is presented in the Appendix.



Total direct CO2 emissions for 2006/07 = 4324.0 tonnes CO2

Type of CO2 emission per Carbon Trust guidance	**Emission source**	**CO2 emissions (tonnes)**	**% of direct CO2 emissions**
Scope 1 emissions – direct emissions	1. Gas used in corporate buildings (excl. main leisure buildings)	434.7	10.1
	2. Gas used in main leisure buildings	179.2	4.1
	3. Staff and Member business travel by car, train, bus, air and taxi	170.6	3.9
	4. Fleet transport fuels	1449.0	33.6
Scope 2 emissions - electricity	5. Electricity used in corporate sites (excl. main leisure buildings)	1519.9*	35.1

	6. Electricity used in main leisure buildings	570.6	13.2
CO2 emissions from direct sources & electricity usage		**4324.0**	**100%**
Scope 3 emissions – indirect (information only for 2006/07, but likely to be needed for NI 185 in future)	7. Staff commute by car, train and bus	12455.4*	

* Accuracy of data questionable owing to calculation method (detailed in Appendix).

Observations

The data presented above indicate that the two main sources of direct CO2 emissions are electricity used in corporate sites (mainly non-leisure), and fleet transport, which together account for almost 70% of direct emissions. There is a clear need for steps to improve the accuracy of electricity consumption data, which may involve increasing the number of sites for which regular meter readings are made and/or ensuring that readings are taken from invoices.

Whilst electricity use in corporate buildings is already being addressed through the Energy Action Plan for corporate buildings and is showing signs of improvement, the operational area of fleet transport is notoriously difficult to tackle, being dependent on factors such as fuel efficiency of vehicles and the length of rounds covered by Council vehicles.

It is likely that the direct emissions are far out-weighed by the indirect emissions from sources including the staff commute. As above there is a need to improve the accuracy of data and ensure that reliable data capture systems are set up.

7 Action on - Management of land and buildings

Introduction and context:

Scope of service area	Management of corporate buildings, the Council's housing stock, and the management of land owned by the District Council. Buildings include Council offices, the Investment Centre, Stanley Depot, Chapel Art Gallery, the Civic Hall, community centres, the Council housing stock, public toilets, the bus-rail interchange and changing rooms. Energy consumption in leisure buildings owned by the Council but managed by the leisure trust will be reported if data can be obtained from the trust, but no action points have been included for those buildings. Energy management is, however, known to be a high priority of the leisure trust. Examples of land holdings are countryside sites, parks, play areas, sports pitches, car parks and allotment sites. Issues relating to private sector housing are considered under the Education, Promotion and Relevant Corporate Policies action plan. The procurement of energy is addressed under the Procurement and Waste action plan.
How service area can mitigate the causes of climate change	Emissions of CO2 associated with use of gas and electricity can be reduced by minimising energy requirements, using energy efficiently, installing low carbon or (better) renewable energy systems, and ensuring that where electricity from fossil fuels is used, clean technologies are employed in its generation (the Energy Hierarchy). Increasing the take-up of CO2 - primarily by trees – can reduce CO2 levels.
How service area will be affected by	Increasing unit costs of gas and electricity and a possible increase in frequency of power cuts as a greater proportion of power station fuels are sourced from outside the UK.

climate change	Increasing requirement for summer cooling (and external shade) and reduced requirement for winter heating. Increasing cost of water supplies and increasing demand for irrigation of landscaping. Extended plant growing season likely to result in higher grass cutting and weed control costs Increase in maintenance and insurance costs and possible increased safety risk associated with storm damage, localised flooding and subsidence. Increased demand for and use of outdoor recreation facilities and allotments over an extended season, and for activities arranged for summer evenings rather than during the hotter times of the day. Changes in the requirements of wildlife species occupying or using our sites, for example, a need to move northwards to avoid the impacts of climate change
Responsibilities under legislation/policy	• EC Directive on Energy Performance of Buildings • WLDC Energy policy for corporate buildings (2006) • WLDC budgetary target: energy spend in 2008/09 to be at least £12K below 2006/07 energy spend. • Draft Sustainable Community Strategy includes target for WLDC to reduce electricity and gas consumption in 15 main corporate buildings by 4% in 2007/08 relative to 2006/07.
Other relevant factors	Within 3 years it is likely that two of the main corporate offices will be demolished and replaced with a new corporate building, the design of which is at a very early stage at the time of drafting. Further detail on the new building is provided in the 'Major Projects' section of this strategy.
Strategic aims of action plan	To reduce consumption of gas, electricity and water in corporate buildings; To consider the likely effects of climate change in the way that Council land is managed for the purposes of recreation, biodiversity and local amenity

Review of action to date and ongoing actions	Since 2006/07, electricity has been purchased on a green (renewable) tariff for 3 corporate buildings (52 Derby Street, Westec House and the Investment Centre). These 3 sites account for around 80% of electricity used in non-leisure corporate buildings for which metered data are available. Free energy surveys provided by the Carbon Trust have been carried out on 6 corporate buildings to identify initial energy saving opportunities. The surveys concentrated on zero or low-cost proposals with paybacks of less than 3 years, and all feasible recommendations are being implemented. An Energy Policy for corporate buildings was adopted by the Council in 2006, along with the first action plan for reducing energy use in the main corporate buildings. Action plans are reviewed annually and progress reported to elected Members. Responsibility for strategic energy management has been assigned to the Executive Manager for Housing and Property Maintenance Services, and operational energy management jointly to the Assistant Property Services Manager and Environmental Strategy Officer. Gas and electricity meters in 15 corporate buildings are read monthly and consumption compared with the equivalent period of the preceding year. Performance is reported to Cabinet and staff on a quarterly basis. A staff energy awareness campaign has been launched, to run from April to December 2007. As part of this, staff Energy Champions have been appointed for all corporate buildings, charged with encouraging energy saving by their colleagues, suggesting energy saving opportunities and helping the officers with energy management responsibility to better understand how energy is used across the Authority. An ongoing programme of energy efficiency measures is underway for Council housing stock, involving insulation, replacement of boilers with energy-efficient condensing combi types (where space permits), and replacement double glazed windows and draught-sealed doors. The majority (>99%) of stock now meets current Building Regulations requirements for insulation. Solar water heating has been installed in Victoria Court, a sheltered housing facility in Skelmersdale.

	Elected Members have provided £12,000 from capital budgets for energy efficiency measures in 2007/08. Optimisers are being installed in two community centres on a pilot basis to ensure that the firing of the space heating boilers ties in more closely with external and internal temperatures, thereby making more efficient use of gas. These will be funded through the energy efficiency provision for 2007/08. A new, fully insulated roof is to be installed at the main office block at Stanley Depot to replace a leaking and uninsulated roof.

Overall indicators:

Separately for (1) main corporate buildings and, where feasible (2) Council-owned sheltered housing stock:

- Electricity consumption as kWh/year
- Weather-corrected and non-corrected gas consumption as kWh/year
- Proportion of electricity generated from renewable sources as % (a) externally sourced (b) generated corporately
- CO2 emissions associated with electricity consumption as tonnes/year (a) assuming no renewable sources used (b) actual source mix
- CO2 emissions associated with weather-corrected and non-corrected gas consumption as tonnes/year
- Water consumption as cubic metres/year (need to establish data capture system for this)

As above for Council-owned leisure buildings managed by the leisure trust, where data are available.

