

DUNDEE CITY COUNCIL

REPORT TO: Policy and Resources Committee - 9 June 2008

REPORT ON: Dundee Partnership for The Environment - Dundee Environmental Strategy

REPORT BY: Chief Executive

REPORT NO: 314-2008

1.0 PURPOSE OF REPORT

- 1.1 To gain Committee approval for the City Council's formal adoption of the Dundee Environmental Strategy 2008 - 2011.

2.0 RECOMMENDATIONS

- 2.1 It is recommended that Committee note the contents of the Dundee Environmental Strategy and approves the adoption of the Strategy by the City Council.

3.0 FINANCIAL IMPLICATIONS

- 3.1 There are no financial implications in the adoption of the Strategy. The action plan will be implemented by the Dundee Partnership for the Environment and any additional funding required for implementation will be sourced from external funding or from existing City Council budgets.

4.0 INTRODUCTION

- 4.1 Dundee Partnership for the Environment is one of the main theme groups of the Dundee Partnership. It brings together statutory, advisory, business and voluntary organisations to improve Dundee's environment. Over the last 18 months it has been working towards the production of the Dundee Environmental Strategy, co-ordinated by the City Council.
- 4.2 The Environmental Strategy represents, for the first time, the collaborative views of a wide range of organisations and individuals to set out a comprehensive vision, supported by clear aims, objectives and outcomes covering key environmental issues for Dundee. The Strategy will focus partnership activity over the period to 2011 with individual partners establishing their commitment to deliver action that will make a positive impact on Dundee's environment.
- 4.3 Dundee City Council is one of the key partners in the Dundee Partnership for the Environment and aims to lead by example by adopting the Strategy.
- 4.4 Why have an Environmental Strategy?
- 4.5 The environment is an issue of concern and debate that has risen up the political and popular agenda over the past decade as more than ever before people are experiencing first hand the effects the environment can have on their quality of life. The impact of climate change, traffic, energy production, resource use, waste and environment pollution all challenge our determination to pass on to succeeding generations an environment in better shape than the one we inherited.

- 4.6 Dundee is blessed with a unique city environment. It's location and position on the south facing bank of the River Tay makes it the sunniest city in Scotland, whilst the river itself is of international significance for wildlife. As the city has grown economically and culturally over the last 10 years, we have also seen real improvements in many aspects of Dundee's built and natural environment as legislation and public attitudes have helped to drive changes in policy and behaviour.
- 4.7 Never the less, Dundee remains threatened by both global and local influences, whilst activities taking part in Dundee have resulting effects further afield from the city boundaries.
- 4.8 It is recognised that the quality of Dundee's local environment is a vital ingredient in contributing to the quality of life for the people living in the city. An environment is inextricably linked with other key social and economic issues the city faces. Improvements to the local environment resulted in improved health, social cohesion, economic prosperity and general wellbeing. Vandalism and fly-tipping are linked to wider issues of citizenship; our parks and green spaces are a vital part of our cultural heritage; local businesses and economy are directly affected by environmental legislation and customer demands for higher standards of environmental care.
- 4.9 The Strategy identifies eight themes for collective action with key measures against which performance can be measured over time:

1. Climate change

Key measure:

- To achieve an annual reduction of 47,000 tonnes of carbon by 2010.

2. Energy

Key measure:

- To halt the number of people living in fuel poverty and eradicate fuel poverty in the city as far as is reasonably practicable by 2016.

3. Transport

Key measures:

- To ensure traffic does not increase by more than 25% by 2021 compared to 1996 levels in Dundee Central area during the AM and PM peaks.
- Successfully engage with TACTRAN to deliver and implement the Regional Transport Strategy and its supporting Transport Interventions.

4. Waste

Key measure:

- To limit the growth in waste arisings to 2% per annum until 2010 and strive to achieve a zero growth in waste thereafter.
- Also achieve Scottish Government targets to recycle or compost 25% of municipal waste by 2006, 30% by 2008 and 60% by 2020.
- In meeting the area waste policy target by 2010 achieve 50% household participation rates in kerbside segregated collections of dry recyclate and compostable waste.
- In meeting the area waste policy target increase the number of recycling points from 21 in 2005 to 40 by 2010.

5. Pollution

Key measures:

- In meeting the Community Plan "Environmental Outcomes" work towards achieving the National Air Quality Standards set between 2005 and 2010.
- Attain the number of bathing water samples taken at Broughty Ferry beach to meet the European Commission's Mandatory/Guideline Standard.
- As a key tributary running through the city, ensure the Dighty Water is classified as being of fair or good quality to the SEPA standards.

- In meeting the Audit Scotland's Statutory Performance Indicator, achieve or improve on the target standard for LEAMS, as a measure of street cleanliness, dog fouling, and fly-tipping.

6. Natural Environment

Key measures:

- Ensure all residents live within 400 metres of a publicly accessible green open space.
- Ensure Broughty Ferry Beach attains its Blue Flag Status in future years.
- Make sure the Draft Core Path Plan is in place.
- Achieve the key targets relevant to Dundee as set out in the Tayside Biodiversity Plan Species Priority Action List for Tayside.

7. Built Environment

Key measures:

- To make sure that the infrastructure and environmental improvement projects are completed and the production of the guidance and advice notes are confirmed.
- Sustainable Construction Guide questionnaires submitted and measures successfully implemented.

8. Education and Environmental Responsibility

Key measure:

- The number of Dundee citizens participating in environmental education, to include
 - schools gaining Eco-School Awards
 - people participating in Countryside Ranger events
 - people undertaking environmental volunteering
 - number and types of requests for environmental information from the Environmental Records Centre.

4.4 Each of the eight themes is presented under the following headings:

- **Where are we now** - a snapshot of the current situation including key figures.
- **What is being done** - from legislation driving forward change to local practical initiatives across the city.
- **Where do we want to get to** - aspirations for the future set out in strategic statements.
- **How do we get there** - key objectives and actions necessary to achieve the strategic statement.
- **Key Measures** - baseline data against which performance can be measured over time.

4.5 The Dundee Environmental Strategy co-ordinates and provides a joined up sustainable approach to the environmental issues facing Dundee. In highlighting the main environmental issues, describing the actions needed and setting out the objectives and priorities, it is a tool to drive change, draw together the views and priorities of many organisations and challenge other organisations in the city to consider how they can contribute to environmental sustainability.

4.6 The Environment Strategy has been endorsed by the Dundee Partnership Management Group and will hopefully be implemented by as many partner organisations as possible.

5.0 POLICY IMPLICATIONS

This report has been screened for any policy implications in respect of Sustainability, Strategic Environmental Assessment, Anti-Poverty, Equality Impact Assessment and

Risk Management.

There are no major issues.

6.0 CONSULTATION

6.1 The Chief Executive, Depute Chief Executive (Support Services), Depute Chief Executive (Finance), Assistant Chief Executive (Community Planning), Director of Leisure & Communities, Director of Planning & Transportation, Director of Dundee Contract Services, Director of Economic Development, Head of Waste Management, Head of Environmental Health and Trading Standards and Head of Finance have been consulted on this report and are in agreement with its contents.

7.0 BACKGROUND PAPERS

7.1 None.

**ALEX STEPHEN
CHIEF EXECUTIVE
22 MAY 2008**

Dundee Partnership for the Environment

ENVIRONMENTAL STRATEGY 2008-2011



Final copy
(as at 23.05.08)

June 2008

CONTENTS

	Page
<u>Foreword.....</u>	<u>3</u>
<u>Introduction.....</u>	<u>4</u>
Themes:	
1. <u>Climate Change.....</u>	<u>9</u>
2. <u>Energy.....</u>	<u>14</u>
3. <u>Transport.....</u>	<u>20</u>
4. <u>Waste.....</u>	<u>28</u>
5. <u>Pollution.....</u>	<u>37</u>
6. <u>Natural Environment.....</u>	<u>45</u>
7. <u>Built Environment.....</u>	<u>56</u>
8. <u>Education and Environmental Responsibility.....</u>	<u>61</u>
<u>Monitoring and Review.....</u>	<u>70</u>
<u>Participating Organisations, Forums and Partnerships.....</u>	<u>71</u>
<u>Abbreviations.....</u>	<u>74</u>
<u>Partnership Agreement Statement.....</u>	<u>75</u>
<u>References.....</u>	<u>76</u>

FOREWORD

The quality of Dundee's local environment is a vital ingredient in contributing to the quality of life for the people living and working in the city. The impact of climate change, traffic, energy production, resource use, waste and environmental pollution all challenge our determination to pass on to succeeding generations an environment in better shape than the one we inherited.

Balancing the long-term protection and enhancement of the local environment alongside the development and regeneration of Dundee is one of the major challenges facing the city over the next ten years and beyond. In order to achieve this, co-operation between all people and organisations in Dundee is required.

The following Environmental Strategy is Dundee's first partnership document for the city's environment. This strategy has been developed in a response to the launch of the Dundee Partnership's Community Plan in 2005, which set out one of its five strategic themes of "developing Dundee in ways which safeguard the future of the environment in the city".

The Strategy has been developed with the help of our many partners to present the wide range of environmental issues affecting Dundee and bring together, for the first time, perspectives on what a collective response should be to these concerns, with proposed actions that deliver a positive effect over the next three years. This is an action-orientated document and we will continue to monitor and review its progress every year, and subsequently update the action plan to highlight new initiatives.

I am therefore pleased to welcome this, the first Environmental Strategy for Dundee for the period 2008-2011 which aims to respond to these challenges.

Councillor Kevin Keenan
Chair, Dundee Partnership

June 2008

INTRODUCTION

WHY HAVE AN ENVIRONMENTAL STRATEGY?

The Big Picture

The Environment is an issue of concern and debate that has risen up the political and popular agenda over the last decade as, more than ever before, people are experiencing first hand the effects the environment can have on their quality of life. The impact of climate change, traffic, energy production, resource use, waste and environmental pollution all challenge our determination to pass on to succeeding generations an environment in better shape than the one we inherited.

Whilst we all share a desire for clean air and water, green open spaces and the security that the natural resources we use and enjoy will not run out, we also share the consequences of our actions that pollute the atmosphere, destroy wildlife habitats or cause other environmental damage.

Local Pressures

Dundee is blessed with a unique city environment. Its location and position on the south-facing bank of the Tay makes it the sunniest city in Scotland, whilst the river itself is of international significance for wildlife. As the city has grown economically and culturally over the last ten years, we have also seen real improvements in many aspects of Dundee's built and natural environment as legislation and public attitudes have helped to drive changes in policy and behaviour.

Nevertheless, Dundee remains threatened by both global and local influences, whilst the activities taking place in Dundee have resulting effects further afield from the city boundaries.

It is recognised that the quality of Dundee's local environment is a vital ingredient in contributing to the quality of life for the people living in the city where the environment is inextricably linked with other key social and economic issues the city faces. Improvements to the local environment result in improved health, social cohesion, economic prosperity and general well-being. Vandalism and fly-tipping are linked to wider issues of citizenship; our parks and green spaces are a vital part of our cultural heritage; local businesses and the economy are directly affected by environmental legislation and customer demands for higher standards of environmental care.

The challenge therefore is to balance the long-term protection and enhancement of the local environment alongside the development and regeneration of the city over the next ten years and beyond. If this can be achieved then there is real opportunity for the city to further develop both economically and culturally, whilst improving the quality of life for our citizens.

A Joined-up Approach

Whilst we must all take individual responsibility for ensuring that our own actions help to protect the environment, the need for a co-ordinated, and joined up sustainable approach has never been more pressing.

This Strategy therefore sets out to highlight the main environmental issues facing Dundee, describing the actions needed and setting out the objectives and priorities. More than anything it is a tool to drive change, drawing together the views and priorities of many organisations across the main environmental themes and challenging other organisations in the city to consider how they can contribute to sustainability.

National Policy

The environment is an important strand of government at all levels, setting a Scottish legislative and guidance framework that has to be embraced at the local level in Dundee.

In March 2005 The Scottish Government signed up to a new shared UK framework for sustainable development, '*One Future - different paths*'. The framework brings together, for the first time, a common vision and set of principles for sustainable development to 2020 agreed by the UK Government, The Scottish Government and the administrations in Wales and Northern Ireland to provide a consistent approach and focus across the UK.

This shared goal sets out to "*enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations*".

To put the framework into practice in Scotland, a new Scottish Sustainable Development Strategy was published in December 2005.

Reflecting the shared priorities of the framework, the Scottish strategy focuses on four areas in particular:

- **Sustainable consumption and production:** achieving more with less. This includes reducing the inefficient use of resources, looking at the impact of products and materials across their whole lifecycle and encouraging people to think about the social and environmental consequences of their purchasing choices.
- **Climate change and energy:** securing a profound change in the way we generate and use energy, and reducing greenhouse gas emissions.
- **Natural resource protection and environmental enhancement:** protecting our natural resources, building a better understanding of environmental limits, and improving the quality of the environment.
- **Sustainable communities:** creating communities that embody the principles of sustainable development locally.

In November 2007, the Scottish Government produced a new National Performance Framework for the country which sets fifteen National Outcomes in which it will work with local authorities and community planning partnerships to successfully deliver. What is most evident is that so many of these outcomes and accompanying Indicators for success are now linked to improving Scotland's natural and built environment and the sustainable use and enjoyment of it.

THE DUNDEE COMMUNITY PLAN

In 2003, the Local Government in Scotland Act (2003) came into force providing a statutory basis for community planning. This emphasised the need for long-term commitment to partnership working with communities and between public bodies, to achieve community benefit.

The Dundee Partnership has sought to take forward the key strategic issues for the city and most recently produced '*Dundee's Community Plan (2005-2010)*' outlining its vision and targets for Dundee. Within this plan, six strategic themes have been set to deliver the objectives, based on the guiding principles of social inclusion, sustainability and citizenship:

- Building Stronger Communities
- Community Safety
- Environment
- Health and Care

- Lifelong Learning
- Work and Enterprise

The Environment is very much a cross cutting theme. From neighbourhood regeneration, community safety and wellbeing, to capacity building and employment, the environment plays an important role in the achievement of other aspects of the Community Plan. The Dundee Partnership for the Environment therefore seeks to take account of opportunities for joint working with other community planning stakeholders across the city in the delivery of this Environmental Strategy for Dundee.

LOCAL COMMUNITY PLANS

Local Community Plans perform an essential role in providing the final element in the continuum from global through national and city-wide to local priorities. The nine Local Community Plans for Dundee describe the areas they serve and list the changes, developments and improvements local residents would like to see happen. Given their strategic importance they are already influencing Dundee Partnership activity as well as actions included in this Strategy. The Environmental Strategy is also flexible and through annual review will change and update to reflect the priorities being set in Dundee's neighbourhoods.

DUNDEE PARTNERSHIP FOR THE ENVIRONMENT

The task of balancing the long-term protection and enhancement of the local environment alongside the development and regeneration requires an integrated commitment from all those people and organisations who play a part in developing the future of Dundee and the support of the community at large.

To this end, Dundee Partnership for the Environment (DPE) was formed in 2002 as a formal theme-group within the Community Planning framework to bring together the collective efforts of statutory, advisory, business and voluntary partners to improve Dundee's environment. Through this partnership approach, DPE aims to engage organisations and communities to enhance understanding and awareness of the quality of the city's environment and develop opportunities for local action.

Dundee Partnership for the Environment Vision

"To improve the environment of Dundee and secure environmental justice for communities across the city".

Dundee Partnership for the Environment Aims

- **Green-proofing the Community Planning Process**
To provide a strong environmental input to the community planning process by ensuring that environmental considerations are placed at the heart of Dundee Partnership's activities and decision-making processes.
- **Delivering an Environmental Strategy that makes a Difference**
To develop, implement, monitor and review an action oriented Environmental Strategy for Dundee that shapes and steers partnership working to achieve positive outcomes on a range of environmental issues.
- **Community Action and Empowerment**
To provide opportunities for communities to actively care for their local environment and help citizens participate in decisions affecting Dundee's environment.
- **In-House Communication**

To serve as a forum for discussion, debate and information exchange on environmental matters relevant to Dundee and the Dundee Partnership.

- **External Communication**

To raise awareness about the Environmental Strategy and Dundee Partnership for the Environment's core activities to help raise the profile of environmental issues within the city.

Members

The DPE has approximately 28 members representing over 20 partner organisations. Membership is broad-based to allow engagement with the widest possible range of community interests. At the same time DPE membership is intended to be flexible with co-opting opportunities as and when appropriate.

More information about DPE can be found at: www.dundeepartnership.co.uk/environment

The Strategy

The Environmental Strategy represents, for the first time, the collaborative views of a wide range of organisations and individuals, through the DPE, to set out a comprehensive vision, supported by clear aims, objectives and outcomes covering key environmental issues for Dundee. The Strategy will focus partnership activity over the period to 2011 with individual partners leading by example to establish their commitment to deliver action that will make a positive impact on Dundee's environment.

As a single document, it is also hoped that this Strategy will be an effective communication tool to champion environmental priorities across the city and engage communities in local action to improve the environment, stimulate positive behavioural change and help citizens take an active part in decisions affecting the environment. The Dundee Partnership for the Environment will monitor and review the progress and effectiveness of the Strategy and produce an annual report to improve public access to environmental information.

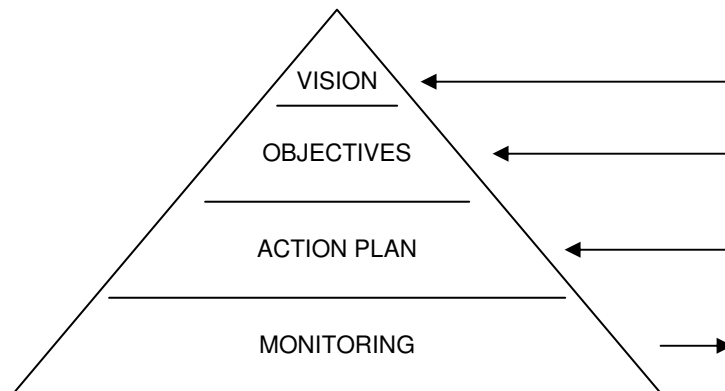
HOW IS THE STRATEGY SET OUT?

Eight themes have been identified for collective action, each setting out:

- **Where we are now** - a snapshot of the current situation including key figures.
- **What is being done** - from European legislation driving forward change to local practical initiatives across the city.
- **Where do we want to get to** - aspirations for the future set out in strategic statements.
- **How we will get there** - key objectives and actions necessary to achieve the strategic statements.
- **Key Measures** - baseline data against which performance can be measured over time.

In addition to the themed chapters a Monitoring and Review section has been included. This sets out a framework to monitor progress of individual actions, identify areas requiring further work and enable the overall effect of the Strategy to be evaluated.

Structure of Dundee Environmental Strategy



CLIMATE CHANGE

INTRODUCTION

Climate change is widely recognised as the most serious environmental threat facing our planet. Emissions of greenhouse gases (GHGs), from the burning of fossil fuels (e.g. oil, coal, gas), are already making an impact on the world's climate. Perversely, those in the developing world - those who have contributed least to the problem historically and who are most vulnerable to its effects - will suffer the worst impacts. But rich nations are not immune and Scotland has recent first hand experience of the types of climate extremes that will become increasingly common as a result of climate change. By the end of this century Scotland will have warmer, wetter winters, less snowfall and an increased risk of flooding. Without a concerned global effort to curb the emissions of these harmful gases to ensure we live within environmental limits, climate change will cause devastation across the world.

WHERE ARE WE NOW?

- ⇒ Levels of carbon dioxide (CO₂), the main GHG, have risen by more than a third since the industrial revolution and are now rising faster than ever before.¹
- ⇒ All of the 10 warmest years since records began have occurred since 1990, including each year since 1997.²
- ⇒ By 2100 temperatures in Scotland are predicted to rise by 3.5% during the summer months and around 2.5% during the winter months.³
- ⇒ A tonne of carbon is emitted by every household in Scotland leaving a 40W light bulb on for 6 minutes or a 9W energy saving light bulb on for 27 minutes.⁴

WHAT IS BEING DONE?

Global Pressures

Climate change is not just a threat for the future, it is a reality now. The Stern Report published in October 2006 notes the very high costs to the global economy if the threat of climate change is not tackled (5-20% of global GDP as against around 1% if tackled now). Most recently, in November 2007, the Intergovernmental Panel on Climate Change (IPCC), the world's authoritative voice on climate change and made up of more than 2,000 leading scientists and experts, warned that evidence for global warming was "unequivocal".⁵

Scotland is already feeling the effects of climate change. Winter storms have doubled in frequency in the UK over the last 50 years. Recently, temperatures in Scotland have risen and rainfall has increased dramatically in the winter months. In the future, Scotland is expected to have more extreme weather with warmer, wetter winters, up to 90% less snowfall, sea levels rises of up to 600mm threatening coastal areas and an increased risk of flooding.

Scotland's communities will be in the front line in responding to the impacts of climate change and also have a role in reducing emissions of greenhouse gases that are contributing to climate change.

Policy Response

In response to global concern over climate change, the Kyoto Protocol was agreed back in 1997. This international agreement aimed to reduce developed countries emissions of a 'basket' of six greenhouse gases. In May 2002 the EU ratified the Kyoto Protocol, with its 15 Member States thereby making a commitment to reduce their collective emissions of greenhouse gases to 8% below 1990 levels by 2008-2012. As part of this commitment the UK agreed to reduce greenhouse gas emissions by 12.5% from 1990 levels by 2008-2012.

The UK greenhouse gas emissions were 13% lower than the Kyoto baseline in 2003, and emissions of CO₂ fell by 5% between 1990 and 2003.⁶ The UK aims to move beyond the Kyoto target and reduce CO₂ emissions by 20% below 1990 levels by 2012 - a challenging target indeed!

In Scotland, net emissions of CO₂ in 2003 were 14.9 million tonnes of carbon equivalent (around 8% of the UK total), a fall of 2.4 million tonnes from 1990 levels. Whilst there has been this reduction in Scotland's overall CO₂ emissions, the energy supply sector emissions have increased by 8% since 1990.⁷

Post 2012: Climate for consensus?

To avoid the dangerous impacts of global warming, the IPCC reported that global temperatures must rise no more than 2 degrees above those of pre-industrial times. That can only happen if nations agree to an enhanced global and comprehensive regime to limit greenhouse gas emissions for the period after 2012, when the first Kyoto Protocol commitment period ends.

In December 2007 environment ministers from the world's governments gathered in Bali, Indonesia for the UN Framework Convention on Climate Change (UNFCCC) Conference with the aim of launching negotiations leading to a comprehensive global agreement on tackling climate change ("Kyoto II").

UK and Scottish Climate Change Bills

Landmark legislation that sets out plans to tackle climate change for the next 50 years was published in Parliament 15th November 2007. The Climate Change Bill, the first of its kind in the world, sets out a framework that aims to put Britain on the path to become a low-carbon economy, with clear, legally binding targets to reduce carbon dioxide emissions by at least 60% by 2050, and 26% to 32% by 2020, against 1990 levels. These will be binding on future governments of all political colours, and monitored by an independent Climate Committee, according to five-year targets.

It sets out a vision for how the UK can move to a low carbon economy including:

- investment in low-carbon fuels and technologies, such as carbon capture and storage, wind, wave and solar power
- significantly more efficient use of energy
- a step change in the way energy suppliers operate, so that they focus on reducing demand rather than just supplying as much energy as possible
- consumers becoming producers as well as consumers of energy

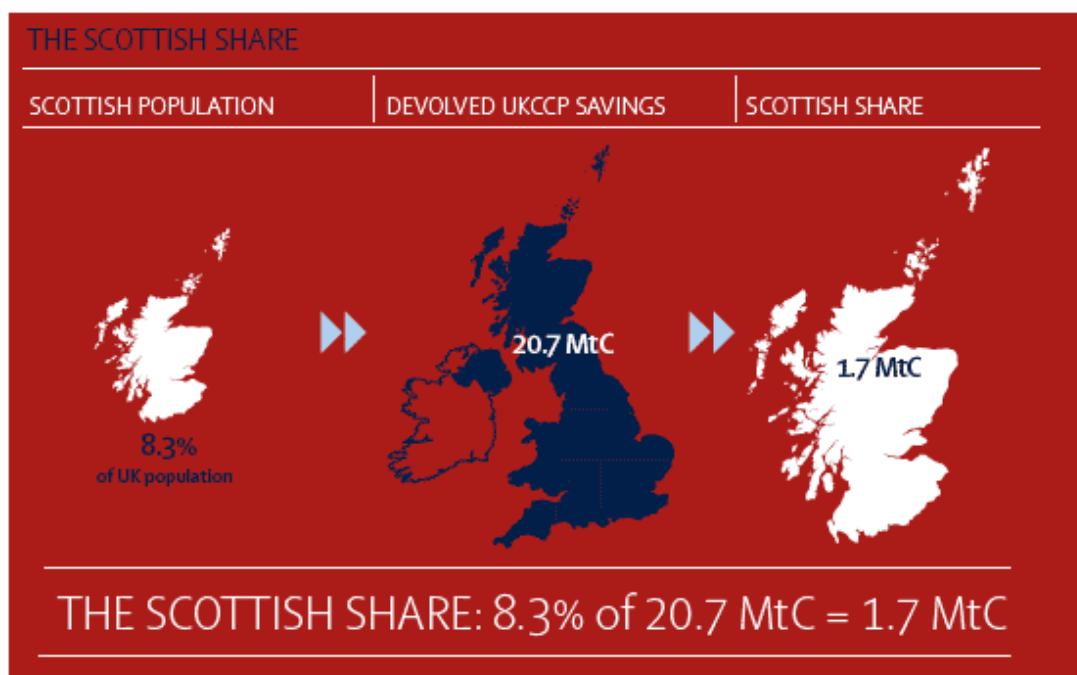
In Scotland, the Secretary for Finance and Sustainable Growth announced that the Scottish Government would consult on a Climate Change Bill for Scotland to set a mandatory target of cutting emissions by 80% by 2050. Consultation on the Bill commenced in early 2008 and the Scottish Government is exploring how it can best engage with the UK Bill.

Scotland's Climate Change Programme

'Changing Our Ways: Scotland's Climate Change Programme (SCCP)', published in March 2006, details action being taken at present by the Scottish Government and partners to tackle this issue and sets a framework which aims to deliver carbon savings and reduce Scotland's vulnerability to climate change through a combination of voluntary, regulatory and educational measures.

As part of the programme, the Scottish Government has committed to making an equitable contribution to UK commitments on climate change. The Scottish share has been calculated at around 1.7 million tonnes of carbon (MtC) in annual savings by 2010. A Scottish target has been set to exceed Scotland's share by 1 million tonnes of carbon in 2010.

The SCCP is one of the main delivery programmes for 'Choosing our Future: Scotland's Sustainable Development Strategy' and contributes to the UK Climate Change Programme, also published in March 2006.



(Source: Changing Our Ways: Scotland's Climate Change Programme, Scottish Government, March 2006)

Scotland's Climate Change Declaration

Scotland's Climate Change Programme also recognises that local government is Scotland's largest public sector employer and, as such, has the potential to play a key role in tackling climate change through both its own activities and its influence on the wider community. Development of 'Scotland's Climate Change Declaration' and support mechanism, initially aimed at Scottish local authorities, is a commitment in the SCCP and supports a longer term commitment to develop a climate change programme for local government in Scotland.

Dundee were one of the initial signatories to the Scottish Climate Change Declaration which was launched in January 2007. The Declaration aims to secure a commitment from the Council that recognises the challenge climate change poses; acknowledges the work already being done to address this; and to produce a plan to improve and report on its performance on climate change.

Raising awareness of the issues surrounding climate change is one of the key aspects of delivering action and the media has an important role to play in getting the message over. Following the release of the film 'An Inconvenient Truth' and subsequent lectures across the world by the former US Vice President Al Gore, education materials to accompany the DVD have been developed for Scottish schools by Learning & Teaching Scotland.

The DVD is to be used to inform S5-S6 pupils not only about the science of climate-change but also about the ethics and morals of climate change inviting them to calculate their own and their schools' carbon footprint, to instigate and monitor changes to their local environment and to share good practice.

The available material will also include a package that will allow pupils to undertake media-analysis of the DVD and media production techniques to allow them to produce their own media format of their understanding of the various issues surrounding climate change. This

can then be shared with younger pupils, with parents or at a local community event. A follow up conference is due to take place in 2008.

WHERE DO WE WANT TO GET TO?

"A city with a smaller carbon footprint, where levels of greenhouse gas emissions have been reduced and measures to adapt and mitigate against climate change are in place."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
------------------	----------------------------------	--------------	-----------

Objective 1: Mitigate and adapt to the effects of climate change.

Publicly declare a plan, with targets and timescales to achieve a significant reduction in greenhouse gas emissions from the Council's operations.	Assist the Council to make a greater commitment to work on climate change; improve performance within its own services and activities; and promote local activity.	Dundee City Council	2008 - 2011
--	--	---------------------	-------------

Objective 2: Increase knowledge and awareness of climate change issues.

Publish an Annual Statement on progress of the Council's climate Change response.	Residents will have a greater understanding on climate change issues facing Dundee and action taken to respond to its effects.	Dundee City Council	2009 - 2011
Promote the Sun City Carbon footprinting exercise and attend local events, city wide, promoting the Dundee Sun City Campaign.	City wide participation in the Sun City Carbon footprinting exercise.	Dundee Sun City	2008 - 2009

KEY MEASURE

- ▶ To achieve an annual reduction of 47,000 tonnes of carbon by 2010.

(this is based on the Dundee's share of the Scottish target of reducing carbon emissions by around 1.7million tonnes of carbon by 2010).

ENERGY

INTRODUCTION

Energy is essential to our way of life. It is essential for economic progress and to raise the standard of living for people across the world. Yet the popular image of energy use is one of profligacy and for several decades there has been an awareness that there is a real need to minimise the use of non-renewable resources such as coal, oil and gas - those carbon intensive fossil fuels that are contributing most to climate change, and invest in more sources of renewable technologies. Justifiably so, it would seem, as reports of extreme weather events, traffic congestion and rising energy prices are becoming dominant in the media. There are many difficult lessons to be learnt and challenges to overcome in addressing our energy needs in order that we can achieve demonstrable success in creating a low carbon economy.

WHERE ARE WE NOW?

- ⇒ Some 70% of global emissions come from the way we produce and use our energy.⁸
- ⇒ It is estimated that UK energy use could be reduced by more than 30% without compromising the benefits we derive from it.⁹
- ⇒ Nuclear power does not emit greenhouse gases although its use raises other environmental issues, such as long-term disposal of spent fuel. In 2004, 35% of the electricity generated in Scotland came from nuclear fuel whilst 11.5% was generated from renewable sources.¹⁰
- ⇒ A total of £1,297 million was spent on energy efficiency activities over the first six years of the Home Energy Conservation Act (HECA).¹¹
- ⇒ Dundee has the best solar resource of all Scotland's major cities due to its geographical location on the south facing shore of the Tay Estuary.

WHAT IS BEING DONE?

The National Picture

The mix of fuels used to generate electricity in the UK continues to evolve. Since 1990, the use of coal, oil, and hydro in electricity generation has fallen, while renewables other than hydro have risen. Gas has risen most markedly over this period and the impact of this change has enabled the UK to strive towards its Kyoto targets. However declining UK indigenous production as well as increasing demand led to the UK becoming a net importer of gas in 2004. This trend continued in 2005 with exports falling by 16% compared to 2004 and imports increasing by 30%.¹²

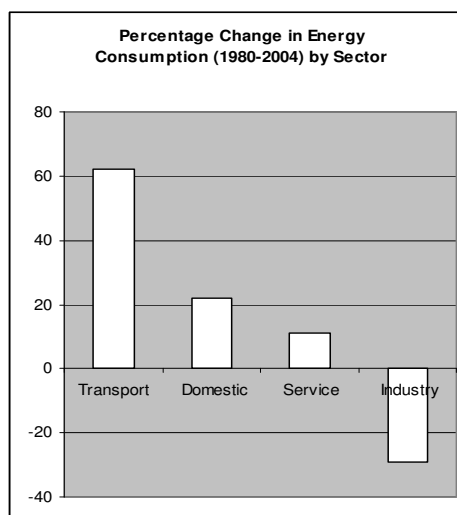
Since 2000 coal has been called upon to make up for reduced availability of nuclear power stations and as a substitute for high priced gas. Yet, gas continues to retain the largest share of the market (39%) while coal's share of the market has fallen from two thirds in 1980 to a third in 2005.¹³

In response to the soaring price of energy and predictions of North Sea gas depletion, the UK Government commissioned a review of energy generation, including the establishment of new nuclear power plants. This issue may precipitate a debate between the UK Government and the Scottish Government. Whilst energy policy is a UK matter, land use planning is a devolved matter and the Scottish Government has been clear in their opposition to the siting of nuclear power plants in Scotland.

The UK Government has set a good example by going beyond the targets of the Kyoto Protocol through the deployment of a range of instruments, including regulation; fiscal incentives; support programmes; and awareness raising. To this end, there is a strong growing package of policies and measures aimed at making a valuable contribution towards achieving a low carbon economy, discussed in more detail within the Climate Change chapter of this strategy.

Fiscal Measures

Two fiscal measures exist. The Climate Change Levy (a tax on the use of energy in industry, commerce and the public sector, with offsetting cuts in employers' National Insurance Contributions and additional support for energy efficiency schemes and renewable sources of energy). Also the Climate Change Agreements (which allow energy intensive business users to receive an 80 per cent discount from the Climate Change Levy, in return for meeting energy efficiency or carbon saving targets).



Article 7 of the Energy Performance of Buildings Directive (2002/91/EC) requires that energy performance certificates be provided whenever buildings are built, sold or leased. It applies to both the residential and non-residential sector with a duty on owners of public spaces in excess of 1,000m² to clearly display such certificates to building users. This came into effect in May 2007 for new build properties with certificates for Right To Buy sales being required from May 2008 and for re-lets from early 2009.

The UK Energy Review is clearly an important step in addressing medium and long-term energy issues in the context of climate change and reducing carbon emissions and so it is important that future policy decisions are guided by the principles of the energy hierarchy:

1. Reduce the need for energy
2. Maximise energy efficiency
3. Supply energy from renewable sources
4. Where fossil fuels need to be used, use as efficiently as possible.

Energy Efficiency

Domestic energy consumption has increased by over 30% since 1970, mirroring and at least partly attributable to the 34% increase in the number of households. The Department of Environment, Food & Rural Affairs (DEFRA) suggests that within households, there have been significant improvements in energy efficiency and insulation. However, the general trend in household energy consumption has been upwards - because of increasing use of 'new' household appliances such as washing machines, dishwashers, driers and home electronics.

The Scottish Housing Quality Standards (SHQS) was formally launched by The Scottish Government in February, 2004. To meet the SHQS, all Council and Registered Social Landlords (RSL) dwellings must meet five key criteria including one on energy efficiency by 2015. The energy efficiency criterion is defined by two main elements: adequate insulation and a National Home Energy Rating (NHER) rating of 5. NHER ratings range from 1 to 10, with 1 poor and 10 excellent. A rating of 5 does not necessarily safeguard residents from fuel poverty but, even so, within existing resources, it will be difficult to achieve for some property types.

A number of organisations continue to act as catalysts for a range of often innovative initiatives aimed at addressing energy efficiency issues and creating opportunities at the national and local level. The Energy Efficiency Commitment (EEC) imposes a statutory obligation upon electricity and gas suppliers to meet a target for the promotion of

improvements in energy efficiency among household consumers in the UK through the promotion of measures such as cavity wall and loft insulation, energy efficiency light bulbs, boilers and appliances. At least 50% of energy savings must be focussed on a priority group of low-income consumers in receipt of certain benefits and tax credits/pension credit - so it is expected that the EEC will also contribute to the eradication of fuel poverty. The EEC has now completed its second phase (ending 31st March 2008) and required around double the level of activity. The third phase of the EEC (EEC3) will run from 2008 to 2011.

Dundee Energy Efficiency Advice Project (DEEAP), based in Dundee City Council, provides advice to householders in the city; to schools and to community groups on measures which would increase energy efficiency and renewable energy consumption; reduce household expenditure on fuel consumption - especially for those fuel poor households.

Fuel Poverty

A household is said to be in fuel poverty if it needs to spend more than 10% of its income on all household fuel use. Fuel poverty is caused by the interaction of a number of factors, but three specifically stand out. They are:

- the energy efficiency status of the property
- the cost of energy
- household income

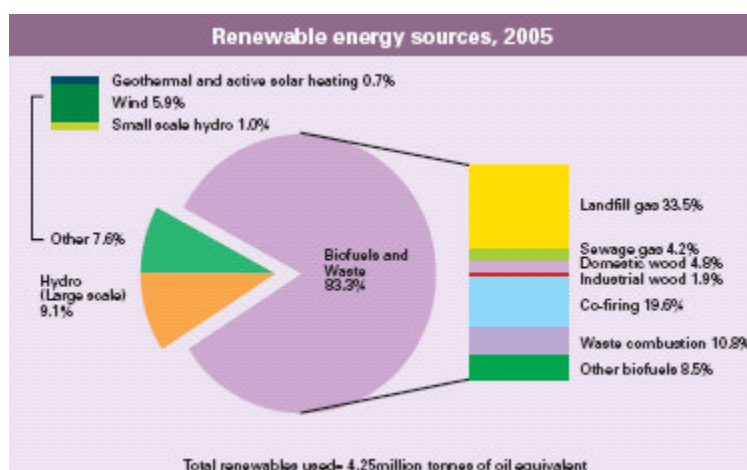
The latest information from the Continuous Scottish House Condition Survey shows that 14.5% households were classified as fuel poor in 2003/04. It also estimates that for every 5% increase in average annual fuel prices, approximately 30,000 more households over and above the current figure would become fuel poor.¹⁴

It is therefore crucial that organisations across the country come together to tackle fuel poverty. The Dundee Community Energy Partnership (DCEP) was set up by a number of agencies including Transco, Scottish and Southern Energy, Dundee City Council, the Energy Action Grants Agency (EAGA) and the Claverhouse Group, with the aim of identifying and assisting those in fuel poverty in the city.

A picture of the number and distribution of 'fuel poor' households in the city was drawn up by DCEP and this was used to help the City Council develop a fuel poverty strategy which sets out a series of strategic aims and action plans to eradicate fuel poverty, as far as is practicable, by 2016. A Fuel Poverty Strategy Working Group comprising representatives from various Council departments, local Housing Associations, NHS Tayside and the Anti-Poverty Forum was also set up and this meets quarterly to monitor and add to the strategy.

Renewable Energy

The technology for renewable energy generation has advanced significantly in recent years and renewable energy use grew by 15% in 2005 alone, and is now four times the level it was in 1990. However renewables only accounted for approximately 4% of the energy generated in the UK in 2005.¹⁵



(Source: UK Energy in Brief, DTI, July 2006)

Generally the UK Government have been supportive of the development of renewables and have made available financial assistance to energy efficiency projects (e.g. Scottish Government provision of £20m for the Central Energy Efficiency Fund for public sector projects and biomass and marine energy projects (e.g. the UK government announced in 2004, it would provide £50m for marine energy developments).

As part of their Climate Change Programme, The Scottish Government has set targets for the generation of electricity from renewable sources: 18% by 2010 and 40% by 2020.