Action for 2008/09

Action	Target	Responsibility	Resources
L1. Continue to implement Energy Policy for Corporate Buildings in accordance with associated Action Plan	Ongoing, as set out in Energy Policy and Action Plan documents	Energy Team (headed by Exec. Manager Housing & Property Maintenance Services)	As set out in Energy Action Plan
L2. Investigate the feasibility of creating an eco home/centre [e.g. Beacon Country Park (BCP) Visitor Centre] as a local demonstration project for renewables and energy efficiency	Feasibility study of Beacon Country Park Centre by end of 2008/09	Countryside & Outdoor recreation Manager	Subject to availability of (external?) funding
L3. Use Victoria Court in Skelmersdale as a pilot for the study of solar water heating by comparing with similarly sized housing blocks	Establish feasibility of comparison by April 2008	Property Services Manager	Existing
L4. Consider the feasibility of installing renewables, and review roof insulation needs whenever re-roofing works are undertaken on communal housing blocks	Ongoing	Property Services Manager	External funding would be required for installation of both renewables and insulation.
L5. Consider the feasibility of rainwater harvesting for new changing places in Ormskirk bus-rail interchange	April 2008	Assistant Property Services Manager	Subject to cost and sufficiency of existing budgets
L6. Review fail-safe switching systems to default 'off' whilst maintaining frost protection in pavilions with a view to rolling out to all 3 pavilions	White Moss pilot results to be evaluated April	Assistant Property Services Manager	Existing

	2008		
L7. Look into introducing optimisers into additional buildings - assuming results of the ongoing pilot in community centres are favourable	Performance of pilot installations to be evaluated by Sept 2008	Assistant Property Services Manager	Existing
L8. Review opportunities for partitioning of offices to create optimum working temperatures for staff (e.g. at 61 Westgate)	Ongoing	Assistant Property Services Manager	Existing
L9. Incorporate grass reinforcement to overflow parking areas at Beacon Country Park	March 2009	Countryside & Outdoor Recreation Manager	Existing
L10. Consider water efficiency systems whenever refurbishing existing fittings, subject to evaluation of cost/benefit including maintenance requirements	Ongoing	Assistant Property Services Manager	Existing
L11. Ensure that energy efficient systems are used whenever external lighting systems are installed	Ongoing	Assistant Property Services Manager	Subject to availability of funds in existing budgets
L12. Ensure that capital investment and maintenance contracts take account of any requirements to meet risks arising from climate change (*link to Procurement and Waste)*	Ongoing, via strategic risk assessment	Relevant managers	Existing
L13. Develop management plans for some of the remaining parks and countryside sites - Coronation Park, Richmond Park, Hunters Hill, Platts Lane, Abbey Lakes - to take account of climate change.	Coronation Park, Richmond Park & Hunters Hill by Mar 2009; Platts Lane & Abbey Lakes by March 2010.	Countryside & Outdoor Recreation Manager	Existing

8 Action on - Transport

Introduction and context:

Scope of service area	Fleet transport, staff business travel, staff commuting and councillor business travel. The specification of fleet vehicles is considered under this action plan, but there are obvious links with the Procurement and Waste action plan.
How service area can mitigate the causes of climate change	Reducing emissions of global warming gases (principally CO2) associated with the use of fuels such as diesel, petrol and LPG in vehicles. This can be achieved by not travelling (for example, in some cases the use of video-conferencing can replace the need to travel), reducing the distance travelled (e.g. by better route planning), using fuels or modes of travel that emit less CO2 over a given distance (e.g. using electrically-powered vehicles or travelling by trains or buses), and using fuels more efficiently (e.g. by using smaller vehicles or adopting a more fuel-efficient driving style).
How service area will be affected by climate change	Increasing costs associated with vehicle fuels (due to dwindling global reserves and rising levels of fuel duty), vehicle excise, and possibly road/congestion charges in future. Increasingly frequent disruption to travel from flooding, subsidence, melting of road surfaces, buckling of railways in summer and debris in the road. Less disruption due to ice and snow. Increasingly carbon-efficient vehicles coming onto the market as manufacturers respond to demands and legislative pressures. With warmer drier weather in summer, more staff may choose to walk or cycle to work, but wetter winters could deter this at other times of the year.
Responsibilities under	MOT for vehicle owners/operators

legislation/policy	Contribute to Local Transport Plan, which focuses on the need to reduce dependence on the car by promoting alternatives.
Other relevant factors	Some vehicles owned by Council, most leased Green Travel Plan required under Planning for new Council offices Stanley Depot has facilities for dispensing ultra low sulphur diesel, petrol and LPG
Strategic aims of action plan	To use more carbon-efficient fuels, technologies or modes of transport whilst reducing overall distance travelled
Review of action to date and ongoing actions	A small number of fleet vehicles run on LPG The diesel supply at Stanley depot is 5% biodiesel (since at least Oct 2007) All fleet vehicles subject to regular servicing and maintenance Some fleet vehicles to have tracker device offering scope for better route planning Pool bike available for staff at 52 Derby Street Cycle parking and lockers at some Council offices Cycling allowance (31p/mile) payable for business trips

Overall indicators:

- Quantity of each fuel type (diesel, LPG and petrol) dispensed to fleet vehicles as litres per year
- Gross CO2 emissions associated with consumption of each fuel type as tonnes per year
- Total staff / councillor business mileage per year by car, train, bus and bike

- CO2 emissions associated with staff / councillor business travel as tonnes per year
- CO2 emissions associated with staff commute (via car, train and bus)

Action for 2008/09

Action	**Target**	**Responsibility**	**Resource**
T1. Consider promoting WLDC's climate change message on vehicles – green council etc. (*link to Education & Promotion actions*)	March 2009	Street Scene Manager/Refuse & Recycling Manager	Subject to budgetary priorities
T2. Keep under constant review the environmental credentials and technical attributes of emerging fuels and vehicle technologies and ensure that WLDC takes appropriate action when and where it is advantageous so to do *(link to Procurement and Waste*)	Ongoing	Transport Manager	Existing
T3. Use route planning systems in combination with trackers to minimise mileage. Specify that new vehicles should incorporate the trackers *(link to Procurement and Waste action PW5)*	Ongoing	Transport Manager	Existing
Staff travel: *Proposals in this section link to the proposed Green Travel Plan for new Council offices under the Major Projects section*			
T4. Promote existing Home Working Policy to staff (If decision is made to pay staff a proportion of staff energy	Action taken to promote Home	Human Resources Manager	Existing