It is widely accepted that Scotland has highly favourable conditions for renewable energy generation and has a strategic advantage compared with other nations in terms of the available resource. Using the planning system to facilitate the growth of the renewables sector will form a vital component in Scotland's efforts to meet meaningful greenhouse gas emissions reduction targets. It has been demonstrated that through strategic planning and the avoidance of sensitive sites that substantial environmental benefits, especially emission reductions, can be achieved.

There are several good examples of renewable energy systems in Dundee:

- the redevelopment of a "Demonstration House" to display examples of renewable energy sources, energy efficiency measures and sustainable materials to raise awareness and act as a teaching aid for schools;
- the installation of solar panels in house refurbishments (in Kirkton) and street lighting;
- the installation of geothermal heat pumps and photo-voltaics in school rebuilding.
- the installation of solar panels and a combined heat and power (CHP) plant for the production of both heat and electricity in one of the Council's sheltered housing developments.

Dundee Sun City Project, a partnership comprising the City Council; the City's Universities and Further Education College, Scottish Enterprise Tayside (SET) and SCARF was established in 2002 to promote sustainable energy in the city - especially solar power given that Dundee has the most sunshine of any city in Scotland. Dundee Sun City launched a manifesto in 2003 and has been working to establish sustainable energy projects throughout the city; increase public awareness and develop a local installer base.

WHERE DO WE WANT TO GET TO?

"A city where reliance on fossil fuels is minimised, energy consumption is reduced and energy efficiency is maximised, with greater investment in locally available renewable energy technologies to enable citizens to choose affordable, sustainable energy supplies and help eradicate fuel poverty."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partners	Timescale
------------------	----------------------------------	---------------	-----------

Objective 1: Increase awareness of energy issues to encourage and promote energy efficiency.

Develop educational initiatives for school pupils in the city and link to the Eco Schools Programme.	Incorporation of energy efficiency and renewables into the school curriculum and increased awareness of energy efficiency and renewables amongst school children.	DEEAP, Dundee Sun City, Dundee City Council - Education Dept.	2008 - 2011
Promote the Dundee Sun City Demonstration House as an educational tool.	Achieve 1500 child visits to the Sun City House by calendar year.	Dundee City Council, Dundee Sun City	2008 - 2009
Develop a demonstration centre at Michelin for the 18+ age group.	Increased understanding of best environmental practice and methods of achieving resource efficiency in manufacturing processes.	Michelin Tyre Plc	2008 - 2011
Attend community events to promote energy efficiency.	Increased awareness of methods of achieving energy efficiency and reduced energy use per household.	DEEAP, SCARF, Housing Associations	Ongoing - 2011
Promote a database of support available for energy efficiency/renewable energy projects.	Provision of up to date information on support for renewable energy/energy efficiency projects.	Dundee Sun City, DEEAP, SCARF	2008 - 2009
Develop training packages for architects and engineers.	Training package delivered to 10 architects and engineers in Tayside.	Dundee Sun City, Universities, Dundee College	2009
Provide a college course for installers of renewables energy systems.	Annual output of 50 - 60 British Plumbing Employers Council certified installers of solar heating systems.	Dundee College	2008 - 2011

Redevelop existing house to incorporate energy efficiency measures and environmentally friendly materials (Dundee Sun City Demonstration House)	Provision of exhibition home to raise awareness of methods of achieving energy efficiency and renewable energy systems.	Dundee Sun City, Dundee City Council - Support Services and Education Dept.	2008
---	---	---	------

Objective 2: Support the increase in renewable energy usage and explore the potential for new energy technology development.

Undertake a comprehensive assessment of Dundee and the Tay estuary's potential for renewable energy generation. To cover solar, wind, wave and wood fuel.	Report detailing the opportunities for solar, wind, wave and wood fuel energy generation in the Tay estuary.	Universities, Dundee Sun City	2008
Facilitate a forum to plan, design and fundraise a renewable energy installation for Broughty Ferry Library.	Increased energy use from renewable sources and an increased awareness of renewable options within the local community.	Broughty Ferry Environmental Project	2008 - 2011

KEY MEASURES

- ▶ Halt the number of people living in fuel poverty and eradicate fuel poverty in the city as far as is reasonably practicable by 2016.
- ▶ In meeting the SHQS, all Council and RSL stock to reach a minimum rating of NHER 5 by 2015.

TRANSPORT

INTRODUCTION

Transport is an integral part of modern day society. It is essential to the efficient movement of people and goods and benefits our quality of life as well as supporting the economy. However, the more we travel and move goods, the greater impact on our environment and health, through our dependence on fossil-fuelled transport. Whilst the car is a convenient and versatile means of transport for many, it is at an increasing health, social, environmental and economic cost. Increasing car usage has resulted in increases in traffic volumes and road congestion, which contribute to air and noise pollution and create a poorer quality environment. There remains a real need to achieve a more balanced and integrated transport system that will reduce the need to travel and increase the provision and use of more sustainable transport modes.

WHERE ARE WE NOW?

- ⇒ The estimated total volume of traffic on Scotland's roads increased by 19% over the last ten years.¹⁶
- ⇒ The private car is by far the dominant mode of transport for people in Scotland and has become increasingly important over time.
- ⇒ In 2004/05, 23% of journeys of under a mile and 57% of journeys of between one and two miles were undertaken by car.¹⁷
- ⇒ Over 80% of people who live outside Dundee and work in the city travel to work by private car.¹⁸
- ⇒ 17% of employees living in Dundee walk to work on a daily basis.¹⁹

WHAT IS BEING DONE?

The National Transport Strategy

The Scottish Government recognises that transport is an essential part of economic activity. Infrastructure, roads, rail, airports and ports - and the businesses that use these assets - are all vital components of Scotland's economy. They have also recognised that there is a carbon footprint associated to transport and that strong early action is required to confront the threat posed by climate change. In 2006 the Scottish Government published '*Scotland's National Transport Strategy*' (NTS) that for the first time maps out the long term future for transport in Scotland. This Strategy has set out Scotland's five high level objectives. These are:

- Promote economic growth by building, enhancing managing and maintaining transport services, infrastructure and networks to maximise their efficiency;
- Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network;
- Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy;
- Improve safety of journeys by reducing accidents and enhancing personal safety of pedestrians, drivers passengers and staff; and
- Improve integration by making journey planning and ticketing easier and working to ensure smooth connection between forms of transport.

To achieve the high level objectives of the NTS the Scottish Government has developed three key strategic outcomes. These strategic outcomes are to improve Journey Times and connections; reduce emissions and improve quality, accessibility and affordability of transport.

The government has many key commitments to achieve its strategy, which range from Bus and Freight Action Plans, to the promotion and encouragement of new vehicle technology. The Scottish Government are using the three key strategic outcomes as a basis for the Strategic Transport Projects Review (STPR). The STPR is the government's review of future transport infrastructure and other major investment needs.

Regional Transport Partnerships and Regional Transport Strategy

In 2004, The Scottish Government published the white paper, '*Scotland's Transport Future*', which set out new transport policy and signalled significant reforms in the way that transport is to be delivered in Scotland. Through the proposals to establish a national transport agency and the formation of new statutory Regional Transport Partnerships (RTP's), the Government aim to build stronger national and local government delivery structures for a more strategic approach to the planning and delivery of transport at all levels.

Following the passage of the Transport (Scotland) Act 2005 seven statutory RTP's have been established in Scotland. The Tayside and Central Scotland Transport Partnership (TACTRAN) area has Dundee being partnered with Angus, Perth and Kinross and Stirling Councils. TACTRAN has prepared a Regional Transport Strategy (RTS) setting out a vision and programme for improving the Region's transport infrastructure, services and other facilities over the 15 year to 2021. The strategy aims to deliver TACTRAN's vision of "*a transport system, shaped by engagement with its citizens, which help deliver prosperity and connects communities across the region and beyond, which is socially inclusive and environmentally sustainable and which promotes the health and well-being of all*".

The 2007 TACTRAN RTS seeks to fulfil this vision through a balanced and integrated package of interventions which support the key themes of:

- delivering economic prosperity;
- connecting communities and being socially inclusive; and
- delivering environmental sustainability, health and well-being.

The strategy proposes to secure improvement to key strategic road and rail networks; enhance transport through partnership with transport providers: encouraging a shift towards more sustainable forms of transport, in particular walking and cycling; working with road haulage, rail freight and port operators to develop more efficient and sustainable movement of goods; and improving integration in transport and land use.

Local Transport Strategy

Local authorities still have a central role in delivering improvements to the local transport network and through their involvement with RTPs will have an influence on regional transport issues.

To this end, Dundee City Council published its Local Transport Strategy in October 2000 which set out policy with regard to the future of transportation within the city. It reflected the policies and objectives contained in the Structure and Local Plans for the area and recognised that every mode of transport had a role to play - cycling, walking, public transport and private car, and the necessity to pursue a high degree of integration between them. Containing 42 specific targets, each with its own individual completion date, ranging from 2001 to 2021, this Strategy takes a three pronged approach of 'reducing the need to travel'; 'promoting alternative modes of travel' and 'restraining the use of the private car'. This three pronged approach is still relevant today and is generally inline with the key themes of the TACTRAN RTS.

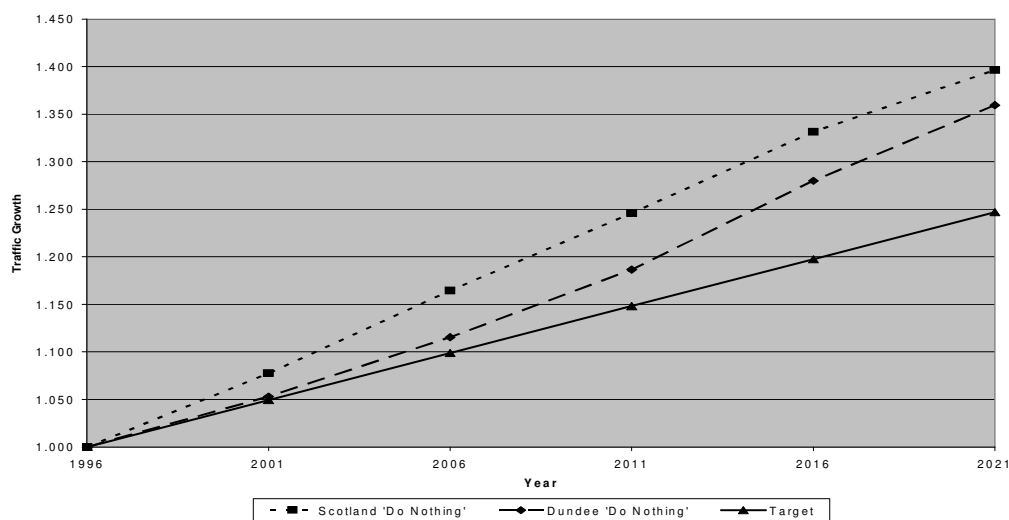
Restraining the use of the private car

In the UK, more than half of all journeys between one and two miles are made by car. Short car journeys are also the most damaging to the environment as catalytic converters are only

effective for journeys over 5km and the first kilometre produces 60% more fumes.²⁰ The decline in the cost of motoring, in real terms, over the last 20 years has meant greater affordability for many, but growth in car use has led to increasing car dependence, with a widening gap between the opportunities available to those without. The affordability and reliance of public transport has a particular impact on those Dundee households who do not have access to a car for private use.

Although Dundee has a low car ownership level and the rate of traffic growth throughout the 1990's was significantly lower than the national average, the city is however, surrounded by areas with high car ownership and who travel to work in Dundee by car, with a distinct peak hour east to west cross-city travel pattern.

Traffic Growth Forecasts (based on Central Growth)



The Local Transport Strategy sets out a number of targets to restrain car use including setting maximum car parking standards, limiting the number of long term parking spaces available in the city centre and promoting the attractiveness of public transport, walking and cycling.

Workplace Travel Plans can make a major contribution in easing congestion by promoting opportunities for reduced car use whilst commuting and when travelling on business. The development of Sustainable Travel Plans for the University of Dundee, Ninewells Hospital, SET and the City Council are ongoing and are aimed at reducing the environmental impacts of travel by these organisations and their staff. The website www.dundeeliftshare.com has also been set up to assist with car sharing initiatives across the city and is now the UK's fastest growing car share scheme. The lift sharing concept was always one that embraced regional travel and TACTRAN has now adopted dundeeliftshare.com and morphed it into TACTRANliftshare.com with four local sites for Angus, Dundee, Perth & Kinross and Stirling. Membership is now over 1000 and a match rate of in excess of 40% (the higher the match, the more likely people are able to liftshare).

Promoting Alternative Modes of Travel:

Public Transport

Bus services in Dundee are by far the most dominant form of public transport and a strong bus route network exists with a good level of service provision. Over recent years the City Council and the local bus operators have introduced measures to further improve accessibility, reliability and speed of buses, and information available.

More than £14 million of Scottish Government funding was secured for the SmartBus project that has been improving public transport in the city allowing major changes in bus passenger information systems and waiting facilities. Improvements that have been delivered include:

- online and kiosk based Journey Planning.
- on bus CCTV.
- renewal of all city bus stops and shelters.
- creation of high quality interchange facilities in City Centre and at Ninewells.
- Real Time Information at all bus shelters and for all bus stops available via SMS and the Journey Planner. This system will also give buses priority at traffic signals through the City Council's 'Urban Traffic Control' System.
- all bus stops to feature high quality timetable and route map information.
- moving towards 100% barrier free bus network with no step access en route to bus stop as well as to and from the vehicle.

Furthermore, through a Quality Bus Partnership Concordat, bus operators in Dundee have invested in new bus stock to match the City Council's bus initiatives. Dundee City Council, Stagecoach Strathtay and Travel Dundee intend to deliver the UK's first Statutory Quality Bus Partnership by summer 2008, locking in the major investment and quality improvements delivered since 2000.

Recent Confederation of Passenger Transport figures for Dundee, indicate that there has been an overall network growth in passenger numbers of around 9% in 2003, which suggests that the bus is becoming a more attractive mode of transport.

Rail travel accounts for only 1% of commuter trips in Dundee - a low figure for the city given that is situated on the east coast mainline.²¹ Dialogue continues with key partners in the city to assess the potential for local rail services. The TACTRAN RTS has put forward interventions to improve rail services to the city and the region. This includes an additional hourly rail service between Arbroath and Perth as recommended by the Tay Estuary Rail Study.

Walking and Cycling

Walking and cycling are seen as the most sustainable forms of urban transport as they offer many advantages of the car but are also pollution free, cheap and healthy. With Dundee being an urban area with good local facilities there is considerable potential to further enhance the role of walking in the city. The 'Paths for All' initiative was established by the City Council to promote the network of existing paths for people of all ages and abilities and ongoing infrastructure enhancements have improved pedestrian space as well as accessibility into the city centre. This is taken forward through the Outdoor Access Strategy, adopted August 2005. The City Council is also taking forward it's duty to prepare a draft Core Path Plan in 2008. This plan will provide the basic framework of routes for the exercise of access rights and can include any form of path or waterway. The plan will link into the Core Path Plans of neighbouring Local Authorities.

Attitudes towards cycling as a form of transport have undergone substantial change in recent times yet Dundee has a low level of cycling activity with only 1% of travel to work journeys made by bicycle.²² Much work is still required therefore to improve on this figure if Dundee is to become a cycle friendly city and this will require more investment in improving access to safe and convenient cycle routes. The Green Circular, the National Cycle Network and North Sea Cycle Route that continue their routes through the city all help to make cycling a more attractive option.

The school-run is also a key issue that still needs to be addressed with a growing number of parents considering it necessary to drive their children to and from school. In 1985/86, 70% of young people in Scotland walked or cycled to school but now the figure is just over 50% and the result is an emerging population that is lacking in fitness and general exercise.²³ Yet these parental fears are in themselves contributing to the problem. Parents escorting their children by car are making the streets more dangerous, and polluted, for those walking and

cycling - most evident at the school gates. The City Council in conjunction with Tayside Police continue to develop Safer Routes to Schools projects, as well as education and publicity exercises aimed at both pupils and parents.

www.dundee.travelinfo.com which was initially launched as a public transport journeyplanner now supports walk and cycle journey planning, including information highlighting what's within 5, 10 and 15 minutes walk of any chosen point in the city.

Reducing the Need to Travel - Integrating development with transport

Land use planning has a fundamental relationship with transport modes and usage, with the location and nature of development affecting the amount and method of travel. '*Scottish Planning Policy (SPP) 17: Planning for Transport*' published in 2004 gives guidance on the integration of land use development and transport. This framework is adopted by the City Council to take account of locational policy, maximum parking standards, all modal transport assessments, green transport plans and planning agreements to promote sustainable transport solutions.

Planning Advice Note 75 supports SPP17 and reconfirms the importance of integrating transportation with the environmental aims and policies of land use planning.

WHERE DO WE WANT TO GET TO?

"A city that has an accessible, integrated and reliable transport system that supports economic growth, respects the environment and promotes a culture change where there is less need to rely on private car use and where public transport, walking and cycling are favoured because they are safe and sustainable."

HOW CAN WE GET THERE

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
------------------	----------------------------------	--------------	-----------

Objective 1: Enable safe, inclusive and accessible public transport.

Encourage all public transport operators to meet the requirements of the Disability Discrimination Act 1995 by 2012.	100% low floor buses matched by barrier free route to a bus stop and onto bus will make buses an option for disabled and elderly persons.	Dundee City Council - Planning and Transportation Dept. and Bus Operators.	2008 - 2011
Consult with local communities to identify lack of access to public transport and examine the feasibility of alternative methods of service delivery such as Dial-a-Ride and flexible routed services.	Quality door to door transport for those unable to access public transport and where and when public transport is unviable, i.e. early morning workers.	TACTRAN, Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Ensure the local bus and rail network remains safe.	Increased confidence and attractiveness to travel by public transport.	Community Safety Partnership	2008 - 2011
Develop the Smartcard initiative to introduce integrated ticketing.	Ease of travel between modes and operators making travel easier.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011

Objective 2: Promote alternative modes of travel to minimise private car use and the impact of transport.

Establish and promote a Staff Travel Plan for Dundee City Council.	More staff will travel to and from work and whilst at work in a more sustainable manner.	TACTRAN, Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Monitor the implementation of Travel Plans for the University of Dundee, SET and NHS Tayside.	More staff will travel to and from work and whilst at work in a more sustainable manner.	TACTRAN, Dundee City Council - Planning and Transportation Dept.	2008 - 2011

Continue to develop and promote Dundee Liftshare and investigate opportunities for 'ConferenceShare'.	More staff will travel to and from work and whilst at work in a more sustainable manner.	TACTRAN, Dundee City Council - Planning and Transportation Dept	2008 - 2011
Assist schools in the Safer Routes to School initiative and in developing School Travel Plans.	All schools will receive School Travel Packs and will develop their own plan dependent on their own priorities and needs.	Dundee City Council - Education Dept.	2008 - 2011
Ensure there is easy available travel information for non-car journeys through Dundee Travel Information website and at all bus stops.	Increased confidence and attractiveness to travel by public transport.	Dundee City Council - Planning and Transportation Dept., TACTRAN	2008 - 2011
Undertake Core Path Planning consultations to develop a Core Path Network that will provide a framework of routes for non motorised access in Dundee.	Strategic routes identified for walking, cycling and horse riding in Dundee.	Dundee City Council - Leisure and Communities Dept.	2008
Develop and co-ordinate health walk schemes.	Encouragement of and increased participation in health walk schemes by Dundee residents.	Dundee City Council - Leisure and Communities Dept.	2008
Raise awareness of routes in and around Dundee for walkers, cyclists and horse riders and other forms of non-motorised access.	Increased use of non motorised access routes by walkers, cyclists and horse riders in Dundee.	Dundee City Council - Leisure and Communities Dept.	2008
Continue to assess pedestrian and vehicular conditions with a view to installing measures to improve the safety of all travellers, giving emphasis to the safety of vulnerable road users.	Reduced number of pedestrian related accidents.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Installation of messaging systems for car parking in Dundee to increase the efficiency of the road network.	Less congested roads with an efficient flow of traffic.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011

--	--	--	--

Objective 3: Maintain the transport infrastructure.