bills, at that stage could consider energy efficiency assessment, perhaps as part of home risk assessment).	Working Policy by March 2009		
T5. Investigate the feasibility of car sharing scheme for 52 Derby St. and possibly other WLDC offices, or joining with other wider schemes	These measures (and others) to be considered in the drawing up of the Green Travel Plan for the new Council offices, for which external consultants have been commissioned. (*Links to Major Projects section)*		
T6. Investigate the feasibility of changing the WLDC car mileage/allowance scheme around CO2 emissions			
T7. Review the feasibility and effectiveness of having WLDC pool cars for staff business travel			
T8 Investigate with public transport providers the provision of and future opportunities for season travel tickets for staff, and report findings.			
T9. Explore the feasibility and cost-benefit of using video- and tele-conferencing as a means for reducing staff business travel in relation to the new Council offices.	From 2010	Customer Relations Manager	Feasibility study to be done within existing resources
T10. Review the current system of car user status (essential and casual)	By March 2009	Human Resources Manager	Existing
T11. Run a staff awareness campaign to encourage use of public transport (between home and work, for business journeys where appropriate and outside work) (*links to Education & Promotion actions)*	By March 2009	Environmental Strategy Officer & PR Manager	Existing
T12. Through a combination of staff awareness and managerial scrutiny, seek to reduce business travel by combining trips and avoiding unnecessary journeys	Reduce staff business mileage in 2007/8 by 5% on	Environmental Strategy Officer and Executive Managers	Existing

	2006/07.		
T13. Consider the implications of any revised Joint National Agreement for Local Government Conditions of Service when published by the National Employers' Organisation	As appropriate	Human Resources Manager	Existing
Issues affecting the wider community:			
T14 Ensure that energy use and life expectancy are material considerations (combined as 'energy usage over time') in the selection of the 21 replacement pay and display machines to be procured for WLDC car parks. Prioritise selection of solar powered machines where fit for purpose. (*link to Procurement & Waste section)*	March 2009	Market & Parking Officer	Existing
T15. Ensure that when WLDC disposes of land, the successful purchaser if appropriate will make a contribution to sustainable transport in his s106 sum. (*Link to Land Use Planning & Building Control section)*	Agree appropriate procedure with Estates and Legal Divisions by March 2009	Executive Manager Regeneration & Estates	Existing staff resource
T16. Review options for using the Travel Tokens system to encourage better use of public transport (*link to Education and Promotion section)*	Consider as part of 2008/09 budget process (Feb 2008)	Executive Manager Financial Services	Existing
T17. Promote the availability of public transport options for travelling to WLDC offices on web page, invitations etc. (*link to Education & Promotion section*)	Amend website, email to staff by March 2009	Environmental Strategy Officer & PR Manager	Existing

9 Action on – Procurement and waste

Introduction and context:

Scope of service area	The procurement of goods and services by the Council (not including vehicles, which are considered under the Transport action plan). The management of waste produced by the Council. The management of household waste.
How service area can mitigate the causes of climate change	All goods (such as paper) have an embodied energy, which reflects the energy that has gone into the extraction or production of their raw materials, manufacture of goods from their raw materials, and distribution of the end product. In general, the higher the embodied energy, the more CO2 that has been emitted. By purchasing only the quantity of goods that is needed, the amount of material - and energy - wastage is minimised. Waste contributes to climate change by being a loss of embodied energy and by requiring the use of vehicle fuels in its collection and handling. In addition, biodegradable waste material produces global warming gases when landfilled (see below). By making careful decisions about the kinds of goods selected for purchasing – buying durable items, selecting equipment that uses least electricity over its life-time, or sourcing goods locally, for instance - total embodied energy and CO2 emissions can be minimised. Recycling enables new materials to be made from recycled ones instead of raw materials, thereby reducing the amount of energy required (and CO2 produced). There can be other environmental benefits too - making paper from recycled fibre, for example, uses significantly less water than the production of virgin paper. Recycling also reduces the quantity of material consigned to landfill. Selecting recycled and recyclable products is therefore beneficial.

	Global warming gases (CO2 and methane in approximately equal proportions) are produced by biodegradable waste such as paper, garden and vegetable waste when it decomposes under the anaerobic conditions that exist in landfills. Methane produces more than 20 times the global warming effect than CO2 per molecule. Composting such waste produces less methane and contributes less to climate change. It also means that less landfill space is used. Biodegradable waste should only be landfilled as a last resort.
How service area will be affected by climate change	Running costs of items using electricity or fuels will increase as a proportion of life-time cost The costs of waste disposal will increase as waste management controls become more stringent Recycling targets will increase Biodegradable waste will be excluded from landfills
Responsibilities under legislation/policy	The potential role that local authority procurement can play in reducing climate change is reflected in the National Procurement Strategy for Local Government in England (2003). This states that all local authorities should use procurement to deliver objectives set out in community plans, including environmental objectives. New national performance indicators for local authorities & local authority partnerships: NI 191 – Residual household waste per head (kg per head per year) NI 192 – Household waste recycled and composted (%) NI 193 – Municipal waste landfilled (%)
Strategic aims of action plan	To reduce the quantity of goods purchased;

	To reduce the life-time energy (i.e. energy used in producing/extracting raw materials, manufacture/processing, distribution, during the operational life time and during disposal) of goods purchased; To reduce the amount of waste produced; and To ensure that biodegradable waste is recycled or composted rather than landfilled
Review of action to date and ongoing actions	• Household fortnightly recycling scheme for paper, cans, glass, plastic bottles, textiles and cardboard, and green waste for composting. Many static recycling sites. • Fortnightly collection of non recyclables • Partnership with Lancashire County Council to promote free and discounted home compost bins • All waste from Grounds Maintenance operations is composted • Waste fluorescent lamps, sump oil and vehicle batteries are recycled • Recycling facilities for some materials are provided in some corporate buildings • Green Purchasing Guide for staff produced • All copier paper, letterhead and compliment slips are made from 100% recycled fibre • 100% renewably sourced electricity is purchased for the three main corporate buildings • No peat or peat-grown bedding plants are purchased

Overall indicators:

Note: in relation to procurement and waste, it is not possible to calculate the effects on CO2 emissions of the actions proposed without spending an unreasonable amount of time obtaining and analysing data. For this reason, progress in relation to climate change mitigation will be monitored indirectly via the following indicators:

- Quantity of household waste per head requiring disposal (NI 191)
- % of household waste recycled or composted (NI 192)
- % municipal waste landfilled (NI 193)
- Number of Council offices provided with recycling facilities for a range of materials
- Quantity of copier paper (and letterhead/compliment slips?) purchased across the Council
- Proportion of recycled paper purchased and % recycled fibre, for copier, letterhead and compliment slips
- Proportion of electricity purchased that is renewably sourced