Carry out research on national best practice in the use of cold mixes containing recycled materials for carriageway and footway resurfacing.	Increase the level of recycled content in the construction and maintenance of the road network.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Promote sustainable construction techniques in the transport sector in future versions of the Sustainable Construction Guide.	Increase the level of recycled content in the construction and maintenance of the road network.	Dundee City Council - Planning and Transportation Dept., Support Services	2008 - 2011
Continue ongoing improvements and maintenance of the green circular route.	Enhancement of green circular route infrastructure and surrounding environment.	Dundee City Council - Leisure and Communities Dept., Planning and Transportation Dept., Dundee Contract Services.	2008 - 2011

KEY MEASURES

- ▶ To ensure traffic does not increase by more than 25% by 2021 compared to 1996 levels in Dundee Central area during the AM and PM peaks.
- ▶ Successful engagement with TACTRAN to deliver and implement the Regional Transport Strategy and its supporting Transport Interventions.

WASTE

INTRODUCTION

Everyone produces waste as a consequence of modern living, whether at home, or at work. From households and small businesses to industry and construction, waste production levels are increasing every year. The disposal of waste to landfill can result in the loss of many tonnes of valuable materials, release pollutants into the soil and watercourses, and emit methane, a greenhouse gas. The sustainable management of waste is therefore crucial to avoid detrimental impacts on the environment, our communities and the economy. To achieve this requires a major shift in public attitudes and practice to make better use of resources, increase levels of reuse and recycling and reduce the amount of waste produced in the first place.

WHERE ARE WE NOW?

- ⇒ The National Waste Plan set a target for Local Authorities to recycle or compost 25% of municipal waste by 2006 and 55% by 2020.²⁴
- ⇒ The total municipal waste arisings in Dundee during 2005/06 were 94,163 tonnes.
- ⇒ Of the above figure, 68,843 tonnes was collected by Dundee City Council from householders. This averages just under 1 tonne of waste from each household.
- ⇒ Of the total municipal waste arisings, around 25,000 tonnes was commercial waste. Approximately 30% of this was recycled.²⁵

WHAT IS BEING DONE?

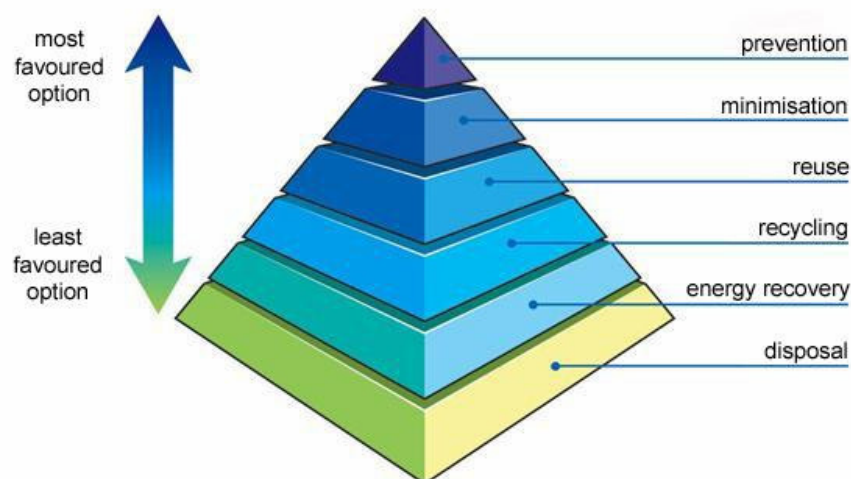
The National Waste Strategy for Scotland establishes the direction of the Scottish Government's policies for sustainable waste management to 2020. Built on a commitment to transform Scotland's record on waste prevention, recycling, composting and recovery, it sets challenging targets to achieve a fundamental change in the way Scotland's household, commercial and industrial waste is managed.

Successful implementation of the National Waste Strategy will deliver compliance with new European legislation such as the EU Landfill Directive, Packaging Regulations and producer responsibility initiatives such as the Waste Electrical and Electronic Equipment (WEEE) Directive and End of Life Vehicle (ELV) Directive.

The Tayside Waste Strategy Area Group (WSAG) is an important local element of the National Waste Strategy as it has responsibility for developing, implementing and monitoring an Area Waste Plan (AWP) for Tayside. The group comprises the Scottish Environment Protection Agency (SEPA), Dundee City Council, Perth & Kinross Council, Angus Council, Scottish Waste Awareness Group, and Community Recycling Network: Scotland. Published in 2003, the AWP sets out a framework and action plan, based on the Best Practicable Environmental Option (BPEO) for the management of municipal waste in Tayside as well as outlining the way forward for the more sustainable management of non municipal waste. Focusing initially on municipal waste the AWP has the following objectives:

- Preventing waste generation at source.
- Increasing segregated kerbside collection of recyclable and compostable materials.
- Greater recycling of paper, card, glass, plastic, metal, etc.
- More composting of garden waste, kitchen waste and other putrescible wastes.
- Energy recovery from appropriate wastes only.
- Reducing the quantities of waste landfilled.

The waste hierarchy is now a universally accepted concept that prioritises the way in which waste should be handled and is implemented in Dundee through the BPEO.



The 'Waste Aware Scotland' campaign is designed to support National Waste Strategy implementation, delivering a national campaign brand which is recognisable at local level, tailored to match local infrastructure provision. These 5-phase education and awareness campaigns are delivered via top-level media (including TV, radio, press and billboard advertising), leaflets delivered to households and educational presentations to community groups and schools.

Since June 2004, 'Waste Aware Dundee' campaigns have been run in tandem with an extension to Dundee City Council's provision of brown bins for garden waste recycling, and with the roll-out of a pilot mixed recyclate kerbside collection scheme. A further campaign to increase participation in kerbside paper recycling was launched in July 2005 and a A-Z guide was published on ways householders can Reduce Reuse and Recycle their waste. A 'Waste Aware Tayside' campaign to promote use of Recycling Centres and Points was also launched in 2004, run jointly with the two other Tayside local authorities. A further campaign was launched in 2006 aimed at waste reduction and reuse.

Although the AWP focused initially on municipal waste there has also been progress in understanding how much and what non municipal waste is arising and how this can be more sustainably managed. Nationally, SEPA have an improved understand of non municipal waste arisings and developed a number of best practice projects. In addition, the Scottish Government and SEPA, in consultation with key stakeholders, have developed a Business Waste Framework which concentrates on specific actions to reduce business waste (non municipal waste), which accounts for around 16 million tonnes per year in Scotland.

Waste Prevention

It is clear that the best way to deal with waste is by minimising or reducing the quantity of waste produced in the first place. Even small increases in the amount of waste being produced year after year may not seem very much, but when multiplied by the number of households and businesses it has a major impact on waste arisings. It is therefore crucial to change current public attitudes and behaviour towards waste and resource use issues.

SEPA and The Scottish Government have published a Household Waste Prevention Action plan and guidance with the key aim of:

- Reducing food waste by 35,000 tonnes through better awareness, packaging and marketing.
- Cutting unwanted mail by 10 per cent (saving 18,000 tonnes).
- Reusing more of the products we throw away (saving 34,000 tonnes).
- Reducing excess packaging and developing lighter packaging (saving 62,000 tonnes).
- Encouraging home composting to divert 71,000 more tonnes from landfill.
- Building sustainable design into products and giving better information on the lifespan of key household products (2,000 tonnes).²⁶

This Action Plan will be supported and implemented through a local waste prevention action plan, delivered through the WSAG, of which Dundee City Council and community group representation are members.

To this end, one scheme that has been established is the Dundee Real Nappy Network which was officially launched on 31st March 2006. The Network includes representatives from the NHS, City Council, real nappy suppliers, SEPA, and enthusiastic individuals. The purpose of the Network is to promote and encourage the use of reusable or real nappies through a better understanding of the environmental, financial and health issues involved and hence preventing waste arising and reducing the amount of nappies going to landfill and contributing to Dundee City Council's landfill diversion targets.

Minimising waste produced from the business sector is also important and locally the Tayside WSAG have supported the development of the Tayside Environmental Network (TEN), set up in February 2003 as a 'one-stop-shop' providing environmental information to Tayside businesses and organisations. TEN offers an online Resource Recovery and Environmental Support Directory. It has comprehensive online events listings which enables local businesses to share experiences and to learn more about key resource issues affecting their sector. The Abertay Centre for the Environment, based in the University of Abertay, can also offer free assistance to qualifying small to medium size enterprises (SME's) on waste minimisation issues, composting and methods of reducing their waste disposal costs.

Reuse & Refurbishment

The next best option is reuse, as this process extends product life and retains the intrinsic value embodied in making the item. The non-profit distributing organisation sector has an important role to play here and several reuse schemes operate in the city dealing with furniture, computers, electrical goods and clothing such as Tayside Recyclers, Dundee Cyrenians, Carolina House Trust and Starter Packs.

There is certainly further scope for the community sector to develop their reuse and refurbishment services and activities, and a short term working group was established to investigate opportunities for the community sector. The Tayside Community Forum was created as a mechanism to bring together local authorities, the community and non-profit distributing sector with a view to identifying and exploring possible future synergies within the reuse and refurbishment sector.

Recycling & Composting

Recycling valuable materials such as newspaper, cardboard, glass and metals helps reduce the environmental and financial impact of waste production and disposal. Dundee has a strong tradition of recycling and currently provides a network of Recycling Centres and Points, a centralised composting facility and a variety of kerbside collection services. Dundee's recycling and composting record of 30.9% compares well to the 2005/06 national average of 24.4%, however is still much lower than many other European countries.²⁷

Indicative BPEO percentages for Tayside Municipal Solid Waste

Year	Recycling	Composting	Energy from Waste	Landfill
2005/06 (actual for Dundee)	24.1%	6.8%	46.4%	22.7%
2010	19%	11%	31%	39%
By 2013	25%	12%	30%	33%
By 2020	33%	14%	29%	24%

(Source: Tayside Area Waste Plan)

During 2004/05, the first recycling initiatives funded by the £26 million Strategic Waste Fund grant were introduced to improve the city's recycling figures and achieve the national targets.

In February 2005, 6,000 boxes were distributed for the collection of recyclable materials such as glass, plastic bottles and aluminium cans direct from the kerbside. This was the first collection of its kind to be offered in Dundee, and following a positive response, the system was offered to a further 9,000 properties during 2005/06 with phased implementation programme to follow thereafter. A planned roll-out to cover all properties in the city is scheduled to commence in 2010.

At present, 74% of the city's properties are covered by the City Council's kerbside waste paper Collection Scheme and separate cardboard collections from commercial premises were reinstated in July 2005.

With the rollout of further garden waste bins in 2004 and at the start of 2007, the total number now provided within the City is over 40,000 (56% of all the city's properties). The waste is taken to a central processing facility at Riverside, where it is shredded before being composted in open windrows. The finished product is sold to various contractors as a soil conditioner and compost for use within the local area and is also available for purchase by the general public.

Additional funding from The Scottish Government enabled the Council to provide on street recycling facilities to 9,000 tenemental and flatted properties throughout the city during 2007.

Energy from Waste

When waste materials cannot be reduced, reused, recycled or composted, then they may be suitable for energy recovery via thermal treatment. Incineration with energy recovery is accepted as being a better option than landfill but less beneficial than prevention, reuse or recycling.

Dundee has access to the DERL (Dundee Energy Recycling Ltd.) plant, which incinerates waste and produces electricity that is fed directly into the national grid. The DERL plant plays a pivotal role in the Tayside AWP in order for Dundee, Angus and Perth & Kinross Councils to meet their landfill diversion targets. The AWP proposes that more of the recyclable material is taken out of the waste stream to ensure those wastes best suited for combustion are used as a feedstock for the energy from waste plant and capacity can be shared across Tayside.

Disposal to Landfill

This is considered to be the last resort as it creates harmful greenhouse gases and is a waste of resources and therefore an unsustainable practice. The AWP therefore sets out to significantly reduce the amount of waste going to landfill and in particular biodegradable waste. The Landfill site at Riverside has come to the end of its working life and the Aftercare and Closure Plan is currently under discussion with SEPA. There are no other operational landfill sites within Dundee City.

WHERE DO WE WANT TO GET TO?

"A city with sustainable waste management systems that control waste generation, reduce environmental impacts of waste production, improve resource efficiency, stimulate investment and maximise economic opportunities arising from waste."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
------------------	----------------------------------	--------------	-----------

Objective 1: Promote resource awareness amongst householders, businesses and industry towards a culture change.

Continue to run a series of education and awareness raising campaigns in conjunction with Dundee City Council to promote the "Reduce Reuse Recycle" message.	Increase awareness of the impacts of waste and participation in local recycling initiatives and reduce the amount being created.	Dundee City Council - Waste Management Dept/Scottish Waste Awareness Group, pending award of continued funding	2008 - 2011
Continue to raise awareness and promote the benefits of real nappies through the Real Nappy Outreach Worker.	Increase the amount of Real Nappy Users and therefore reduce amount of waste arising and being landfilled (Waste Data Flow).	Dundee Real Nappy Network	2008
Continue to develop and promote the 'Sort-It' website (www.sort-it.org.uk) to provide national and local information on products and services to help reduce, reuse and recycle.	Increase awareness of the impacts of waste and participation in local recycling initiatives and reduce the amount being created.	Scottish Waste Awareness Group	ongoing - 2011
Undertake survey to assess national public attitudes to reduce, reuse & recycle and report on findings.	Improved understanding of the level of waste awareness in Dundee to ensure more targeted campaigns where appropriate.	Scottish Waste Awareness Group	2008
Increase the education and awareness of resource use issues within the business community through the use of the TEN website, breakfast meetings, presentations and press articles.	Economic saving, improved environmental credential for local businesses, diversion of waste from landfill.	Tayside Environmental Network	2008 - 2011
Encourage business best practice and facilitate sharing of information through the online Resource Recovery and Business	Economic saving, improved environmental credential for local businesses, diversion of business waste from landfill.	Tayside Environmental Network	2008 - 2011

Support directories and Waste Exchange database.			
Raise awareness amongst SMEs to the savings that can be made and the opportunities to be gained from waste minimisation.	Economic saving, improved environmental credential for local businesses, diversion of business waste from landfill.	Abertay Centre for the Environment	2008 - 2011
Take a proactive approach in preventing waste arising in Dundee through the development and implementation of a local waste prevention action plan.	Reduced waste arisings per household (Waste Data Flow).	Dundee City Council - Waste Management Dept (through the Tayside Waste Strategy Area Group)	2008 - 2009

Objective 2: Develop opportunities for community involvement in the re-use and refurbishment of materials and increase the levels of recycling and composting.

Investigate the feasibility of developing a network of community based and non profit distributing organisations, through the Tayside Recycling Forum to facilitate the reuse of furniture and white goods resulting from the City Councils Waste Management activities.	Greater partnership working among the community sector to increase the reuse of furniture and white goods.	Dundee City Council - Waste Management Dept (through the Tayside community Forum)	2008 - 2011
Expand the existing kerbside collection service for green waste to cover a minimum of 50,000 properties between 2006-2013.	The scheme will be expanded to increase the amount of properties recycling.	Dundee City Council - Waste Management Dept.	2008 - 2011
Carry out a phased implementation of the dry mixed recycle kerbside collection to all suitable properties within the city.	The scheme will be expanded to increase the amount of properties recycling.	Dundee City Council - Waste Management Dept.	2008 - onwards
Increase the number of Recycling Points provided within the city to 40.	There will be an increased availability of centres with greater proximity for residents.	Dundee City Council - Waste Management Dept.	2008 - 2011

Redevelop the existing Civic Amenity site at Riverside into a purpose built Recycling Centre.	There will be an increased availability of Recycling Centres, including a range of materials offered for recycling.	Dundee City Council - Waste Management Dept.	2008 - 2009
Provide on street recycling facilities to 9,000 tenemental and flatted properties throughout the city.	Maximise opportunities and ease of use for householders to recycle.	Dundee City Council - Waste Management Dept.	2008
Produce Supplementary Guidance to the Local Plan setting out more detailed requirements regarding the provision and location of new waste management infrastructure. This will include guidance on the provision of recycling facilities within new residential and commercial developments.	Ensure that new domestic and commercial developments have the appropriate space allocated to enable them to partake in local recycling schemes	Dundee City Council - Planning and Transportation Dept. (through the Waste Strategy Group)	2008 - 2011

Objective 3: Reduce the impacts of waste production and improve the efficiency of the city's resource use.

Increase the levels of recycled materials used in Council projects over £1M in construction value in line with Scottish Government targets: 90% of projects should be able to demonstrate that at least 10% of the total value of materials used derive from recycled or reused content.	By stimulating the recycled materials market volumes of waste to landfill will be reduced.	Dundee City Council - Support Services Dept., Planning and Transportation Dept.	2008 - 2011
Re-use and recycle 75% of building material waste being generated from Dundee City Council Architectural Services projects, both on-site and off-site.	Volumes of construction and demolition waste to landfill will be reduced.	Dundee City Council - Support Services Dept.	2008 - 2011
Complete the implementation of the City	Increased staff awareness of sustainable	Dundee City Council - Waste	2008 - 2011

Council's Internal Waste Review to improve the organisations waste minimisation and recycling performance.	waste management practices and increased internal recycling rates along with better inter-dept working.	Management Dept.	
--	---	------------------	--

KEY MEASURES

- ▶ Limit the growth in waste arisings to 2% per annum until 2010 and strive to achieve a zero growth in waste thereafter.
- ▶ Achieve Scottish Government targets to recycle or compost 25% of municipal waste by 2006, 30% by 2008 and 55% by 2020.
- ▶ In meeting the Area Waste Plan target, by 2010 achieve 50% household participation rates in kerbside segregated collections of:
 - dry recyclate
 - compostable waste
- ▶ In meeting the Area Waste Plan target, increase the number of Recycling Points from 21 in 2005 to 40 by 2010.

POLLUTION

INTRODUCTION

Pollution can be defined as any substance or material that contaminates or has a detrimental impact on the environment. Natural systems are designed in such a way as to cope with a certain amount of pollution by breaking down, processing and re-using the waste materials for use by other organisms. However, the consequences of human activity results in an imbalance in these natural, sustainable levels of pollution. The results mean a reduction in the quality of our air, land and water with further consequences for human health and habitats.

WHERE ARE WE NOW?

- ⇒ Dundee became the first city in Scotland to be fully covered by a Smoke Control Area.
- ⇒ Health problems associated with poor air include heart disease, asthma, bronchial pneumonia.
- ⇒ 8 brownfield sites have been remediated through the planning process to date.
- ⇒ There are at present no entries on the Public Register relating to contaminated land within the Dundee local authority area.
- ⇒ Inter-agency work deals with over 5000 complaints per annum to tackle the problem of antisocial noise within the domestic sector.
- ⇒ The Dumb Dumpers Campaign was launched by The Scottish Government in March 2004 to highlight the growing problem of fly tipping.
- ⇒ 141 tonnes of dog waste was collected in 2004/05, an increase of 10% from the previous year and over 200 Fixed Penalty Notices have been issued in Dundee since 2003.

WHAT IS BEING DONE?

Air Quality

Air is said to be polluted, or of poor quality, when it contains substances which can have a harmful effect on our health or the environment. Many of our everyday activities contribute to air pollution, including heating our homes or driving a car. Indeed, since the Industrial Revolution the air quality in the UK has significantly declined though it was not until the introduction of the Clean Air Act and environmental health legislation that real improvements were made. For example, by the early 1980's, Dundee became the first city in Scotland to declare Smoke Control Areas across its entire urban extent. Since 1997 when the National Air Quality Strategy was implemented, the standards and objectives for air quality have been revised and strengthened as knowledge of the health effects of key pollutants has increased.