Action 2008/09

Action	**Target**	**Responsibility**	**Resource**
PW1. Prepare Sustainable Procurement Practice Note to underpin corporate procurement strategy. This to (a) incorporate Green Purchasing Guide (b) embrace consideration of life cycle impacts (c) advise on the application of contract procedure rule 12 (iii)(c) which provides latitude to embrace sustainability in procurement exercises.	June 2008	Purchasing & Land Charges Manager	Existing
PW2. Undertake review of Printing across the authority,	August 2008	Purchasing & Land	Existing

taking account of opportunities for reducing consumption of energy and paper.		Charges Manager	
PW3. Increase the proportion of electricity purchased for corporate buildings on a green tariff, subject to price and availability.	Extend green tariff to Stanley Depot and 61 Westgate by March 2009	Purchasing & Land Charges Manager	Existing
PW4. Reduce the quantity of copier paper purchased	By 10% of 2006/07 levels by end 2008/09	Environmental Strategy Officer, IT Services and Purchasing & Land Charges Manager	Existing
PW 5. Implement recommendations of WRAP/Rotate efficiency review of refuse/recycling collections where practicable and within existing trial constraints	March 2009	Refuse and Recycling Manager	No cost to Council of Rotate review. Costs of implementing recommendations not known
PW6. Review the feasibility and resourcing implications of introducing (ideally multi-material) reclamation and recycling schemes to main Council offices	March 2009	Refuse and Recycling Manager	Existing
PW7. Review the feasibility and resourcing implications of recycling waste collected from commercial premises	March 2009	Refuse and Recycling Manager	Existing

10 Action on – Land use planning and building control

Introduction and context:

Scope of service area	Planning policy documents, including the Local Development Plan/Core Strategy, Proposals Maps, emerging Supplementary Planning Guidance/Documents and other documents within the Local Development Framework; Planning Control procedures; Implementation and enforcement of the Building Regulations through Building Control procedures
How service area can mitigate the causes of climate change	For operations requiring planning permission and in relation to new developments, the planning process can influence aspects such as location, layout, design, orientation, materials, energy requirements and generation, drainage/flood risk, landscaping, external lighting and certain transport features (such as car parking and cycling facilities and proximity to public transport routes). These factors can have a material effect on: • energy requirements for heating, cooling and power (with knock on effects on CO2 emissions); • people's need to travel and their chosen mode of travel (which affects use of vehicle fuels and associated CO2 emissions); • the planting of trees which take CO2 out of the atmosphere during their active growth, can help stabilise soil, dry soil out, provide shade and air cooling; • water consumption and the management of surface water run-off; and • landscaping features (e.g. hedges and ponds) which can provide opportunities for wildlife species to migrate in order to avoid the worst effects of climate change. The majority of CO2 emissions are from energy use in buildings. Most buildings in place today will still be here in 2050, so if we are to achieve the long-term national target of a 60% emissions reduction by then, it will be necessary to ensure that new buildings are more than 60% more energy efficient than the existing

	stock. Building Control procedures provide a means of ensuring that energy losses from buildings, leading to high emissions, are reduced through the use of environmentally preferable materials and methods of construction, and minimum standards for insulating materials.
How service area will be affected by climate change	Climate change is likely to change the focus of planning applications and applications under the Building Regulations. It is likely that there will be an increased proportion of applications for or including: • Local energy generation via renewable or low carbon technologies (such as wind turbines) • Facilities relating to outdoor recreation, tourism and, in urban areas, the so-called café culture • Water storage facilities (e.g. irrigation lagoons and domestic rainwater harvesting) • Woodland planting • Sustainable drainage systems (SuDS) • Flood defences The design of all new developments should take account of the effects of climate change, including increased risk of subsidence/heave, increased storminess and frequency of high rainfall events, increased risk of flooding (from surface run-off, rivers and the sea), higher summer temperatures.
Responsibilities under legislation/policy	The emerging Regional Spatial Strategy requires new developments over certain size thresholds to meet at least 10% of their anticipated energy requirements through on-site generation via renewable or low carbon technologies (such as Combined Heat and Power systems) PPS 22 on Renewable Energy provides detailed policy guidance to enable local planning authorities to better evaluate renewable energy proposals. Supplement to Planning Policy Statement 1 entitled ‘Planning and Climate Change’. In response to the EU Energy Performance of Buildings Directive, Part L of the Building Regulations

	(Conservation of Fuel and Power) was revised and the most recent revision came into effect in April 2006. This heightens requirements for energy efficiency when a new building is constructed and obliges contractors to make reasonable provisions to improve energy efficiency (insulation, heating and other fixed services) whenever works take place to extend or alter existing buildings. The government's aspiration that all new-build homes will be 'zero carbon' by 2016 indicates that energy standards contained in the planning and building control systems are likely to tighten in the next few years. Relevant policies in Local Development Plan (on design, flood risk, public transport and renewable energy) Emerging Supplementary Planning Document on Design, scheduled for adoption 2007/08 Emerging Core Strategy and Site Allocation Development Plan Document
Other relevant factors	Renewable energy generation: A study commissioned by the NW Regional Assembly in 2004 established an indicative target of 196.3 MW by 2020 for Lancashire. A study commissioned by Lancashire County Council of landscape sensitivity to wind energy developments across Lancashire (published 2005) concluded that the District of West Lancashire is suited to all scales of wind energy development
Strategic aims of action plan	To ensure that emissions of greenhouse gases associated with new developments and operations requiring planning permission are minimised; and that new developments and existing buildings are able to withstand the anticipated impacts of climate change.
Review of action to date and ongoing actions	The Local Development Plan (LDP) focuses development in sustainable locations and reduces the need to travel. The LDP has relevant policies on design, flood risk, public transport and renewable energy. Several applications for micro wind turbines have been approved.

	Sustainable drainage systems have been incorporated in several developments. A Supplementary Planning Document on Design is in preparation, which has been subject to sustainability appraisal, and which recommends that applicants submit a sustainability assessment in relation to small developments and, for larger developments, complete and submit the (online) North West Sustainability Checklist for Developments produced by the NW Regional Assembly. All of these sustainability tools address climate change mitigation and adaptation. The latter generates a report that includes a climate change and mitigation score, as well as an Eco Footprint for the development.

Overall indicators:

Note: in relation to land use planning and building control, it is not possible to calculate the effects on CO2 emissions of the actions proposed. For this reason, progress in relation to climate change mitigation will be monitored indirectly via the following indicators:

- Capacity of renewable energy installations that have received planning permission in kW or MW (cumulative)
- NI 175 – Access to services and facilities by public transport, walking and cycling

Action for 2008/09

Action	Target	Responsibility	Resource
PB1. Review planning policies to consider exceeding targets set by national government relating to energy efficiency	As part of Core Strategy process (over next 3 years).	Planning Policy	Subject to sufficient allocation within Local Development Framework budget in future years. Explore joint working with other local authorities, universities and the Royal Town Planning Institute
PB2. Review planning policies relating to maximising renewable and low carbon energy technologies in line with the Regional Spatial Strategy, and also consider applying targets to 1 to 5 new build residential units and below 500 sq m floorspace as well as larger developments.			
PB3. Consider inclusion of planning policies (with targets) on sustainable building design that require all new private and public sector development and Registered Social Landlords, to meet Eco-Homes/Code for Sustainable Homes or BREEAM 'very good' (or equivalent) as a minimum	To be considered in the course of the Core Strategy process	Planning Policy	Existing
PB4. Produce a guidance note for developers summarising best practice in relation to energy efficiency, daylight and solar gain opportunities, passive ventilation, renewable energy and district heating in connection with buildings.	As soon as possible, but no later than March 2009	Environmental Strategy Officer with input from Building Control and Planning Control	Existing
PB5. Seek to encourage the transfer to ground or re-use of rainwater run-off, and re-use of grey water within the site, in order to reduce the impact on existing	Guidance note for developers and householders to be	Environmental Strategy Officer with input from	Existing

drainage infrastructure	produced as soon as possible, but no later than March 2009	Building Control, Planning Policy & Technical Services	
PB6. Consider supporting Planning Policy Statement 25 in avoiding flood risk by developing planning policies and/or conditions to restrict householders from replacing gardens with non-porous surfaces	Develop appropriate policies in Local Development Framework (LDF) (in accordance with LDF timetable)	Planning Policy, Planning Control & Technical Services	Existing
PB7. Along with other coastal Lancashire local authorities, deliver a coherent programme for coastal management in Lancashire that integrates flood risk	Ongoing implementation and review of coast protection strategies and programmes	Technical Services	Existing
PB8. Through the emerging Local Development Framework (LDF), seek to meet local needs locally in order to reduce people's need to travel	Develop appropriate policies in LDF (in accordance with LDF timetable)	Planning Policy	Existing
PB9. Arrange training in the causes and effects of climate change relating to land use planning and the Building Regulations for officers and elected Members.	All staff and Members to have the opportunity to receive appropriate training by March 2009	Exec. Managers Planning & Dev. Services and Human Resources, perhaps involving NW Employers' Organisation	Existing training budgets for Members and staff

11 Action on – Education, promotion & relevant corporate policy

Introduction and context:

Scope of service area	Opportunities presented in the course of usual Council business and within existing resources for influencing individuals and organisations in relation to the mitigation of, or adaptation to, climate change
How service area can mitigate the causes of climate change	By encouraging others to take whatever action they can to reduce emissions of global warming gases by, for example, reducing their energy use or vehicle fuel consumption. This encouragement could be supplied through a variety of routes: • Financial support for the local Energy Efficiency Advice Centre • Displaying leaflets in Council reception areas • Using influence as a member of the Local Strategic Partnership and through the Sustainable Community Strategy process • Articles in The Voice newspaper to households, In Touch newsletter to staff (produced by WLDC) • Continued involvement with West Lancs Environmental Network (which produces GreenSpace newsletter) • Press releases • Signposting to sources of help and advice when members of the public ring Council officers • Environmental Health Officers making air quality visits could signpost businesses to sources of advice on waste and energy efficiency • Countryside Service events • Arts Service themes and events • The Council's website • Citizens' Guide • Inclusion of relevant and appropriate conditions in grant offers to businesses

	• Day to day contacts between Councillors and their constituents • Formal or informal staff training • Responses to consultations from national government and other bodies on draft policies and plans • Leading by example – e.g. having a low emission Chairman's car or including statements on corporate letterhead and documents publicising the fact that the paper contains recycled fibre
Responsibilities under legislation/policy	The Local Government White Paper (2006) imposes a duty on local authorities to lead their community and their local partners on climate change. Awareness raising is a key part of the Council's HECA (Home Energy Conservation Act 1995) strategy. HECA target – 30% reduction in energy use in homes over 10 to 15 year period. LAA indicator H17 – Average SAP rating of all housing stock (private and local authority) – for reporting annually LAA indicator H18 – Carbon savings in Lancashire (expressed as tonnes of carbon), due to the installation of domestic insulation measures and small-scale renewables, based on HECA returns – for reporting annually New national performance indicators for local authorities & local authority partnerships: NI 187 – Tackling fuel poverty - % of households on income-related benefit for whom an energy assessment has been carried out, and whose SAP rating is below 30 (i.e. in energy-inefficient homes) NI 188 – Adapting to climate change – assesses local authority preparedness to manage risks to individuals, communities and businesses from a changing climate, and to make the most of new opportunities
Strategic aims of	To heighten awareness and understanding of the causes and impacts of climate change, and encourage

action plan	individuals and organisations to take action to reduce emissions of global warming gases or make changes enabling them to better withstand the impacts of climate change.
Review of action to date and ongoing actions	Financial support has been given in the past to Lancashire Energy Efficiency Advice Centre Working in partnership with energy utilities to provide loft and cavity wall insulation at heavily subsidised rates to private householders and private tenants who do not qualify for Warm Front Warm Front grants (government grants, formerly known as HEES grants) promoted Household energy efficiency advice leaflets stocked at Council reception points Public meeting and film night events to raise awareness of climate change held in partnership with Edge Hill University and Friends of the Earth in September/October 2007 Energy efficiency measures promoted to applicants to the projects under the NWDA–funded 'Investing in Business Programme', for which WLDC is the accountable body (e.g. the Building Development Grant scheme which is part of the 'Inspire' Project) Energy and waste efficiency advice offered to businesses through the Council's Business Incubation Advisors Climate change and energy efficiency are referred to in the Sustainable Community Strategy (under Natural Environment Action Plan) Staff energy awareness scheme April to December 2007, including articles in staff newsletter, emails, 7 Days, slogan competition and posters/stickers Strap line on corporate emails encouraging recipients to save energy (and reduce paper use) by not printing the message

Overall indicators:

Note: in relation to education and promotion, it is not possible to calculate the effects on CO2 emissions of the actions proposed. For this reason, progress in relation to this area will be monitored indirectly via the following indicators:

- Average SAP rating of all housing stock (LAA indicator H17)
- Carbon savings (expressed as tonnes of carbon), due to the installation of domestic insulation measures and small-scale renewables, based on HECA returns (LAA indicator H18)
- Number of PR outputs (e.g. press releases, articles etc.) that address aspects of climate change
- NI 185 – CO2 reduction from local authority operations
- NI 186 – Per capita CO2 emissions in the local authority area
- NI 187 - % of households on income-related benefit for whom an energy assessment has been carried out, and whose SAP rating is below 30.

Action for 2008/09

Action	**Target**	**Responsibility**	**Resources**
In-house:			
E1. Incorporate relevant climate change actions into divisional/sectional service action plans	Ongoing with effect from start of 2008/09	Executive Managers	Existing
E2. Incorporate climate change as a risk in the strategic risk register (SRR)	To be included in SRR from Feb 2008; priority to be determined at review involving	Exec Manager Financial Services	Existing