Part IV of The Environment Act 1995 and subsequent regulations introduced National Air Quality Standards and Objectives for eight priority pollutants. Local authorities are required to assess the levels of seven of these pollutants, on a three yearly basis, to determine if set pollution level targets and timescales will be met, or whether additional measures will need to be taken to address locally polluted areas.

Dundee City Council completed the latest stage of this review process in March 2005 and has prepared a Detailed Assessment. To date, the assessments conclude that in general, Dundee has good air quality, and that there are unlikely to be problems with achieving the objectives for five of the seven pollutants, namely carbon monoxide, lead, sulphur dioxide, benzene and 1,3-butadiene. However, there are a number of areas that have poor air quality, where the levels for the remaining two pollutants, nitrogen dioxide (NO₂) and possibly particulate matter

(PM₁₀), are unlikely to meet the national targets. As the target date for PM₁₀ is 31 December 2010, the position is still unclear, and is being kept under review.

A decision has been made to declare an Air Quality Management Area (AQMA) for nitrogen dioxide extending over the Dundee City Council local authority area. The AQMA will bring about renewed efforts by a number of stakeholders to work together to meet national targets through the implementation of a local action plan to improve overall air quality as well as addressing those areas of the city in most need. Dundee is not alone in declaring an AQMA as over 180 cities across the UK have declared similar areas - the majority of these have been declared because of traffic related pollutants. As elsewhere traffic is the major contributor to air pollution hotspots in Dundee. Some real-time air pollution monitoring has been set up where air pollution has been found to be high, e.g. where there are high levels of traffic in narrow streets.

Smoking Ban

The smoking prohibition in public places has now been in force since 26th March 2006. The public and businesses have generally been very supportive of the new law. In the first year in Dundee over 30 written warnings were given and 65 fixed penalty notices issued. To put this in perspective more than 1700 monitoring visits were made and compliance was found to be over 95%.

Water Quality

The Water Framework Directive is a wide-ranging piece of European environmental legislation which became law in Scotland at the end of 2003. Designed to be the principal driver for water quality over the next decade, the Directive requires all inland and coastal waters to reach 'good status' by 2015. It will do this by establishing a river basin district structure within which demanding environmental objectives will be set, including ecological targets for surface waters. In Scotland, this work is being taken forward by SEPA, in conjunction with the Scottish Government to establish the necessary regulatory powers, river basin management areas and classification of surface and groundwaters. As well as a National Advisory Group, eight 'Area Advisory Groups' were established during 2006 to undertake and inform many of the key tasks and activities of the river basin planning process. A Tayside Area Advisory Group was set up to produce a Management Plan and provide links to local stakeholders.

SEPA also has powers to control wastewater discharges through legally binding consents issued to dischargers. In Dundee, the effects of the Urban Wastewater Treatment Directive have been evident, with significant investment by Scottish Water to upgrade wastewater systems discharging to the Tay Estuary.

At the end of 2001 the construction of the Hatton Wastewater treatment plant near Carnoustie and seven new pumping stations extending from Riverside in Dundee to Arbroath was completed. The Hatton plant treats sewage and waste from 200,000 people and industry, effluent that was previously released into the Tay with little or no treatment.

The Tay Wastewater System has had a dramatic effect on the quality of Dundee's coastal water quality. As a result Broughty Ferry beach was awarded international Blue Flag status for 2005 and 2006 and was designated an Identified Bathing Water in January 2006.

The Dighty Water is the secondary surface watercourse in Dundee, which enters the City Council area at Baldovan in the north and travels in a south easterly direction before discharging into the Tay Estuary. The most recent River Quality Classification Scheme undertaken by SEPA in 2005 ranks the Dighty Water as being of fair to good quality.

The City Council prepares biennial flood prevention reports to identify areas of the city susceptible to flooding events. Since 1997, two significant flooding events have occurred within the city:

- River Tay – Dundee City Centre Flooding (1998); and
- Gelly Burn – Ardler Central Core Flooding (1999).

The causes of the flooding incidents have been identified within the City Council's flood prevention report and a number of high flood risk areas have been identified:

- Dightly Burn (and its tributaries, the Fithie and Gelly and Murroes Burns)
- Mause and Scouring Burns in the City centre; and
- Broughty Ferry at Fisher Street and St. Vincent Street.

Water Management

Where appropriate, all development proposals within the city are encouraged to comply with detailed advice contained in Scottish Planning Policy (SPP) 7 '*Planning and Flooding*' and Planning Advice Note (PAN) 61 '*Planning and Sustainable Urban Drainage Systems (SUDs)*'. This is largely overseen by the SUDs group which comprises representatives from the City Council, SEPA and Scottish Water. The Group meet with developers and their agent to review development proposals and offer guidance on acceptable measures for dealing with surface water, ensuring that development does not encroach inappropriately into the flood plain.

Contaminated Land

Land can be contaminated by a variety of substances that pose immediate or long-term risks to human health and the environment. Such contaminants may escape from sites to cause air, land, surface water or groundwater pollution, and in some cases may even damage buildings and underground services, or contaminate the food chain.

Prior to the introduction in Scotland of Part IIA of the Environmental Protection Act in 2000, no mechanism was in place to tackle historical contamination of land. The new legislation introduced a statutory regime for the identification and remediation of historically contaminated land, making local authorities and SEPA the regulators.

The first edition of Dundee City Council's Contaminated Land Strategy was produced in September 2001 and since that time, progress has been made to develop the necessary software systems and programme of site investigations to deal with the legacy of contaminated land.

Contaminated land can sometimes be an issue where old industrial areas and other brownfield sites are redeveloped. The terms 'brownfield site' and 'contaminated land' are not synonymous, but it is frequently the case that some contamination is present on previously used land that are redeveloped. The Scottish Government now wants to bring as much brownfield land as possible back into use and is encouraging the regeneration of previously developed land to limit unnecessary development of greenfield sites.

The planning system has a key role to play in addressing the problem of historical contamination. In advancing proposals for the re-use and redevelopment of sites, developers need to be aware of contamination issues. Likewise, the City Council will have regard to guidance contained in PAN33 - Development of Contaminated Land when considering planning applications for sites where its presence is suspected

Noise

Tackling the insidious problem of noisy neighbours was given a substantial boost when the Council's Environmental Health & Trading Standards department's introduced a new Night Time Noise Team in early June 2006.

A nine strong team investigates complaints such as loud music, noisy DIY and similar neighbourhood unwanted noise. Working seven days a week they give a speedy response to concerns raised by Dundee residents. The Police and other agencies cover day time hours.

The new team is a welcome addition to the existing partnership which includes Tayside Police, Dundee Community Mediation and Dundee City Council. Whilst mediation often resolves disputes, enforcement options such as Noise Abatement Notices and Anti-Social Behaviour Orders can be used if necessary.

Dog Fouling, Fly-tipping and Litter

The most noticeable and unpopular form of local 'land pollution' is that of dog fouling, fly-tipping and litter. Whilst all three pose a number of environmental and potential health problems, the main concern is one of aesthetics and blight on the city.

The Dog Fouling (Scotland) Act came into force in October 2003. It is now an offence for any person who is responsible for a dog, not to clean up their dog's waste and dispose of it responsibly in the nearest dog waste bin, litterbin or domestic waste bin. Dundee City Council encourages dog owners to act responsibly and clear up after their dogs. A number of awareness raising initiatives and publicity have been carried out and free dog bags are available from City Council offices and more than 1300 dog waste bins are provided throughout the city.

The types of fly-tipping problem commonly experienced in Dundee range from small isolated pockets of on gap sites, to large scale problems on prominent areas of land. The types of material typically fly-tipped also range from general household and garden refuse, fridges and mattresses through to builders rubble and tyres. In most cases, where the fly-tipping occurs on areas of common ground, it is removed by the City Council's Rapid Response Team. Significant progress has been made recently to address the fragmented approach to dealing with fly-tipping. A local multi-agency forum has been established to set out a partnership approach to investigating and enforcing incidents of fly-tipping across the city. At a national level, The Scottish Government launched the Dumb Dumpers Campaign in March 2004 to highlight the problem.

Dundee City Council is a member of the Local Environmental Audit and Management System (LEAMS) programme which forms part of the Keep Scotland Beautiful 'People and Places' scheme. Under LEAMS, random samples of streets are independently inspected throughout the year and the standard of cleanliness is graded. Environmental Quality Indicators such as dog-fouling, graffiti and fly-tipping are also recorded to give an overall score for the Local Authority. The standard of street cleanliness is monitored and compared at a national level, with the target standard set at 67. In 2006/07 Dundee scored 70, which was slightly up on the 2004/05 figure of 66.²⁸

WHERE DO WE WANT TO GET TO?

"A city with a clean, healthy and safe environment with improved air, land and water quality."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
------------------	----------------------------------	--------------	-----------

Objective 1: Work towards meeting the National Air Quality Standards and address other air pollution issues.

Following the declaration of the AQMA, undertake assessments and consultation with stakeholders and produce and implement an appropriate corporate Action Plan to address high Nitrogen Dioxide levels.	Reduction of high Nitrogen dioxide levels within known hotspots whilst avoiding compromising good levels elsewhere.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Undertake further monitoring and assessment of PM ₁₀ to determine whether a further AQMA is required.	Establish the need for an additional AQMA and thereafter implement corporate action plan measures to address the issue as appropriate.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Continue to assess specified pollutants in line with National Air Quality Strategy Framework.	Identification of areas of high air pollution within Dundee. Development and implementation of mitigation measures as appropriate in accordance with the Local Air Quality Management Framework.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Adoption of monitoring for population exposure reduction of PM ₁₀ as required by the Scottish Government.	Reduction of citywide PM ₁₀ levels.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Carry out effective enforcement and inter-agency working to address other air pollution issues within the domestic, commercial and industrial sectors.	Achieve compliance with appropriate regulatory responsibilities of all agencies.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011

Enforce the regulations prohibiting smoking in public places.	Smoke free enclosed public places.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
---	------------------------------------	--	-------------

Objective 2: Ensure clean drinking and bathing water and improve groundwater quality through remediation of contaminated land.

Ensure water, groundwater and floodplains are considered as critical receptors in the implementation of Contaminated Land Regime and remediation carried out through redevelopment.	Improved investigation and risk assessment of water environment in Dundee. Implementation of remediation works where appropriate.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Reduce pollution of Broughty Ferry beach as part of gaining the Blue Flag award.	Ongoing implementation of the Broughty Ferry Beach Management regime to Blue Flag standards.	Broughty Ferry Beach Management Group, Dundee City Council - Leisure and Communities Dept.	2008 - 2011
Annual inspection of all watercourses to ensure no unauthorised work including all river engineering work which falls under SEPA's Controlled Activities Regulations, is likely to exacerbate flooding.	Increased compliance with SEPA's Controlled Activities Regulations and Flood Protection and Land Drainage Act.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Monitor physio-chemical, biological and morphological quality elements of the Dighty Burn and tributaries as part of SEPA's River Monitoring Network.	Work towards ensuring compliance with the EU Water Framework Directive.	SEPA	2008 - 2011
Chemical and bacteriological sampling of drinking water as appropriate in response to complaints by the public or other agency.	Ensure compliance with statutory requirements and provision of safe public drinking water supply.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011

Objective 3: Redevelop brownfield sites and reduce pollution to sustainable levels and remove unacceptable risks to public health and the local environment.

Bring back into use 30% of land identified in the 2006 Scottish Vacant and Derelict Land Survey for Dundee to promote the reuse of vacant and derelict land.	A greater reuse of brownfield land to remove blight and promote environmental justice across the city.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Complete inspection of local authority area to identify and remediate land that meets the definition of contaminated land in terms of Part IIA of the Environmental Protection Act 1990 and continue proactive approach through the land use planning process.	Ongoing reprioritisation and investigation of sites in Dundee to identify potentially contaminated sites and develop remediation action plans as appropriate.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Monitor the City Council's performance against Scottish Government indicators to measure progress with the implementation of the contaminated land regime.	Submission of annual data and report to Scottish Government as required.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Maintain a public register of information relating to statutory designated contaminated land in Dundee.	Maintenance and development of public register detailing statutory designated contaminated land in Dundee.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Minimise pollution of contaminated land sites and limit the impact upon receptors through Sustainable Urban Drainage Systems (SUDs).	Reduced pollution of watercourses and groundwater receptors from contaminated land sites.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011
Provide a Rapid Response Team to deal quickly with environmental complaints such as dog fouling, graffiti, fly tipping and weeds.	Provision of a safe, clean and pleasant environment for the residents of Dundee and visitors.	Dundee City Council - Waste Management Dept.	2008 - 2011
Carry out a range of Waste Enforcement duties associated with environmental legislation and explore the possible use of other legislative tools such as Street Litter Control Notices and Litter Control Area	Provision of a safe, clean and pleasant environment for the residents of Dundee and visitors	Dundee City Council - Waste Management Dept.	2008 - 2011

notices.			
----------	--	--	--

Objective 4: Reduce noise intrusion and ensure ambient noise is maintained at a level that doesn't disturb citizens.

Subject to funding, adopt a resolution to set noise control periods as set out in Part V of the Anti-social Behaviour (Scotland) Act 2004.	Provision of a 9 strong enforcement team to pursue both a swift response as well as resolution to complaints of domestic noise as they occur.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011
Act as statutory consultee to examine all planning applications that have potential to increase ambient noise levels or create noise intrusion to residents and recommend conditions where necessary.	Staff review all applications to identify those which may give rise to a noise issue; to consider the extent of any impact and to examine the options for mitigating or controlling said noise.	Dundee City Council - Environmental Health and Trading Standards Dept.	2008 - 2011

KEY MEASURES

- ▶ In meeting the Community Plan 'Environment Outcomes', work towards achieving the National Air Quality Standards set between 2005 and 2010.
- ▶ Number of bathing water samples taken at Broughty Ferry beach meeting EC Mandatory/Guideline Standard.
- ▶ As a key tributary running through the city, ensure the Dighty Water is classified as being of fair or good quality.
- ▶ In meeting the Audit Scotland Statutory Performance Indicator, achieve or improve on the target standard for LEAMS as a measure of street cleanliness, dog fouling, and fly-tipping.

NATURAL ENVIRONMENT

INTRODUCTION

The quality of local surroundings and the ability to access and use them have a fundamental impact on how people feel about and relate to the places where they live. Green open spaces that are well designed and purposeful are a hugely valuable resource and can create a sense of place and community, provide positive health impacts and opportunities for recreation as well as contact with nature. In cities especially, gardens, parks and even street trees provide important emotional connections to the natural world and biodiversity. They also provide essential learning opportunities, particularly for children growing up in urbanised surroundings. Yet many rare and important species and habitats are continuing to decline as human impact on land management threatens their survival. Just as humans have the capacity to alter and destroy habitats and extinguish species, we also have the ability to protect and restore biodiversity. By acting as custodians we all have a collective duty to ensure that the natural environment is conserved for the sake our own future health and wealth.

WHERE ARE WE NOW?

- ⇒ Dundee city has a wide diversity of public open spaces covering 1393 Ha, which accounts for 28% of the urban area.
- ⇒ The Tay, which has the largest annual flow of any UK river, is an internationally important area for over-wintering waterfowl as well as seals and other marine interest - Special Area of Conservation (SAC) and Special Protection Area (SPA).
- ⇒ In addition to the above, Dundee has 2 Sites of Special Scientific Interest (SSSI), 3 Local Nature Reserves (LNR) and 37 Sites of Importance for Nature Conservation (SINC) and Community Wildlife Sites (CWS).
- ⇒ Fragments of rare habitats can be found in Dundee including calcareous grassland, marshland and Elm woodland.
- ⇒ Animals which have European Protected Species status live and visit Dundee including Otter, Bats and Dolphins/Porpoises. Red Squirrel, Swift, Salmon, Brown Hare, Peregrine Falcon and Sand Martins are UK Biodiversity Action Plan priority species and are resident in Dundee.

WHAT IS BEING DONE?

Parks and green spaces

Historically, Dundee possesses a variety of green spaces, including parks, roadside verges, school grounds, rivers and burns, city centre pedestrian areas, housing areas and wildlife sites. As a major land owner in the area, Dundee City Council plays an important role in the management, improvement, protection and promotion of public open spaces in Dundee. The future will see closer partnership working between local communities, the public and private sectors, to take advantage of opportunities to enhance the quality and diversity of public open space for the benefit of all who use it and enjoy it, including the citizens of Dundee, employees, visitors and tourists

In recent years there has been a growing recognition of the importance and provision, design arrangements and protection of open spaces in Dundee which are right at the heart of sustainability. The role of open spaces has contributed to the objectives of Scottish Ministers and has grown considerably in recent years through research projects, establishment of organisations and community projects and initiatives. This interest in improving the standard of parks and open spaces has been reflected throughout. The investment in local parks and green spaces has seen a seven year programme of play area refurbishment at a cost of over

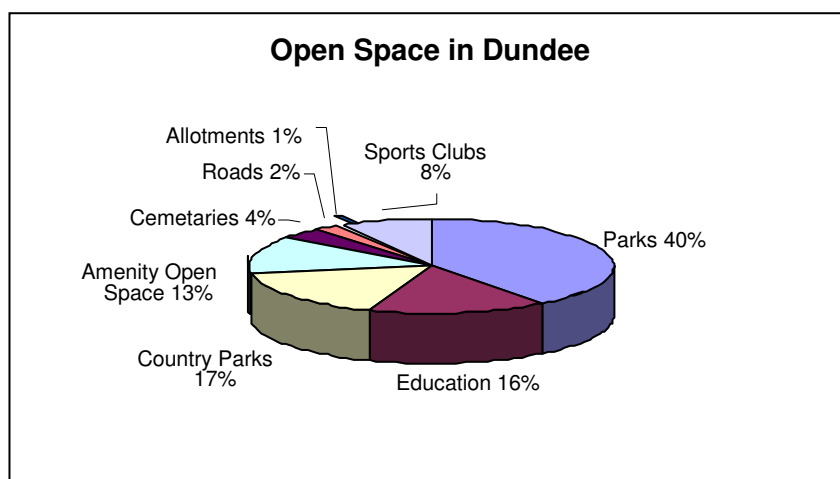
£1 million. This programme is now reaching its conclusion and has seen the provision of safe local play environments for Dundee's children.

Dundee Open Space Strategy

Dundee City Council is updating its Public Open Space Strategy for publication in 2008. Recognising the connections between the urban environment and the health, wellbeing and prosperity of Dundee's citizens, it will set out a strategic vision for the future of public open space in Dundee and be accompanied by a three year action plan

It aims to deliver five outcomes:

- Dundee's open space encourages and supports healthy lifestyles by providing opportunities for recreation, relaxation and fun for people of all ages and abilities.
- Dundee's open space provides a network of diverse, attractive and inspiring greenspaces which add colour and life to the City including the urban environment.
- Dundee's public open spaces are safe, accessible and meet the current and future needs of local communities.
- Dundee's open space contributes to the economic prosperity of Dundee by helping to attract investment and tourism.
- The management of the City's public open space delivers quality and is cost effective, efficient and provides best value for citizens of Dundee.



Research undertaken prior to the Public Open Space Strategy indicated that 94% of people visit and use parks and public open spaces for recreation, including the importance of public open spaces in people's lives. The main findings of the survey indicated that over 70% of people visited public open spaces at least once a month and 64% of people walk to public open spaces and therefore choose to visit the public open space that is closest to their home.²⁹

Development of 'Friends of' Groups and Community Awards

The increasing interest by members of the public in seeing improvements in the maintenance and development of parks and open spaces has led to an increase in the number of Friends of Parks groups across the country. Within Dundee there are a number of friends groups across the city at various different stages of development. These include:

- The Friends of Barnhill Rock Garden
- The Friends of Baxter Park
- The Friends of Balgay Park

The development of friends groups has seen the involvement of communities with members of the public being allowed an active voice in the development and maintenance of parks and open spaces.

Dundee has also registered considerable success in the Beautiful Scotland Awards over recent years - the largest environmental campaign in Scotland for communities who are working to improve and enhance their local area.

- Dundee in Bloom have entered Beautiful Scotland for the last three years, winning the Wright Sustainable Development award twice and being selected to represent Scotland in the Britain in Bloom Finals in 2007, where Dundee was awarded a silver medal.
- Ardler in Bloom, have entered and won the urban regeneration category for the last three years.
- Broughty in Bloom enter the resort category, again for the last three years and in 2006 won the Biodiversity award.

Greenspace Scotland and DPE

Greenspace Scotland was established in 2002 by Scottish Natural Heritage (SNH) and partners to drive forward the Greenspace for Communities Initiative and provide a national lead on local action to improve the environment of our towns and cities. Greenspace Scotland is a national umbrella body, delivering through a network of trusts and partnerships across urban Scotland.

The publication '*Making the Links: Greenspace and the Partnership agreement*' was produced in partnership with Communities Scotland, NHS Scotland and SNH. This publication sets out how greenspace can make a significant contribution to delivering Scottish Government strategies at a local level and tackling some of the big issues facing Scotland today. The ability of greenspace partnerships to deliver strategic policy objectives has been increasingly recognised by the Scottish Government. This is reflected through 'Regeneration Outcome Agreements' and the new 'Closing the Opportunity Gap Target J'.

In 2005 DPE formally entered into partnership with Greenspace Scotland, Forestry Commission Scotland (FCS) and SNH to create the Trees & Woods in Greenspace Partnership (TWIG). The relationship with DPE reflects an evolution of the Greenspace Scotland engagement and membership structure as the Dundee project has integrated Greenspace firmly within Community Planning structures. In this regard Dundee can be seen to be up at the cutting edge of Greenspace development activity within Scotland.

A Greenspace Action Plan reflecting the aspirations of the DPE and the TWIG partner agencies is being produced to take forward the Greenspace agenda within the City.

Woodlands in and around Towns (WIAT)

Another key element of the TWIG partnership is the participation of FCS. Considerable resources have been made available to Dundee through the Woodlands in and around Towns (WIAT) Challenge Fund. The fund is administered by FCS and aims to enable woodland owners in Scotland to contribute to the regeneration of the urban environment, and to improve the quality of life for people living and working in urban areas, by bringing urban woodlands into sustainable management. In May 2005 Dundee was awarded £500,000 by FCS through WIAT and the Scottish Forestry Grant Scheme to protect and enhance Dundee's woodlands. The TWIG project aims to add value to this through co-ordination of the work of the agencies involved, facilitating community involvement and through promotion of woodlands and greenspace accessible to the cities residents.

Dundee has many important trees and woodlands that add to the quality of the city, provide invaluable wildlife habitats and the supply of timber products. A survey commissioned by the City Council in 2000 identified 282 ha of woodland over 0.2 ha on 37 sites. This equates to 4.3% woodland cover for Dundee or 15% of the green space. The majority of the woods are

under Council ownership, only a maximum of 10% are privately owned.³⁰

Biodiversity

Biodiversity lies at the heart of the Scottish identity and is part of our heritage. Scotland has 65 out of a total of 159 conservation priority habitats listed in the European Habitats Directive, yet because of the variation in climate and landform, many species in Scotland find themselves at the extreme of their range or living in atypical habitats, where they have adapted as local varieties.³¹

The importance of biodiversity to Scotland cannot be underestimated. Scotland's dramatic landscapes and seascapes, and the biodiversity they host, underpin the tourism industry which employs more than 9% of the Scottish workforce and contributes more than £4.5 billion to our national economy.³²

Nature Conservation Act and Scottish Biodiversity Strategy

In 2004 the Scottish Parliament enacted the Nature Conservation (Scotland) Act 2004, giving all public bodies in Scotland a duty to further the conservation of biodiversity as they carry out their work. This means that all public bodies now have a duty to think about their impact on the natural world and look for ways of benefiting biodiversity, whilst reducing possible negative impacts.

To implement this new legislation the Scottish Government produced *'It's In Your Hands'* the Scottish Biodiversity Strategy in 2004.³³ The document puts forward a 25 year strategy to conserve and enhance biodiversity in Scotland. The Strategy presents a vision, aim, objectives, and broad directions for action, while supporting implementation plans provide the mechanism for prioritising action and delivering the aim and objectives.

The Strategy sets out to ensure that Scotland meets the international obligation arising from the United Nation's Convention on Biological Diversity, to which the UK is a signatory. To take forward the Convention, the European Union has set an objective in its 6th EU Environmental Action Programme.

Tayside Biodiversity Action Plan

Underpinning the Scottish Biodiversity Strategy is a raft of local biodiversity plans that covers the whole of the country. In Tayside, the Local Biodiversity Plan was produced in 2002 by the Tayside Biodiversity Partnership (TBP) and since then the TBP has made significant progress to implement its action plan and widen its area of influence within the local community. The TBP has been working in close partnership with SITA Trust to secure funding of £600,000 from 2005 to 2010 for the implementation of biodiversity projects throughout Tayside via the Tayside Biodiversity Action Fund (TBAF).

Three key priorities have now been set by the partnership for 2007-2010 from which all its priority projects and actions will stem - Awareness Raising, Practical Projects and Community Involvement.

The next three years will see the TBP focus strongly on implementing action, particularly on the key priority actions identified by the Partnership's sub groups. In particular, a limited number of species and habitat actions will be targeted to deliver practical outcomes. These species have been identified by the TBP as most important to Tayside and will help contribute to achieving the key targets for UKHAP priority habitats and species as well as those on the Scottish list of 'Habitats and species of principal importance'.³⁴

The River Tay

Dundee's position on the northern bank of the Tay provides an unrivalled setting for a city as well as being on the doorstep of an internationally important area for wildlife. The largest reedbeds in Britain are on the Tay and start at Invergowrie. Internationally important numbers

of over-wintering geese use the river to roost on and nationally important wader species are also found along the banks in Dundee such as the Bar-tailed Godwit and Redshank. The Tay also provides habitat for salmon, seals, dolphins and porpoises.

The Tay is also a Natura 2000 site and is part of a European network of protected biodiversity sites. Because of this status, there is an obligation by law to prevent any activities being undertaken which are likely to damage the value the Tay has for wildlife. It has national status through a number of SSSI's. The inner Tay SSSI (west of the rail bridge) and Monifieth Bay SSSI are of local interest and national importance. Local protection through strict planning policies is also afforded to the Tay, through the Dundee Local Plan.

Although Dundee's length of coast/estuary is relatively short, the city has and has had a major impact on the Tay. Infrastructural changes such as the recent improvements to the treatment of waste water have reduced impacts.

- The Tay Estuary Forum seeks to improve co-ordination and communication between interested parties to improve coastal zone management and participate in the emerging national debate on The Scottish Government's desire to designate a Coastal and Marine National Park by 2008.

Habitats and Species

Apart from a number of important habitat designations in the city there are several species of mammal occurring in the city which have European Protected Species status. These are; Otter, Bats and Dolphins / Porpoises. Red Squirrel, Swift, Salmon, Brown Hare, Peregrine Falcon and Sand Martins are national priority species and found in the Dundee area. There are also locally rare plant species found living in the city.

- Broughty Ferry Environmental Project has successfully involved local people in innovative biodiversity projects over a number of years. The sand martin nesting banks completed in April 2004, adjacent to the Tay at Broughty Ferry provided over 100 nesting sites for the birds in its first year. The project has been so successful that another nesting bank has been erected nearby and a number of habitat enhancements are taking place within the vicinity.
- The Sustain Dundee Red Squirrel Project was established in 2002 and seeks to protect and enhance the UK's only urban Red Squirrel Population. The project has been successful in attracting over £50,000 to the project and now employs a project officer. Working with housing developers at a red squirrel site, producing educational materials and supporting an active volunteer group are amongst its notable successes.

Added to these there are a myriad of not so rare species of mammal, bird, invertebrate and plant which go to make up the wide and interesting biodiversity of Dundee.

In 2000 a Habitats and Species survey was commissioned by the Council which built on previous surveys carried out in 1987 and 1993. The 2000 survey used a methodology to assess sites based on core nature conservation criteria, whilst considering the social value of sites. Sites of national and international importance were not included in the survey.

Thirty seven sites were classified as SINC's and CWS. Two Green corridors were also identified.

- The nature conservation interests of the Dighty green corridor are cared for by the Dighty Environmental Group. After a decade, the voluntary group is still going strong and involves people in practical conservation work along the Dighty's length.
- The Miley is managed by the Scottish Wildlife Trust and provides a vital green link towards The Law and Balgay park, as well as being important as a wildlife site.

- Ardler Environment Group are a group of residents who have taken the opportunity to protect their local biodiversity as a result of major regeneration in their area. They area supported by an urban ranger.

Dundee has three LNR's (Broughty Ferry, Trottick Ponds and the Inner Tay). LNRs are a statutory designation made by the Local Authority. Dundee City Council designated three of the top areas for wildlife in the city to give them added protection and for local people to enjoy.

Dundee Local Plan

The Dundee Local Plan was adopted in 2005. The plan protects wildlife sites through two major policies. Policy 70 - Semi Natural Greenspaces of Local Nature Conservation Importance - protects SINCs and CWSs from inappropriate development. The Dundee Local Plan also seeks to protect Green Corridors from adverse development. Policy 73 - Natural Heritage Designations of International and National Importance - protects the important sites on the Tay.

WHERE DO WE WANT TO GET TO?

"A city that has an attractive and sustainable urban environment with high quality open spaces and areas for recreation and where biodiversity is protected and enhanced."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
------------------	----------------------------------	--------------	-----------

Objective 1: Improve the quality and diversity of the city's open space and ensure that it is accessible and safe.

Revise and update the Dundee Open Space Strategy.	Publication of revised Dundee Open Space Strategy.	Dundee City Council - Leisure and Communities Dept.	2008
Prepare and implement a Development Plan for Camperdown Country Park including Templeton Woods and Clatto Reservoir in order to increase the use and perception of those using the park.	Increased use of Camperdown Park, Templeton Woods and Clatto Reservoir by Dundee residents. Increased enjoyment of those doing so.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
Undertake environmental improvements to Greater Balgay Park including improving access and bridge restoration.	Enhanced environment at Balgay Park and restoration of Bridge.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
Develop Interpretative materials and create educational resources linked to the redevelopment project at Broughty Ferry Esplanade to improve visitor experience.	Increased public understanding of biodiversity/flora/fauna present in Broughty Ferry Beach and Tay Estuary.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
To support an agreed action plan produced by the TWIG partnership to co-ordinate, facilitate and deliver where appropriate a range of greenspace projects in partnership with communities, agencies and business within Dundee.	Multi-stakeholder projects which contribute towards sustainable development in Dundee.	TWIG	2008
Investigate the feasibility of establishing a Green Gym project in partnership with BTCV.	Provision of pilot Green Gym project.	TWIG	2008

Continue to improve the quality of the city centre by maintaining existing provision and improve the level of amenity value as well as increasing the number of businesses involved in the hanging basket scheme.	Increased business involvement in hanging basket scheme. Improvement of City environment for residents of Dundee.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
---	---	---	-------------

Objective 2: Protect, manage and enhance the biodiversity and ecological value of Dundee.

Implement the Tayside Biodiversity Action Plan to: <ul style="list-style-type: none"> • provide continuity of effort and focus; • deliver projects that help to conserve and enhance Dundee's biodiversity; • facilitate effective community involvement; • raise awareness. 	• Continue to chair Urban Sub-group of TBP	Dundee City Council - Waste Management Dept.	2008-09
	• Utilise available funding from SITA to further biodiversity projects in Dundee.	Qualifying organisations including Sustain Dundee	2008 - 2011
	• Contribute to further Habitat and Species action plans as appropriate.	Tayside Biodiversity Partnership Urban Group	2008 - 2011
	• Dundee Red Squirrel Project - protect and enhance Dundee's Red Squirrel population.	Dundee Partnership for the Environment / Red Squirrel Working Group	2008 - 2011
	• Tayside Town Swift Project - Undertake survey in Dundee and promote projects which protect Swifts.	Tayside Biodiversity Partnership Urban Group, Countryside Ranger Service -	Ongoing - 2011
	• Reconnecting the Tay - Project to interpret international importance of Tay's biodiversity.	DPE, Countryside Ranger Service, Broughty Ferry Environmental Project	2008
	• Hourglass Project - protect and enhance dune ecosystem and associated habitats in Broughty Ferry.	Broughty Ferry Environmental Project	2008
	• Following the Life of Water (FLOW) - carry out this pond and wetland restoration project.	Broughty Ferry Environmental Project	2008 - 2009

	<ul style="list-style-type: none"> Giant Hogweed Project - To work in partnership with neighbouring landowners, Angus Council and other organisations to control and eradicate invasive species on the Dighty. 	Dundee City Council/Tayside Biodiversity Partnership Urban Group	2009 - 2011
Manage the sand martin nesting banks and the adjacent sand dune habitat and share our experience of good practice.	Increased numbers of nesting sand martins across Tayside and beyond and an increased appreciation and understanding of the sand martin and its requirements.	Broughty Ferry Environmental Project	2008 - 2011
Promote uptake of SEPA's Habitat Enhancement Initiative in Dundee through liaison with SEPA staff when suitable opportunities arise.	Promotion of best practice with wider benefits for environmental quality and associated biodiversity.	SEPA	2008 - 2015
Develop pilot projects to showcase best practice for biodiversity management within City Parks and greenspaces.	Increased biodiversity within City Parks and green spaces. Increased awareness of Dundee's credentials as a green city.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
Roll out Green Flag Awards programme across main City Parks aiming to achieve at least one Green Flag award per year.	Recognition of quality of city parks. Award of Green Flag to one City Park per year.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011

Objective 3: Raise awareness and encourage community and individual action to protect and enhance Dundee's open spaces and biodiversity.

Work with local groups and individuals to implement a variety of projects to protect and enhance local biodiversity.	Enhance the biological diversity of species designated by the Tayside Biodiversity Partnership and raise awareness of local biodiversity amongst local people.	Broughty Ferry Environmental Project	2008 - 2011
Develop ideas and raise funding to implement a community based interpretation and education programme to increase local	Ensure more sensitive use of the Tay by those wishing to see the dolphins and other marine mammals.	Broughty Ferry Environmental Project	2008 - 2011

people's awareness of the Tay as a marine/estuary ecosystem.			
Work alongside a variety of groups who do not normally engage with environmental issues, help them to develop projects, fundraise and implement project which enhance the natural heritage of their locality.	Increase the numbers and types of organisations which are implementing human scale, good quality environmental projects across the city.	Broughty Ferry Environmental Project	2008 - 2011
Continue to run regular Nature Nutters sessions for 8 – 12 year olds to enable them to learn practical skills in environmental management of a variety of urban habitats.	Generate a group of young people who have the skills and knowledge to undertake habitat management of various sites in the future.	Broughty Ferry Environmental Project	2008 - 2011
Encourage the work of local groups to improve Dundee's environment through the promotion of the Dundee Partnership Community Awards.	Greater recognition of the work community environmental groups do in enhancing the city's environment.	DPE	2008 - 2011
Assist Community Woodland Management Groups in creating amenity woodlands in the city.	Increase no. of woods adopted as community woodlands in Dundee and the number of community woodland networking events.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
Local Access Forum to assist with core path planning and advising on access issues.	Increased opportunity for community involvement in core path planning and access development.	Dundee City Council - Leisure and Communities Dept.	2008
Enhance Dundee's environmental reputation by participating in the Scotland and Britain 'in Bloom' competitions.	Continued and increased participation in Scotland in Bloom.	Dundee City Council - Leisure and Communities Dept.	2008 - 2011
Further enhance the environmental aspects of Dundee's Local Community Plans.	Local Community Plans for the eight decentralisation wards will be reviewed and supplemented over this period. A Community Planning Partnership will be established for	Dundee City Council - Leisure and Communities Dept.	2008 - 2011

	each ward.		
Investigate the feasibility of a biodiversity Trail base on the Green Circular to promote Dundee as a biodiver-city.	Report detailing opportunities to establish a biodiversity trail in Dundee produced.	Dundee City Council - Leisure and Communities Dept.	2008
Promote Summer Activity Programme and Watch Group which encourage local people to find out more about biodiversity.	Increased awareness and understanding of biodiversity in Dundee.	Dundee City Council - Leisure and Communities Dept.	annual - 2011
Facilitate further community involvement in biodiversity related projects through the TWIG partnership and incorporate biodiversity component within TWIG Action plan.	Development and incorporation of Biodiversity Actions into the Public Open Spaces Strategy.	Dundee City Council - Leisure and Communities Dept.	2008

KEY MEASURES

- ▶ Ensure all residents live within 400 metres of a publicly accessible green open space.
- ▶ Ensure that Broughty Ferry beach attains its Blue Flag Status in future years.
- ▶ Draft Core Paths Plan in place.
- ▶ Achieve the key targets relevant to Dundee as set out in the Tayside Biodiversity Partnership Species Priority Action List for Tayside.

BUILT ENVIRONMENT

INTRODUCTION

The quality of the built environment is vital to the future success of cities. Backed up by robust planning policies it has the power to significantly impact on successful urban regeneration and development, as well as the ability to attract and retain employers and investors in commercial, industrial and educational establishments, while providing quality living environments for a diverse population. Where people choose to live is reliant not only upon the geography and spatial connections of a place but also increasingly on the quality of life a place can offer in an age of advancing technologies. Visitors, tourists, local people and investors judge cities on the “sense of place” created by the environment. Buildings and places that 'fit' into an existing built environment or create a new positive character change negative perceptions into positive ones, engender greater community involvement, community pride and higher expectations for the future of their areas.

WHERE ARE WE NOW?

- ⇒ Dundee city centre is currently disconnected from the waterfront and the River Tay with sporadic quality developments appearing only loosely physically connected.
- ⇒ New generation of Masterplans covering a wide area are being developed at specific locations across the city.
- ⇒ Ambassador Routes into the city have been upgraded and the programme completed.
- ⇒ Education sector physical renewal programmes are underway.
- ⇒ Docks regeneration is ongoing and development of cultural city initiatives continues with the refurbishment of McManus Galleries.

WHAT IS BEING DONE?

National Planning Framework

Development of the second National Planning Framework is currently being progressed by the Scottish Government. This will go beyond a long term spatial development strategy for Scotland and will also identify projects of national significance to the Scottish Government.

The Dundee and Angus Structure Plan Panel has been formally dissolved in order to allow new strategic development planning arrangements to come forward as required by the Planning etc Scotland Act 2006. Dundee, Angus, Perth and Fife are identified as a Strategic Development Planning Authority, charged with bringing forward a City Region Plan for the Dundee City Region area. Necessary preparatory work is now in progress in anticipation of appropriate legislation in 2008.

National Planning Policy Guidelines (NPPG's) are being replaced by a raft of new Scottish Planning Policy documents (SPP's) including advice on Physical Activity and Open Space, Waste Management, Renewable Energy Greenbelts, Mineral Workings, Opencast Coal Mining, Planning and Flooding, Planning and Transportation, Environmental Assessment, Fish Farming and others.

Areas of historical importance or architectural merit are identified and protected by Conservation Area status and specific listed building classifications. Through the planning system efforts are being made to create 'the conservation areas of tomorrow' with high quality integrative contemporary developments of today.