	Members in June/July 2008		
E3. Undertake risk assessment of the impacts of climate change in accordance with NI 188 (once guidance is produced) and draw up associated action plan to mitigate risks identified.	Risk assessment undertaken by March 2009; Action Plan drawn up by March 2010	Environmental Strategy Officer, either in association with other relevant officers or via external consultants	If in-house: existing If via consultants: subject to resources
E4. Keep under review possible resourcing options for funding climate change actions. Responsibility for delivery, if funding becomes available, be delegated to the relevant Executive Manager in consultation with the respective Portfolio Holder.	Ongoing	Relevant Executive Managers	Existing
E5. Include climate change in corporate training programme for staff, covering the strategy/action plan specifically as well as more general awareness of climate change	March 2009	HR Section	Existing
E6. Continue to motivate staff in saving energy through a variety of means	Ongoing	PR Section with input from Environmental Strategy Officer & other officers	Subject to resources
External:			
E7. Use the People Panel as a means of evaluating the awareness of and involvement in climate change action by local residents	March 2009 and repeated say by March 2014	PR Section	Subject to resources
E8. Develop Communication Plan for climate change after investigating promotional materials and activities being produced or undertaken by	March 2009	PR Section	Subject to resources

other organisations to ensure the most efficient deployment of resources.			
E9. Engage consultants to help the Council access funding for energy efficiency across the District. Link to the Home Energy Conservation Act Strategy/Action Plan 2006 – 2011 which was agreed by Cabinet but limited in its delivery by shortage of resources	Consultants engaged by August 2008.	Exec Manager Housing & Property Maintenance Services	Subject to staff time. Funding set aside for this.
E10. Launch and promote the Climate Change Strategy to which this action plan relates	Summer 2008	Environmental Strategy Officer	Internal promotion from existing resources
E11. On the Council website, ensure that 'non-environmental' pages have links to the climate change green page to highlight the fact that climate change is far from being just an *environmental* issue	March 2009	PR Section & web champions	Subject to resources
E12. Ensure that the location details for the Council offices on the website, as sent out with invitations to meetings etc. highlight the proximity of train and bus stations, to encourage use of public transport by visitors	March 2009	PR Section & web champions	Subject to resources
E13. Promote sources of information on renewable energy technologies on the Council's website (on the relevant Green Page)	March 2009	PR Section & Environmental Strategy Officer	Existing
E14. Subject to a satisfactory outcome of the pilot scheme in Burscough, work in partnership with Parish Councils and community groups to audit and promote energy efficiency in specific areas of the District	Subject to E9	To be determined	Subject to resources being found through action E9.
E15. Ensure that reference is made to climate change in the course of ongoing relevant activities, such as school visits by Street Scene Officers talking about recycling, and visits to businesses by Environmental Health Officers	Report to OMB by March 2009	Environmental Strategy Officer to draft OMB report. Appropriate	Existing

		Executive Managers to ensure delivery	
E16. Review the implications of climate change impacts in relation to health promotion activities (including health and food safety).	March 2009	Commercial Safety Manager	Existing
E17. Seek to work through the West Lancashire Environmental Network (of which WLDC is a founder member) to raise awareness of climate change, e.g. through the GreenSpace newsletter, Green Fayre and selection of guest speakers at meetings	Ongoing	Environmental Strategy Officer	Existing
E18. Incorporate a chapter on climate change in the Countryside Rangers' Natural Learning Scheme	March 2009	Countryside & Outdoor Recreation Manager	Existing
E19. Wherever energy efficiency measures or renewables are introduced into a corporate building (e.g. optimisers), display an explanatory panel or equivalent to heighten the awareness of building users.	Ongoing, around 2 months of installation	Assistant Property Services Manager	Existing
E20. Renew the partnership with the local Energy Efficiency Advice Centre (EEAC)	Await outcome of Energy Saving Trust's review of UK EEACs	Private Sector Housing Manager	To be identified once review completed

12 Action on – Major projects

Introduction and context:

Scope of service area	The major projects to be covered under this section are (1) Proposed new WLDC offices and associated development and (2) Skelmersdale Town Centre Redevelopment. Development of the new Council offices will involve the demolition of several disused industrial units, 2 Council office buildings (52 Derby Street and Westec House), 4 existing houses and an apartment block, and erection of a single replacement office block for the Council's own use plus a mixed use development comprising mainly residential and office development (up to 150 residential units and 7,000 sq m commercial space). The redevelopment of Skelmersdale Town Centre will involve a major mixed use development scheme costing up to £350M, including new housing, retail, leisure and community facilities.
How service area can mitigate the causes of climate change	By ensuring that both developments are designed and constructed so as to minimise energy demand and energy wastage, and by encouraging the installation of renewable and low-carbon technologies, emissions of CO2 will be minimised. By ensuring that the developments are designed so as to minimise usage of the private car – through provision of cycle facilities and good linkages with public transport, for example – emissions associated with vehicle fuel use will be minimised. By encouraging the use of materials with a low embodied energy – such as sustainably sourced timber and recycled materials - emissions associated with construction will be minimised. By ensuring that surplus construction materials are reused elsewhere, and that the developments

	incorporate space for storing materials for recycling, emissions associated with waste disposal will be minimised. By ensuring that landscaping associated with both developments includes tree planting and minimises the felling of trees, CO2 absorption will be maximised.
How service area will be affected by climate change	Increasing average temperatures will focus attention on energy efficient methods of internal cooling/ventilation and incorporation of green landscaping to provide external shade and air cooling. Increased winter rainfall and storminess will require attention to wind-resistance and the capacity of the drainage system to avoid the risk of localised flooding. Design solutions will seek to attenuate run-off, and minimising the use of impermeable hard surfacing will also be beneficial in this regard. Footings will have to be resistant to ground subsidence.
Responsibilities under legislation/policy	• The draft Regional Spatial Strategy Policy EM18 – for buildings exceeding specified size thresholds, at least 10% anticipated energy requirements to be met by on-site renewables/low carbon technologies • Supplementary Planning Document on Skelmersdale Town Centre to be subject to sustainability appraisal • Both projects to comply with relevant policies in Local Development Plan
Other relevant factors	Renewable energy suppliers can receive payment for Renewables Obligation Certificates (ROCs) from utilities who, under the government's Renewables Obligation Order 2002, are required to source a specified percentage (7.9% in 2007/08 rising to 10.4% from April 2010) of their electricity from renewable sources.
Strategic aims of action plan	To ensure that both of the major development projects considered here will incorporate all possible measures to reduce emissions of greenhouse gases (notably through minimising energy requirements) during both construction and operational phases, and that the developments are able to withstand the

	anticipated impacts of climate change.
Review of action to date and ongoing actions	(1) **Proposed new Council offices and associated development:** Commercial developments are to reach at least BREEAM (Building Research Establishment Environmental Assessment Method) very good standard. The Regional Sustainability Checklist for Developments has been adopted for use in connection with the development. If completed online, this will generate a report that includes a climate change and mitigation score and the Eco Footprint of the development. The need to maximise sustainability in general and energy efficiency in particular has been incorporated into instructions to the various consultants that have been involved to date. The need for air conditioning is to be minimised through design Controls for energy systems will be appropriate for the task and management skills available; systems will provide the required conditions and services efficiently and without energy wastage; systems will default to OFF; and all systems will respond clearly, quickly and effectively to management and occupant needs. Energy specialists (e.g. from the Carbon Trust) are to be asked to review design specifications (2) **Skelmersdale Town Centre redevelopment:** Sustainability appraisal carried out on Master Plan document. The Draft Development Agreement between English Partnerships, WLDC and St Modwen Properties Ltd. specifies Eco Homes very good standard for new homes, with homes having a minimum energy rating NHER 9) and BREEAM very good standard for commercial developments.