Regeneration

One of the central features of successfully regenerating community areas in Dundee lies in close integration of landscape and open space development, as part of the physical environment, with wider social, economic and community development objectives. Initiatives which focus on environmental enhancement can reconnect especially important sections of the community through their own physical and artistic effort with the area in which they live. This has been and continues to be a valuable tool in major regeneration initiatives in areas such as Ardler, Mid Craigie, Hilltown, Kirkton and Stobswell.

The Central Waterfront

Regeneration of Dundee emphasises the importance of the city centre and arterial routes leading to its heart. The central waterfront initiative aims very high to display a new image of urban vitality through its buildings and places, remaking Dundee's connection to the River Tay. The Development Masterplan for the Waterfront area includes:

- the extension of the city centre's built form down to the waterfront;
- the creation of a new grid iron street pattern based on the historical routes to the north;
- improved provision of facilities for walking, cycling & buses
- the reduction of the existing environmental effect of cars & parking;
- the removal and replacement of some of the Tay Road Bridge vehicle ramps;
- the creation of a pair of east/west tree lined boulevards to replace the existing inner ring road;
- the formation of attractive sites for a variety of new mixed use developments;
- the creation of a major new civic space & re-opened dock stretching from the Caird Hall to the river;
- the provision of a new rail station & arrival space at the western edge of the area.³⁵

Progress with the Waterfront Masterplan continues apace concentrating at the present time on a mix of new development and important preparatory infrastructural changes. The arterial routes serve the dual purpose of enhancing opportunities for nature through the provision of green routes through the city leading down to the river, while promoting economic objectives of enhancing major access routes heavily trafficked by business, clients and customers.

Masterplans

An extensive range of masterplans implementing the vision of the Dundee Local Plan are being developed. This currently includes Masterplans for the Waterfront, Lochee, Stobswell, Whitfield and Hilltown all of which are well under way

Cultural Quarter

Development and enhancement of the Cultural Quarter through an impressive and significant programme of environmental improvements continues with attention to the Tay Street Lane area of the city. A guiding draft brief for development has recently completed the consultation phase.

University campuses

Both of Dundee's universities are making rapid progress with substantial campus development plans guided through their capital programmes. This will see significant improvement of the area south of Hawkhill, north of the railway line to the west of the waterfront area, within Blackness and the city centre around the Marketgate as well as the Parker Street area.

Victoria and Camperdown Docks

The approved brief recognised in principle the redevelopment of Victoria and Camperdown Docks for housing, hotel, office, retail, leisure and heritage purposes and that it offered a major opportunity to create a waterfront environment of the highest quality. Implementation of

the brief is substantially complete with each of the above uses now in place. In line with market demand the retail element is shrinking while office provision expands to take its place. The last phases of housing development are now under construction.

Public Art Programme

Dundee is well known for public art development and has been an example to many other cities in the UK. Artworks in civic spaces provide additional quality and individuality to their associated surroundings. This work, often based on ideas directly connected to Dundee encourages civic pride and enhances the visitors' experience of the city. Communities are encouraged to become directly engaged in the design and development of artwork for residential areas encouraging creative considerations about their surroundings. The resulting artworks and the continuing process of public art reflect the confidence that the city has in itself and its future. The investment in Public Art in the city still continues to grow under the Percent for Public Art Policy.

Sustainable Design and Construction

The construction industry can make a significant contribution in reducing the city's environmental impacts. In particular, reduction of waste sent to landfill, minimisation of basic resource use (energy, water and natural resources), maximisation of recycling of natural resources and reduction of harmful emissions to the atmosphere are all outcomes of the promotion of sustainable construction.

The Council's Architectural Services Division is amongst the leaders in Scotland in sustainable construction and was the first Scottish local authority department to achieve accreditation to ISO:14001 - an international standard for environmental management. The Council has also approved a Sustainable Development Guide for Construction which is issued to all private sector developers and sets out principles of sustainable design which the Council wishes them to follow. These principles cannot (presently) be enforced but it is hoped that by raising awareness much of the guidance will become embedded and will be the norm over time.

WHERE DO WE WANT TO GET TO?

"A city where the built heritage is valued and protected, where regeneration engenders quality and sustainably designed environments that in turn foster stable and attractive local communities."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
---------------------	-------------------------------------	--------------	-----------

Objective 1: Enhance the infrastructural and environmental aspects of the urban fabric.

Promote public realm and infrastructure improvements at Albert Square to improve Dundee city centre's attractiveness as a regional centre.	Comprehensive environmental improvements to Albert Square including the laying of high quality granite plaza areas and footpaths, together with new boundary walls, trees, shrubs and garden landscaping to complement the refurbishment of the McManus galleries.	Dundee City Council - Planning and Transportation Dept.	Ongoing - 2008
Support the Stobswell Partnership in implementing the Stobswell plan to promote clearance of derelict land, new housing development and a programme of tenement common repairs in consultation with the Stobswell Forum.	<ul style="list-style-type: none"> • more stable neighbourhood with greater housing choice • greater neighbourhood satisfaction • rising property values and lower turnover in residents • improved physical environment with no dereliction of land or property • reduced unemployment and easier access to training. 	Dundee City Council - Planning and Transportation Dept.	2009 - 2011
Implement the Lochee Physical Regeneration Framework.	<ul style="list-style-type: none"> • reverse the population decline in local communities and attract new people and new investment to the area, • contribute to the growth of the local economy as well as the city, • create new locations that will attract employment, tourism, learning opportunities and new investment, • encourage development of vacant 	Dundee City Council - Planning and Transportation Dept.	2007 - onwards

	brownfield sites that are adversely impacting on the image of the area.		
Hilltown and Lochee Masterplanning action	Hilltown consultation complete and under consideration. Lochee Masterplan consultation ongoing.	Dundee City Council - Planning and Transportation Dept.	2008
Publish Biodiversity Advice Notes and Householders Guide to Biodiversity.	Publication of Biodiversity Advice Notes and Householders Guide to Biodiversity. Increased biodiversity via encouragement of biodiversity enhancement measures.	Tayside Biodiversity Partnership	2008
Supplementary Planning Guidance: Open Space, Trees and Urban Woodlands.	Investigating the practicalities of area environmental and open space strategies.	Dundee City Council - Planning and Transportation Dept.	2008 - 2011

Objective 2: Ensure sustainable construction methods are adopted and promoted.

Raise awareness and promote the Dundee Sustainable Development Guide for Construction amongst private sector developers.	Developers will be assisted in adopting more sustainable approaches to how they plan and build at the earliest possible stage in the site planning and design process.	Dundee City Council - Support Services Dept. and Planning & Transportation Dept.	2008 - 2011
Continue to take a leading role in the Scottish Sustainable Construction Forum to promote carbon reduction measures in the building industry.	Greater awareness of sustainable design techniques and available construction materials.	Dundee City Council - Support Services Dept.	2008 - 2011

KEY MEASURES

- ▶ Infrastructural and environmental improvement projects completed.
- ▶ Production of Guidance and Advice Notes.
- ▶ Sustainable Construction Guide questionnaires submitted and measures successfully implemented.

EDUCATION & ENVIRONMENTAL RESPONSIBILITY

INTRODUCTION

The key to achieving many of society's environmental challenges lies in changing existing behaviour, habits and practices. The choices that people make every day as to what they buy, how they travel and the lifestyles they adopt all have impacts on the local environment and the wider world. Only by providing people with the knowledge to make informed choices about their actions, will widespread change occur. Change is being realised, however the rate of movement towards more sustainable living needs to be greater if society is to reduce its ecological footprint. Further education at all levels of society is therefore urgently required to influence behaviour, so that consideration to minimise environment impact becomes an unconscious effort and second nature in the day to day actions of individuals, organisations and businesses.

WHERE ARE WE NOW?

- ⇒ The Decade of Education for Sustainable Development was launched by the UN in March 2005.
- ⇒ There are over 2,500 Scottish schools registered with the Eco Schools programme and Scotland has the highest percentage of schools in Europe involved in the programme - 83%.³⁶
- ⇒ Dundee was declared Scotland's first Fair Trade City in March 2004.
- ⇒ The Freedom of Information (Scotland) Act 2002 and the Environmental Information (Scotland) Regulations 2004 give new legal rights to see information held by Scottish public authorities or other organisations which provide services for them.

WHAT IS BEING DONE?

Public awareness of environmental issues has increased in recent years as a result of greater media interest and better access to information and services. However much more needs to be done to provide information and education to all sectors of the community if Dundee is to become a truly sustainable city.

In a Scottish Government survey carried out in 2002 on public attitudes to the environment, 77% of those surveyed agreed that most people in Scotland today need to change their way of life so that future generations can continue to enjoy a good quality of life and environment. However, only 46% felt that they personally needed to change.³⁷ People's perceptions of the environment and their impact on it differ greatly and it highlights the need to raise awareness of the individual and collective impacts that the city's population has, not only locally, but on the wider world.

Access to Information

The Freedom of Information (Scotland) Act (2002) and the Environmental Information (Scotland) Regulations (2004) both came into effect on 1st January 2005 and gives the public a general right of access to all types of recorded information held by public authorities. Any person who makes a request for information must be informed whether the authority holds it and, subject to exemptions, supplied with that information. Under the legislation, public bodies will maintain a publication scheme to ensure that a significant amount of information is available without the need for a specific request.

A lot of environmental and wider sustainability information is held by the public bodies in Dundee that is available to the public, covering a range of issues from air quality, flooding and contaminated land through to biodiversity, urban design and population trends.

Formal Education

School education and the national curriculum play a large part in educating children and young people about the environment and sustainability. The more aware children are about issues relating to their environment and the wider world, the greater effect they can have on the behaviour of their parents, influencing them in turn to act in a more environmentally responsible way.

The Scottish education curriculum encompasses a number of issues which are related to environmental awareness. Curriculum materials for schools such as the Dundee Science programme have taken account of sustainability and include many references to a wide range of eco themes and issues. Programmes for Social Subjects explicitly refer to themes such as recycling and citizenship at community, local and global levels. Environmental issues are also included in other subjects such as English Language lessons, Drama, Music or through the Health programme.

Over the lifetime of this Strategy 'A Curriculum for Excellence' (ACE) will be introduced nationally, which offers great opportunities for a holistic, skills and values-based approach to educating young people to be 'responsible citizens, confident individuals, successful learners and effective contributors'. Dundee's secondary schools are taking forward the ACE approach in a number of ways including Fair Trade Stalls and an Eco Challenge where a morning of teamwork helps prepare primary pupils for transition to secondary school. Primary schools embrace the ethos of ACE through the education strategy of Learning Together in Dundee which involves pupils in working towards the four capacities above.

Dundee City Council's Education Department has strengthened links with a range of partners to draw in expertise and teaching resources for Sustainable Development Education. The One World Centre, Botanic Gardens, SNH, Grounds for Learning, Learning Through Landscapes, the Tayside Biodiversity Partnership and the Council's Countryside Ranger Service are just some of the partners the Department works with.

Eco Schools

Eco Schools is an international programme designed to promote environmental awareness in a way that links to many curriculum subjects, including citizenship; personal, social and health education (PSHE) and education for sustainable development. It is an accredited award scheme that encourages schools to make environmental awareness and action an intrinsic part of the life and ethos of the school. By involving pupils, teachers and other staff, together with members of the local community - parents, the local authority, the media and local businesses, Eco Schools help in raising awareness amongst children whilst improving each individual school's own environmental performance.

All Dundee schools have joined the programme, and as of March 2008, 23 schools have secured the Bronze Award, 7 gaining Silver Awards and two achieving the top award - the Green Flag.

National participation in the Eco Schools programme has risen in recent years as involvement in the programme has been adopted by The Scottish Government as a performance measure for one of their national priorities in education: 'national priority four: values and citizenship'. Local Authorities must now report on the number/percentage of primary and secondary schools within their authority that are participating in the Eco Schools Award or similar accredited environmental award.

Lifelong Learning

Nationally, the Scottish Government has set out how it intends to embed community learning and development more firmly within its priorities, by promoting 'social capital' - a way of working with communities to increase skills, confidence, networks and resources they need to tackle problems.

Through the Community Planning process, the Dundee Partnership has been charged with delivering community learning and development in Dundee. Building on past achievements, the Dundee Community Learning Strategy was published in 2005 along with a series of Community Learning Plans, one specifically on the environment and priorities for action for the DPE. Developed with the communities of the city, the plans set out the priorities and aspirations that will help individuals and communities tackle real issues in their lives through community action and community-based learning.

Environmental Education plays a part in this delivery process to increase the awareness of local community groups in the issues that affect their local environment.

One such success to date is the Dundee Fair Trade Forum, a group set up in May 2002 by the One World Centre to campaign to achieve Fairtrade City status for Dundee and promote and Fairtrade products that give a better deal to producers in developing countries.

Corporate Responsibility

All organisations and businesses play an important part in the local community and also have an impact on the environment from their use of energy, water and raw materials to the waste they create. More organisations and businesses are now adopting environmental policies and practices to reduce any negative impacts and as a measure of their corporate environmental responsibility.

An Environmental Management System (EMS) is one way in which organisations and businesses can improve their environmental performance. An EMS creates a system to identify an organisation's main environmental impacts and introduces targets and objectives for year on year improvements. 'ISO:14001' and the 'Eco-Management and Audit Scheme' (EMAS) are the two most commonly used environmental management programmes in Scotland. ISO:14001 is an international standard and increasingly recognised as a badge of excellence in the business community, whilst EMAS is a European system more often adopted by local authorities and other public bodies. Whilst not primarily designed as an educational tool, an EMS does make most employees aware of the environmental impact their organisation has, and engages the organisation's principal decision-makers in devising an action programme to mitigate them.

Adopting an Environmental or Sustainability Policy is another good way for organisations and businesses to show the public and customers of their commitment to environmental improvement. These usually include a Policy Statement backed up with an action plan that sets out how the organisation will minimise their environmental impact and report on their progress.

Strategic Environmental Assessment (SEA) legislation has been introduced into Scotland to ensure that the full environmental impacts of all new strategies, plans and programmes developed by the public sector are properly considered. In preparing these documents, extensive publicity and consultation is required to enable the public and interested organisations to comment on environmental assessment reports and receive explanations as to how their comments were taken onto account. SEA can therefore promote the timely disclosure of relevant information to the public in the decision making process. By giving an insight into environmental protection and long term environmental issues, SEA can help people to understand the final decisions on projects.

WHERE DO WE WANT TO GET TO?

"A city where citizens, organisations and businesses can gain a greater awareness and understanding of local and global environment issues that in turn encourage them to change behaviour and foster good environmental practices and decision-making."

HOW CAN WE GET THERE?

Action (Outputs)	What will be Achieved (Outcomes)	Lead Partner	Timescale
------------------	----------------------------------	--------------	-----------

Objective 1: Through local action, ensure Dundee citizens are aware of environmental issues that will enable them to make informed choices and foster individual responsibility for their environment.

Participate in the Sustainable Scotland Network's 'Local Footprints Project' to explore how the city's local and global environmental impact can be reduced.	The Ecological Footprint concept will be endorsed by the Dundee Partnership and used practically to increase understanding about the local and global impact of consumption and to inform decisions to reduce that impact.	Dundee City Council - Waste Management Dept.	2008 - 2009
Implement a Fair Trade Forum annual action plan.	<ul style="list-style-type: none"> • encourages organisations and businesses to promote and use Fairly Traded goods at every opportunity • celebrates Fairtrade Fortnight with a variety of events • updates the database of outlets making Fairly Traded goods available for sale • uses innovative projects which promote Fair Trade to schools, groups and individuals. 	Dundee Fair Trade Forum	2008 - 2011
Work in partnership with organisations in Dundee to seek financial support and submit funding bids for projects which contribute towards sustainability.	External funding is available to groups and projects which contribute to sustainable development.	Sustain Dundee	2008 - 2011
Promote Friends of the Earth Tayside and Greenpeace campaigns at local level.	Increased public understanding of the aims and objectives of Friends of the Earth	Friends of the Earth Tayside, Greenpeace	2008 - 2011

	Tayside and Greenpeace and environmental campaigns within Tayside.		
Continue and extend, as appropriate, the Countryside Ranger Service Events Programme of themed talk, walks and activities for the general public.	Residents and visitors will have a greater understanding of the environmental issues facing Dundee.	Dundee City Council - Leisure & Communities Dept.	2008 - 2011

Objective 2: Improve and enhance opportunities for environmental education, life long learning and access to information.

Produce an annual report to highlight the progress in implementing the Environmental Strategy.	The DPE is open and transparent and serves as a forum for debate and the exchange of information on environmental issues relevant to Dundee and the Dundee Partnership.	Dundee Partnership for the Environment	2008 - 2011
Raise awareness of environmental stewardship among children and young people by ensuring that all Dundee schools continue to participate in the Eco-school programme.	All pupils will have the opportunity to participate in the scheme thus improving the environmental performance of their individual schools and impacting on the local community.	Dundee City Council - Education Dept.	2008 - 2011
Further raise awareness of Sustainable Development Education (SDE) through Environmental Studies Programmes and Citizenship Network Co-ordinators Meetings.	SDE is a more explicit focus in Environmental Studies topics. Co-ordinators investigate further means of introducing SDE into the curriculum.	Dundee City Council - Education Dept.	2008 - 2011
To continue to explore ways of developing the capacity in a Curriculum for Excellence - to ensure that all young people become Responsible Citizens.	All staff are aware of, and are putting into practice, the guidance in 'A Curriculum for Excellence' regarding developing the capacity for pupils to become Responsible Citizens.	Dundee City Council - Education Dept.	2008 - 2011
Provide advice and support to Dundee's teachers on appropriate resources for topic work, subject areas and whole school	All staff are aware of the resource provision and advice available from the One World Centre.	One World Centre	2008 - 2011

initiatives that embed sustainable development education across the curriculum.			
Provide access to environmental information through: <ul style="list-style-type: none"> • New museum displays and galleries • Museum public enquiry service • Museum environmental collections through access to the new McManus Collections Unit 	The public will have easy access to the environmental and information collections held by McManus Galleries and Museum	Dundee City Council - Leisure and Communities Dept.	2008 - 2009
Seek to establish a Local Environmental Records Centre in partnership with appropriate bodies by 2009.	Organisations, decision makers and the public will have easy access to up-to-date high quality environmental information.	Dundee City Council -Leisure and Communities Dept.	2009
Raise awareness of renewable, sustainable and energy efficient products and services through the facilitation of tours of the Sun City House.	Increased understanding and interest in renewable, sustainable and energy efficient products and services.	Dundee Sun City	2008 - 2009
Dundee Voluntary Action actions - e.g. promote environmental volunteering opportunities/capacity building.	Promotion of environmental projects in Dundee and development of organisational capacity to manage projects and apply for funding.	Dundee Voluntary Action/Sustain Dundee	2008 - 2011

Objective 3: Dundee's public services and businesses will adopt good environmental practices and green their supply chains.

Undertake Strategic Environmental Assessment of the Council's strategies plans and programmes where screening deems necessary.	The Council's plan making process is improved by taking strategic appraisal of environmental issues early in the development of its strategies, plans and programmes.	Dundee City Council	2008 - 2011
Retain ISO:14001 accreditation for the	Council departments will have a system to	Dundee City Council Support	2008 - 2011

Architectural Services Division and achieve accreditation for the Engineers Division.	identify their main environmental impacts and introduce targets and objectives for year on year improvements.	Services	
Work with local SMEs in assisting them with their stewardship of the environment through safeguarding jobs, developing business opportunities and achieving best practice in business by realising the value of environmental management and awareness to the bottom line.	A showcase of environmental excellence within a variety of sectors where novel green technologies have been employed to protect/create jobs and maintained a competitive edge in an ever changing marketplace.	Abertay Centre for the Environment	2008 - 2011
Promote examples of local best practice through the Dundee Sun City website.	Sun City website will be updated regularly to include new examples of local best practice.	Dundee Sun City	2008 - 2009

KEY MEASURE

- ▶ Number of Dundee citizens participating in environmental education, to include:
 - Schools gaining Eco-School Awards.
 - People participating in Countryside Ranger events.
 - People undertaking environmental volunteering (as monitored by Volunteer Centre Dundee)
 - SME's assisted in improving their environmental performance (as monitored by ACE and SCARF)
 - Numbers of and types of requests for environmental information from the Environmental Records Centre (from 2009).