Overall indicators:

Note: in relation to major projects, it is not possible to calculate the effects on CO2 emissions of the actions proposed. For this reason, progress in relation to this area will be monitored indirectly via the following indicators:

- Energy use in new Council offices (kWh gas and electricity per unit floor area)

Action for 2008/09

Action	**Target**	**Responsibility**	**Resource**
M1. Through development agreement/Supplementary Planning Document process, achieve at least BREEAM 'very good' for both developments and Eco Homes 'very good' (or its replacement standard) for residential development. *Note that in relation to the 52 Derby St site, this is subject to final agreement with our private sector development partner.*	Derby Street – Design Standard agreed May 2008; Building constructed in line with Standard by summer 2010. BREEAM/Eco Home 'very good' achieved for both 52 Derby Street development and Skelmersdale town centre	Derby St – Design Team for new offices LDF Project Manager re Skem Town Centre Masterplan considerations. Developer to bring forward suitable designs	Existing
M2. Building design to incorporate flexibility to allow for future modifications in line with changes in usage	Design specification incorporating	S Jackson & Design Team	Existing

requirements, environmental standards and technological advances (e.g. in terms of internal walls, heating fuel etc.)	flexibility (agreed May 2008 for 52 Derby St)	LDF Project Manager re Skem Town Centre Masterplan considerations. Developer to bring forward suitable designs	
M3. Produce Green Travel Plan recommendations for 52 Derby St development to fit with timing of planning application submission (*link to Transport*)	Green Travel Plan report produced by April 2008	S Jackson & external consultant	Existing
M4. Sustainability checklist to be completed and submitted by the developer in relation to the mixed use development at 52 Derby St and considered as part of planning control process	Sustainability checklist completed, submitted and considered by Sept 2008. Outline planning application submitted Feb – Apr 2008; Application re reserved matters submitted Sept 2008	Appointed developer	External
M5. Masterplans for Derby Street and Skelmersdale Town Centre Masterplan to comply with standards set out in the emerging Planning Policy Statement (PPS) on climate change and other government requirements (e.g. in relation to drainage, design, energy and sustainable transport)	Requirements of PPS included within Masterplan. Derby St – masterplan to accompany outline planning application submitted Feb –	S Jackson & Design Team (jointly with Atkinson Kirby) LDF Project Manager for Skem Town Centre	Existing

	April 2008.		
M6. Raise with St Modwen the possibility of building an eco home in Skelmersdale, demonstrating different renewable and low carbon technologies (*link to Education & Promotion section*)	Raise with St Modwen by end of February 2008	LDF Project Manager	Existing

Appendix:

Council Carbon Footprint 2006/07

Summary

Type of CO2 emission per Carbon Trust guidance	**Emission source**	**CO2 emissions (tonnes)**
Scope 1 emissions – direct emissions	1. Gas used in corporate buildings (excl. main leisure buildings)	434.7
	2. Gas used in main leisure buildings	179.2
	3. Staff and Member business travel by car, train, bus, air and taxi	170.6
	4. Fleet transport fuels	1449.0
Scope 2 emissions - electricity	5. Electricity used in corporate sites (excl. main leisure buildings)	1519.9*
	6. Electricity used in main leisure buildings	570.6
Total direct CO2 emissions		**4324.0**
Scope 3 emissions – indirect (information only for 2006/07, but will be needed for NI 185 in future)	7. Staff commute by car, train and bus	12455.4*
	8. Gas used in social housing stock	Not available
	9. Electricity used in social housing stock	Not available

* Accuracy of data questionable owing to assumptions required to be made in the course of calculation

(1) Gas used in corporate buildings excluding main leisure buildings

Raw data derived from actual metered data (non-weather corrected). West Skem Community Centre used gas for only 4 months of the year.

Site	Gas used (kWh)
52 Derby Street	285648
Stanley Depot	398789
Civic Hall	168292
Investment Centre	983151
Chapel Gallery	42541
61 Westgate	49564
Digmoor Office	35768
Tanhouse Office	43284
Ormskirk Comm Centre	74341
Digmoor Comm Centre	61865
Tanhouse Comm Centre	36705
West Skem Comm Centre	29471
Birch Green Comm Centre	55840
Ashurst Comm Centre	84474
Total	2349733

Conversion factor from DEFRA spreadsheet = 0.185 kg CO2/kWh gross

So total emissions from sources above = 2349733 x 0.185

= 434701 kg or **434.7 tonnes CO2**

(2) Gas used in main leisure buildings

Raw data supplied by SERCO (Kenny Deary)

Total gas used in 5 buildings:

Site	Total gas use (kWh)	DEFRA conversion factor	CO2 emissions (tonnes)
Burscough sports centre	6174	0.185 kg CO2/kWh gross	1.1
Banks sports centre	7424	0.185 kg CO2/kWh gross	1.4
Nye Bevan Pool	509806	0.185 kg CO2/kWh gross	94.3
Park Pool	442067	0.185 kg CO2/kWh gross	81.8
Skem sports centre	3170	0.185 kg CO2/kWh gross	0.6
Total	**968641**	**0.185 kg CO2/kWh gross**	**179.2**

(3) Business Travel

Data sources:

Ref.	Travel type	Data source
1	Staff car travel	Mileage: Prime source P11D return total distance derived from monthly car mileage claims and supplied as single figure by Revenue and Payments. Distances for car travel associated with training were also added where, although rail fares were claimed, staff actually used their cars to travel (these claims had no supporting tickets). Training details were taken from sample of travel and subsistence claim forms held by Revenue and Payments. Distance was calculated using AA journey planner (see below). Vehicle details: Assume average car, fuel unknown
2	Business travel by train, bus, taxi & air	Mileage: Sample of monthly travel & subsistence claim forms (for May, Aug, Nov and Feb) provide details of journey, distance calculated using web-based AA journey planner (www.theaa.com/travelwatch/planner_main.jsp). For taxi travel, fares were converted to distance using an assumption re charging (£2 for first mile, then £1/mile thereafter). Vehicle details: Conversion factors from DEFRA for train, bus, air and average diesel.
3	Chairman's car	Mileage: From milometer Vehicle details: From car buyer's section of Environmental Transport Association's website
4	Councillor travel (all by car)	Mileage: Derived from P11D return and supplied by Revenue & Payments Vehicle details: Assumed average car, fuel unknown. *NB likely to be underclaim as not all councillors make claims.*

1. Staff business travel by car

Mileage per monthly mileage forms = 460706 miles = 741414 km

Training-related car travel = 2588.2 miles in 4 month sample

= 12496 km in year

Total distance travelled = 753910 km

DEFRA CO2 emission factor for average car, unknown fuel = 0.21 kg/km

So emissions = **158.3 tonnes CO2**

2. Staff business travel by train, bus, taxi and air

(a) Train

Total mileage for 4 month sample = 185.2 miles = 298.0 km

DEFRA CO2 emission factor for national rail = 0.06 kg CO2/passenger km

So emissions for year = **0.05 tonnes CO2**

(b) Bus

Total mileage for 4 month sample = 10 miles = 16.0 km

DEFRA CO2 emission factor for bus = 0.09 kg CO2/passenger km

So emissions for year = **negligible**

(c) Taxi

Taxi mileage determined from assuming £2 for first mile, then £1 for each mile thereafter.