MONITORING AND REVIEW

In order for the Environmental Strategy to succeed and to retain widespread support, it needs to be seen as an effective communication tool and an influence on environmental decision making within the city. It will therefore be important that the DPE monitor the progress of the strategy and its effectiveness and use the process to evaluate and review progress to update objectives and actions as necessary through periodic review.

Monitoring

Monitoring of the Environmental Strategy will take place at two levels:

1. Progress with individual actions in each theme

Individual actions and initiatives are set out within each theme and describe the tasks that will work towards achieving the aims and objectives of the Strategy over a three year period from 2008 - 2011.

Each action sets out its task, timescale and lead partner with the responsibility for delivery of the expected outcome. The actions will be reviewed and updated yearly to gauge performance and identify those actions that have been carried out and what steps need to be taken to achieve those actions that have not been completed. The actions will also be incorporated into the Community Plan Monitoring Database.

2. Progress in achieving the Key Measures for each theme

As well as the actions, each of the eight themes contains a set of Key Measures to monitor progress towards the objectives and to allow assessment of whether the theme is contributing sufficiently to environmental improvement.

Review

The DPE will undertake a formal review of the Strategy at the end of year three, taking into account the progress made, changes in regional, national and international policy and also any new opportunities that could accelerate the pace of change.





Reporting

In keeping with the Partnership Agreement, described in the following pages, the DPE will produce an Annual Progress Report for the Dundee Partnership group. This will include and update on current progress with actions as well as a review of the Key Measures. An outline of actions for the following year will also be summarised and published.

PARTICIPATING ORGANISATIONS, FORUMS AND PARTNERSHIPS

<p>Abertay Centre for the Environment</p>  <p>ace abertay centre for the environment</p> <p><u>Contact:</u> University of Abertay, Kydd Building, Dundee DD11HG t: 01382 308995 e: w: www.ace.abertay.ac.uk</p>	<p>Abertay Centre for the Environment is an innovative knowledge centre based within the University of Abertay Dundee. ACE is designed to assist SME's across Eastern Scotland to access expert help in developing new, more environmentally friendly products and services through achieving best practice in business by realising the value of environmental management to the bottom line.</p>
<p>Dundee City Council</p>  <p>Dundee CHANGING FOR THE FUTURE</p> <p><u>Contact:</u> Waste Management Dept, 34 Harefield Road Dundee, DD2 3JW t: 01382 432787 e: bryan.harris@dundeecity.gov.uk w: www.dundeecity.gov.uk</p>	<p>Dundee City Council is the largest employer in Dundee and is responsible for the provision of a wide range of local government services throughout the city. The Council's environmental duties and services range from curriculum and outdoor education, management of parks, habitat and species conservation, improving energy efficiency to waste management and planning for future land use and transport infrastructure.</p>
<p>Dundee College</p>  <p>DUNDEE COLLEGE</p> <p><u>Contact:</u> Graham Street Campus, Graham Street, Dundee DD3 9AD t: 01382 834834 Ext. 5284 e: b.grace@dundeecoll.ac.uk w: www.dundeecoll.ac.uk</p>	<p>Dundee College is the sole further education college serving the city of Dundee and is the fourth largest college in Scotland. The purpose of the college is to provide high quality further education and training to the local community with a commitment to lifelong learning, open access and social inclusion. The college aims to align the curriculum to the needs of the different communities it serves and to apply the principles of sustainable development to college plans.</p>
<p>Dundee Sun City</p>  <p>dundee sun city</p> <p><u>Contact:</u> Dundee Sun City, c/o SCARF, Balgray Place, Dundee DD3 8SH t: 01382 833490 e: emorrison@dundeesuncity.org.uk w: www.dundeesuncity.org.uk</p>	<p>Dundee Sun City is a partnership between key agencies in the city interested in the promotion of renewable energy for the environmental, economic and social benefit of the city and her citizens. Dundee Sun City aims to put Dundee on the map as Scotland's first solar city through a co-ordinated approach to using energy efficiently and from renewable sources.</p>
<p>Dundee Voluntary Action</p>  <p>Dundee Voluntary Action</p> <p><u>Contact:</u> 10 Constitution Road, Dundee DD11LL t: 01382 305740 e: christinelowden@number10.org w: www.d-v-a.org.uk</p>	<p>Dundee Voluntary Action is one of over 50 Councils for Voluntary Service in Scotland who actively promote the interests and serving the needs of Dundee's voluntary sector. Their role is to advise and assist community and voluntary groups in the Dundee area through:</p> <ul style="list-style-type: none"> • Assisting groups to address local needs. • Helping them to shape and respond to local and national policy. • Support them to carry out their work effectively by developing appropriate services. • Providing advice and support on funding opportunities.

<p>Friends of the Earth Tayside</p>  <p><u>Contact:</u> e: m.anne.stuart@googlemail.com w: www.foe-tayside.org.uk</p>	<p>Friends of the Earth Scotland is an independent Scottish charity who stand for environmental justice and aim to make the right to a decent environment available to everyone in Scotland and around the globe. Friends of the Earth Tayside is one of nine local groups in Scotland who actively campaign to improve the environment in their own backyard, as well as joining in with campaigns nationally and internationally.</p>
<p>Learning & Teaching (Scotland) - Sustainable Development Education Liaison Group</p>  <p><u>Contact:</u> Development Officer Sustainable Development Education Gardyne Road, Dundee DD5 1NY t: 01382 443600 e: w.lynch@ltscotland.gov.uk w: www.ltscotland.org.uk</p>	<p>The Sustainable Development Education Liaison Group (SDELG) is funded by the Directorate General for Education and managed by Learning and Teaching Scotland. Its major responsibility is to facilitate the inclusion of sustainable development within the formal school curriculum.</p>
<p>NHS Tayside</p>  <p><u>Contact:</u> Kings Cross Hospital, Clepington Road, Dundee t: 01382 424035 e: lucy.rennie@thb.scot.nhs.uk w: www.nhstayside.scot.nhs.uk</p>	<p>NHS Tayside provides primary and secondary care services across Tayside with full supporting services to a population of approximately 400,000. Their objectives include achieving improvements to the overall health of Tayside's population, reducing health inequalities, nurturing a health improvement culture and promoting the highest possible quality of life for everyone in Tayside.</p>
<p>Scottish Environment Protection Agency</p>  <p><u>Contact:</u> 7 Whitefriars Crescent, Perth PH2 0PA t: 01738 627989 e: jo.long@sepa.org.uk w: www.sepa.org.uk</p>	<p>SEPA is the public body responsible for environmental protection in Scotland. Its main aim is to: "provide an efficient and integrated environmental protection system for Scotland that will both improve the environment and contribute to the Scottish Ministers' goal of sustainable development." In broad terms, SEPA regulates activities that may pollute water and air; the storage, transport and disposal of waste and the keeping and disposal of radioactive materials.</p>
<p>Scottish Natural Heritage</p>  <p><u>Contact:</u> Tayside and Clackmannanshire Offices, Battleby, Redgorton, Perth PH13ED t: 01738 444177 e: philip.gaskell@snh.gov.uk w: www.snh.org.uk</p>	<p>Scottish Natural Heritage is a Government body set up in 1992 and is responsible to Scottish Ministers. SNH has duties to conserve and enhance Scotland's natural heritage, help people to enjoy and understand it and to encourage others to use it sustainably.</p>
<p>Sustain Dundee</p>  <p><u>Contact:</u> Sustain Dundee, c/o Number 10, Constitution Street, Dundee DD1 1LL t: 01382 432785 e: alison.anderson@dundeecity.gov.uk</p>	<p>Sustain Dundee was established at the end of 2001 as an independent trust to act as a catalyst and funder for local community-based sustainability initiatives by securing landfill tax credits and other national funding. It aims to provide support and guidance to existing groups as well as encouraging joint ventures.</p>

<p>Tayside Biodiversity Partnership</p>	
 <p><u>Contact:</u></p> <p>Tayside Biodiversity Partnership c/o Environment Services, Perth and Kinross Council, Pullar House, 35 Kinnoull Street, Perth PH1 5GD t: 01738 476481 e: tayside.biodiversity@ukf.net w: www.taysidebiodiversity.co.uk</p>	<p>The Tayside Biodiversity Partnership was set up in 1998 with the aim of conserving and enhancing the region's biodiversity. This is being achieved through the coordination and implementation of the Tayside Biodiversity Action Plan (an ongoing process rather than a Plan in the conventional sense) to ensure that nationally and locally important species and habitats are conserved and enhanced through focused local action.</p>
<p>Tayside Foundation for the Conservation of Resources</p>	
 <p><u>Contact:</u></p> <p>Units 1 & 2 South Dudhope Mill, Douglas Street, Dundee DD1 5AJ t: 01382 228806 e: enquiries@tfc.org.uk w: www.tfc.org.uk</p>	<p>The Tayside Foundation for the Conservation of Resources (TFCR) is a Dundee-based registered charity whose purpose is to promote sustainable practices within the local community. TFCR offer a variety of services including Tayside Recyclers, Recycled items for sale, Computers and Computer Repairs, Recycling Services, Waste Consultancy Services and Educational Resources. Their approach to waste management covers the three areas of waste avoidance and minimisation, resource re-utilisation and resource recycling.</p>
<p>Tayside Police</p>	
 <p><u>Contact:</u></p> <p>Tayside Police H.Q. PO Box 59, West Bell Street, Dundee DD19JU t: 01382 591644 e: gavin.munro@tayside.pnn.police.uk w: www.tayside.police.uk</p>	<p>Tayside Police is responsible for the provision of policing services throughout Dundee. As well as their main purpose to uphold law and order they work with agencies across a wide range of community, wildlife and environmental interests develop effective partnerships, promote preventive strategies and encourage educational initiatives that improve the understanding of wildlife crime issues.</p>
<p>The One World Centre</p>	
 <p><u>Contact:</u></p> <p>189 Princes Street, Dundee DD4 6DQ t: 01382 454603 e: admin@oneworldcentredundee.org.uk w: www.oneworldcentredundee.org.uk</p>	<p>The One World Centre is a Development Education Centre set up in 1984 to raise awareness of global issues in Dundee. The Centre has a resource library with a wide range of information on global issues for use in schools and the community. The Centre workers lead workshops, run courses and events and campaign for a fairer trading system and for the cancellation of international debt.</p>

ABBREVIATIONS

ACE	A Curriculum for Excellence		SHQS	Sites of Importance for Nature Conservation
AQMA	Air Quality Management Area		SME	Small to Medium Size Enterprise
AWP	Area Waste Plan		SNH	Scottish Natural Heritage
BPEO	Best Practicable Environmental Option		SPA	Special Protection Area
CHP	Combined Heat and Power		SPP	Scottish Planning Policy
CO ₂	Carbon Dioxide		SSCP	Scotland's Climate Change Programme
CWS	Community Wildlife Sites		SSSI	Sites of Special Scientific Interest
DCEP	Dundee Community Energy Partnership		SUDs	Sustainable Urban Drainage Systems
DEEAP	Dundee Energy Efficiency Advice Project		TACTRAN	Tayside and Central Scotland Transport Partnership
DEFRA	Department for Environment, Food and Rural Affairs		TBP	Tayside Biodiversity Partnership
DERL	Dundee Energy Recycling Ltd		TEN	Tayside Environmental Network
DPE	Dundee Partnership for the Environment		TWIG	Trees, Woods and Greenspace Project
EAGA	Energy Action Grants Agency		WEEE	Waste Electrical and Electronic Equipment
EEC	Energy Efficiency Commitment		WIAT	Woodlands in and around Towns
ELV	End of Life Vehicle		WSAG	Waste Strategy Area Group
DERL	Dundee Energy Recycling Ltd			
EMS	Environmental Management System			
EMAS	Eco-Management and Audit Scheme			
FCS	Forestry Commission Scotland			
GHG	Greenhouse Gas			
HAP	Habitat Action Plan			
HECA	Home Energy Conservation Act			
IPPC	Intergovernmental Panel on Climate Change			
LEAMS	Local Environmental Audit and Management System			
LNR	Local Nature Reserve			
PPG	National Planning Policy Guidelines			
NTS	National Transport Strategy			
NHER	National Home Energy Rating			
PAN	Planning Advice Note			
PSHE	Personal, Social & Health Education			
RTS	Regional Transport Strategy			
RSL	Registered Social Landlord			
RTP	Regional Transport Partnership			
SAC	Special Area of Conservation			
SAP	Species Action Plan			
SPP	Scottish Planning Policy			
SEA	Strategic Environmental Assessment			
STPR	Strategic Transport Projects Review			

SEPA	Scottish Environment Protection Agency			
SET	Scottish Enterprise Tayside			

OUR PARTNERSHIP AGREEMENT

To demonstrate our commitment to Community Planning the members of the Dundee Partnership have agreed to:

- Work together to provide quality services for the community, where appropriate, that are integrated between the partners and other agencies;
- Combine resources to maximise the benefits provided by services to the individuals and communities of Dundee;
- Work together to consult with communities regarding their needs and expectations and the planning of services;
- Share information wherever possible to improve our understanding and the work we do;
- Promote the values of social inclusion, active citizenship, lifelong learning and sustainability within community planning;
- Work together to enable communities to play a major role in creating solutions to problems they face;
- Implement the programme of actions contained in our Community Plan;
- Monitor the progress of the actions contained with the Community Plan and report this to the community;
- Involve the community in evaluation of the success of the programme of action contained within the Plan.



REFERENCES

CHAPTER 2 - CLIMATE CHANGE

- ¹ Changing Our Ways: Scotland's Climate Change Programme, Scottish Executive, March 2006
<http://www.scotland.gov.uk/Publications/2006/03/30091039/0>
- ² Changing Our Ways: Scotland's Climate Change Programme, Scottish Executive, March 2006
<http://www.scotland.gov.uk/Publications/2006/03/30091039/0>
- ³ Key Scottish Environment Statistics 2006, Scottish Executive, August 2006
<http://www.scotland.gov.uk/Publications/2006/08/15095714/0>
- ⁴ Changing Our Ways: Scotland's Climate Change Programme, Scottish Executive, March 2006
<http://www.scotland.gov.uk/Publications/2006/03/30091039/0>
- ⁵ IPCC Fourth Assessment Report (AR4)
<http://www.ipcc.ch/index.htm#>
- ⁶ The Environment in Your Pocket 2006, DEFRA, October 2006
<http://www.defra.gov.uk/environment/statistics/index.htm>
- ⁷ Key Scottish Environment Statistics 2006, Scottish Executive, August 2006
<http://www.scotland.gov.uk/Publications/2006/08/15095714/0>

CHAPTER 3 - ENERGY

- ⁸ Department of Trade and Industry, 'Our energy challenge – securing clean affordable energy for the long term. The Energy Review,' Government consultation paper, January 2006.
<http://www.dti.gov.uk/energy/review/page31995.html>
- ⁹ Choosing Our Future: Scotland's Sustainable Development Strategy, Scottish Executive, December 2005
<http://www.scotland.gov.uk/Publications/2005/12/1493902/39032>
- ¹⁰ Key Scottish Environment Statistics 2006, Scottish Executive, August 2006
<http://www.scotland.gov.uk/Publications/2006/08/15095714/0>
- ¹¹ The Third HECA Progress Report for the Scottish Parliament, Scottish Executive, February 2005
<http://www.scotland.gov.uk>
- ¹² UK Energy in Brief, DTI, July 2006
<http://www.dti.gov.uk/energy/statistics/publications/in-brief/page17222.html>
- ¹³ UK Energy in Brief, DTI, July 2006
<http://www.dti.gov.uk/energy/statistics/publications/in-brief/page17222.html>
- ¹⁴ Scottish House Condition Survey: Fuel Poverty Report - 2003/04, Scottish Executive, November 2006
<http://www.scotland.gov.uk/Publications/2006/11/23092121/1>
- ¹⁵ UK Energy in Brief, DTI, July 2006
<http://www.dti.gov.uk/energy/statistics/publications/in-brief/page17222.html>

CHAPTER 4 - TRANSPORT

- ¹⁶ Choosing Our Future: Scotland's Sustainable Development Strategy, Scottish Executive, December 2005
<http://www.scotland.gov.uk/Publications/2005/12/1493902/39032>
- ¹⁷ Scotland's National Transport Strategy, Scottish Executive, December 2006
<http://www.scotland.gov.uk/Publications/2006/12/04104414/11>

-
- ¹⁸ Dundee City Council Local Transport Strategy 2000
- ¹⁹ Dundee City Council Local Transport Strategy 2000
- ²⁰ Leicester Environment Strategy
<http://www.environmentcity.org.uk/article.asp?ParentID=0&ArticleID=83>
- ²¹ Dundee City Council Local Transport Strategy 2000
- ²² Dundee City Council Local Transport Strategy 2000
- ²³ Scottish Transport Statistics, No. 25, 2006 Edition, Scottish Executive

CHAPTER 5 - WASTE

- ²⁴ The National Waste Plan, 2003
<http://www.sepa.org.uk/nws/guidance/nwp.htm>
- ²⁵ SEPA Waste Data Digest
<http://www.sepa.org.uk/publications/wds/index.htm>
- ²⁶ Waste Prevention Guide
<http://www.sepa.org.uk/nws/prevention/index.htm>
- ²⁷ SEPA Waste Data Digest
<http://www.sepa.org.uk/publications/wds/index.htm>

CHAPTER 6 - POLLUTION

- ²⁸ Audit Scotland Performance Indicators 2005/06
<http://www.auditscotland.gov.uk/performance/documents/2006report/councilsexcel/DC/WMDC06.xls>

CHAPTER 7 - NATURAL ENVIRONMENT

- ²⁹ Survey of Public Open Spaces and Sports and Recreation facilities, final report by System Three, 1998
- ³⁰ Scottish Forestry Grant Scheme Application 2005.
- ³¹ Scotland's Biodiversity: It's in Your Hands. A strategy for the conservation and enhancement of biodiversity in Scotland. Scottish Executive, 2004
<http://www.scotland.gov.uk/Publications/2004/05/19366/37239>
- ³² Scotland's Biodiversity: It's in Your Hands. A strategy for the conservation and enhancement of biodiversity in Scotland. Scottish Executive, 2004
<http://www.scotland.gov.uk/Publications/2004/05/19366/37239>
- ³³ Scotland's Biodiversity: It's in Your Hands. A strategy for the conservation and enhancement of biodiversity in Scotland. Scottish Executive, 2004
<http://www.scotland.gov.uk/Publications/2004/05/19366/37239>
- ³⁴ The Scottish Biodiversity List, Scottish Executive, 2005
<http://www.biodiversityscotland.gov.uk/pageType2.php?id=35&type=2&navID=92>

CHAPTER 8 - BUILT ENVIRONMENT

- ³⁵ Dundee Waterfront Masterplan 2001 - 2031
<http://www.dundee waterfront.com/waterfrontvisionmaster.htm#masterinfo>

CHAPTER 9 - EDUCATION AND ENVIRONMENTAL RESPONSIBILITY

- ³⁶ Eco Schools Scotland
<http://www.ecoschoolsscotland.org>
- ³⁷ Public Attitudes to the Environment in Scotland Survey 2002, Scottish Executive, January 2005
<http://www.scotland.gov.uk/Topics/Statistics/Surveys/15731/2968>