Total mileage for 4 month sample = 69.6 miles = 112.0 km

DEFRA CO2 emission factor for average diesel car = 0.20 kg CO2/km

So emissions for year = **negligible**

(d) Air

Total mileage for 4 month sample = 435.2 miles = 700.4 km

DEFRA CO2 emission factor for domestic flights = 0.17 kg CO2/passenger km

So emissions for year = **0.4 tonnes CO2**

3. Chairman's car

Mileage travelled = 18000 miles = 28967 km

Make of car = Audi 8 3L turbodiesel. Emissions per ETA = 231 g CO2/km

So emissions = **6.7 tonnes CO2**

4. Councillor mileage

Mileage claimed for = 15239 miles = 24524 km

DEFRA CO2 emission factor for average car, unknown fuel = 0.21 kg/km

So emissions = **5.1 tonnes CO2 (underestimate due to underclaiming)**

(4) Fleet vehicle fuels

Raw data: Fuel dispensed data from Transport Manager except for LPG where fuel procured data have been used.

Fuel type	Volume used (litres)	DEFRA Conversion factor (kg CO2 per litre)	CO2 emissions (tonnes)
Diesel	515742	2.63	1356.4
Petrol	14924	2.32	34.6
Red diesel	21361	2.63	56.2
LPG	1200	1.50	1.8
Total			**1449.0**

Note: CO2 emissions above take no particular account of 5% biodiesel constituent. DEFRA conversion factor used is for 'diesel'.

(5) Electricity used in corporate sites excluding main leisure buildings

Raw data are derived from actual metered data, apart from Stanley Depot and the Investment Centre, where consumption is estimated from 2007/08 consumption data and consumption trends. West Skem Community Centre used electricity for only 3 months of the year.

The total electricity spend for 2006/07 (excluding the Housing revenue Account) was £236,962.21. The buildings below, plus SERCO-managed leisure buildings, accounted for 81.5% of this. The remaining £43,702.08 is made up of a large number of small electricity using sites, including car park lighting, pay and display machines, public conveniences and bus shelters. To allow some account to be taken of this electricity use in the absence of meter readings, a rough calculation has been done to convert expenditure into kWh. See 'Other sites' below.

Green tariff electricity is sourced for 52 Derby Street, Westec House and the Investment Centre.

Site	Electricity used (kWh)	Expenditure per financial ledger (£)
52 Derby Street	443035	33429.94
Westec House	408670	28113.60
Stanley Depot	172900	25728.56
Civic Hall	42131	3970.17
Investment Centre	1051000	70728.76
Chapel Gallery	24595	3097.59
61 Westgate	65796	6785.73
Digmoor Office	22114	2143.24
Tanhouse Office	35883	3464.85
Ormskirk Comm Centre	12939	892.28
Digmoor Comm Centre	36643	155.09
Tanhouse Comm Centre	18570	10342.28
West Skem Comm Centre	3056	1108.58
Birch Green Comm Centre	24236	1567.40
Ashurst Comm Centre	20060	1732.06
Total	2381628	£193260.13

DEFRA CO2 emission factor for electricity (grid) is 0.523 kg CO2/kWh

So emissions = 2381628 x 0.523/1000 tonnes CO2

= **1245.6 tonnes CO2**

Other sites

Expenditure per ledger attributable to sites above = £193260.13

If total kWh for sites above is 2381628 kWh

Then kWh per £ = 12 kWh/£

So electricity usage for other sites = 43702.08 x 12 = 524425 kWh

DEFRA CO2 emission factor for electricity (grid) is 0.523 kg CO2/kWh

So emissions = 524425 x 0.523/1000 tonnes CO2

= **274.3 tonnes CO2 (extremely rough estimate)**

(6) Electricity used in main leisure buildings

Raw data supplied by SERCO (Kenny Deary)

Total electricity used in 5 buildings:

Site	Total electricity use (kWh)	DEFRA conversion factor	CO2 emissions (tonnes)
Burscough sports centre	91001	0.523 kg CO2/kWh	47.6
Banks sports centre	66570	0.523 kg CO2/kWh	34.8
Nye Bevan Pool	403491	0.523 kg CO2/kWh	211.0
Park Pool	441156	0.523 kg CO2/kWh	230.7
Skem sports centre	88900	0.523 kg CO2/kWh	46.5
Total	**1091118**	0.523 kg CO2/kWh	**570.6**

(7) Staff commute

Raw data have been derived from questionnaire circulated to all staff in October (?) 2007 in connection with the new Council office development. This questionnaire was not designed for climate change purposes, so the answers provided have had to be adapted, and several assumptions made:

Assumptions made:

Staff travelling by car average 40 mph or 0.67 miles per minute

Staff travelling by bus average 28 mph

Number of working weeks per year = 43.5 weeks (less annual leave, Christmas/New Year, bank holidays and sickness days)

Staff travelled to work every day by their primary means of transport

Staff travelling to work as car passengers were assumed to have no emissions

Number of questionnaires completed = 350

Total number of staff = 688 (data from Human Resources as at December 2007)

Emissions calculated using DEFRA CO2 emission factor for average car, unknown fuel (0.21 kg CO2/km), and bus/train passengers

For rail travel, distances were calculated by determining the stations of travel from home postcodes and then making use of the web-based AA route planner at (www.theaa.com/travelwatch/planner_main.jsp).

(a) Staff commuting by car

Total car travel time per week per sample = 64,292 mins

Number of miles travelled per sample = 43076 miles/week or 1,873,806 miles/year

Number of km travelled by car per sample = 3,015,5516 km/year

DEFRA CO2 emission factor for average car, unknown fuel = 0.21 kg CO2/km

So emissions from sample = 30155516 x 0.21/1000 = 6332.7 tonnes CO2/year

Extrapolated CO2 emissions from car commute for all staff = 6332.7/350 x 688

= **12447.3 tonnes CO2/year**

(b) Staff commuting by bus

Total minutes of bus travel time for sample = 1085 mins/week

Distance travelled by sample = 1085 x 28/60

= 506 miles or 814 km/week

= 36223 km/year

DEFRA CO2 emission factor for bus passenger = 0.09 kg CO2/km

Emissions from sample = 36223 x 0.09/1000 = 3.3 tonnes CO2/year

Extrapolated CO2 emissions from bus commute for all staff = 3.3/350 x 688

= **6.5 tonnes CO2/year**

(c) Staff commuting by train

Total distance of train travel for sample = 190 miles/week or 306 km/week

= 13617 km/year

DEFRA CO2 emission factor for train passenger = 0.06 kg CO2/km

Emissions from sample = 13617 x 0.06/1000 = 0.8 tonnes CO2/year

Extrapolated CO2 emissions from train commute for all staff = 0.8/350 x 688

= **1.6 tonnes CO2/year**

(8)(9) Gas /Electricity used in social housing stock

Data not available. Total social housing stock comprises around 6300 units for 2008/09. Some 750 units are either sheltered or are served by the District Heating Service (DHS). For this 750 units, gas use data of some kind is available, but based on a mixture of actual and estimated readings.

From April 2008, regular (probably 6-monthly) gas meter readings will be taken of sheltered housing units and (I believe) units covered by the DHS.