

A Climate Change Strategy for Hartlepool 2007 - 2012 hartlepool**partnership**



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hartlepool partnership

Foreword

I am delighted to introduce the Hartlepool Partnership's first Climate Change Strategy. Climate change is the greatest environmental challenge facing the world today. Raising global temperatures will bring changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather events. The effects will be felt here in the UK - Internationally there may be severe problems for the poorest people in regions that are particularly vulnerable to change.



People may well think that climate change is too big a topic for them to consider or for them to make a

difference, or that they might not be affected. But, for a coastal town like Hartlepool, climate change and its effects will have a very real impact. Sea levels are forecast to rise by almost a metre by the end of this century and this will undoubtedly affect our town unless active and positive change takes place now. Action by individuals, families, companies and organisations here in Hartlepool can have a big impact.

The UK Government is acting to adapt to climate change and to reduce our contribution to the causes of climate change. This country recognises that climate change is a global issue and can only be tackled in partnership with other nations.

In Hartlepool, by taking action now we can play our part. If every household, business and public sector organisation in Hartlepool took measures to reduce its carbon dioxide emissions by reducing energy used in the home and in buildings, changing how our journeys are made and embracing new technologies, we could make our contribution to tackling climate change. What's more, by reducing our energy use and minimising waste we can all save money. By working together in Hartlepool, we can affect change globally.



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Stuart Drummond Mayor and Vice Chair of Hartlepool Partnership



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Welcome to the Climate Change Strategy

for Hartlepool which has been developed by the Hartlepool Partnership, the town's Local Strategic Partnership (LSP). The Hartlepool Partnership understands that climate change is an issue which requires partnership action as no single organisation can address it alone.

The Hartlepool Partnership signed a declaration on climate change committing to take action to address the issue locally.



The Hartlepool Declaration on Climate Change

The Hartlepool Partnership recognises that Climate Change is likely to have an increasing impact upon society, the way we live our lives, earn our living and spend our leisure time.

We acknowledge that

The future is uncertain but we are convinced that climate change is happening and will become more pronounced in coming years.Hartlepool, with its history of manufacturing and its record of adapting to change, has the opportunity to lead into a low carbon future to combat climate change. Individual organisations have a responsibility to take an active role in adapting to and reducing the adverse impacts of climate change.

We welcome the

- Recognition by many sectors, especially government and business, of the need for change.
- National and international targets to focus action on reducing our future impact.
- Opportunity for Hartlepool to lead the response and thereby play a major role in helping to deliver the national programme.
- Setting of regional targets for emissions, energy efficiency and renewable energy to be agreed by the region and programmes for delivering change.
- Social, economic and environmental benefits which will come from combating climate change and moving towards a low carbon economy.
- Actions to reduce our climate change impact, especially where this involves responsible economic activity.
- Opportunity for responsible organisations to encourage and help local residents and local businesses to reduce their energy costs and traffic congestion, to improve the local environment and to deal with fuel poverty within our communities.

We commit ourselves to

- · Help secure a stable, safe, long-term future for all.
- Declare our commitment publicly to achieve a significant reduction of greenhouse gas emissions from our own operations, especially in energy consumption, transportation, waste and purchasing goods and services. Work within our local community to prepare a plan that addresses the causes and effects of climate change.
- · Monitor the progress of our plan and publish the results.
- A meeting with representatives from central government to discuss the plan and agree a timetable for action.
- Encouraging all sectors in the local community to reduce their own greenhouse gas emissions and to publicise their commitment to action.
- Providing opportunities for the development of renewable energy within our area.
- Work with key providers, including health services, businesses and development organisations, to assess the effects of climate change, and to identify ways in which we can respond.
- Contribute to innovative projects in Hartlepool that respond to the challenge of climate change.
- Work with others in the delivery of the UK climate change programme.

Iain Wright MP 8th October 2004 Chair of the Hartlepool Partnership

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What is climate change?

Climate is the long-term average of a region's weather and climate change can be described as any long-term changes or fluctuations in weather patterns. This includes changes in temperature, rain and snow, cloud cover or prevailing wind direction. Climate change happens naturally due to a variety of factors, such as changes in the earth's orbit around the sun.

The term global warming is generally used to refer to the warming of our global climate which has been identified since the early part of the 1900s. The changes we have seen over recent years and those which are predicted over the next 80 years are thought to be mainly as a result of human behaviour rather than due to natural changes in the atmosphere. Since industrialisation humans have substantially altered the properties of the earth's atmosphere by burning large quantities of fossil fuels such as oil, gas and coal.

Climate change is the greatest challenge of the industrialised world.
 (Gordon Brown, September 2007)

This stark statement is a reminder that we need to act. The report from Sir Nicholas on the Economics of Climate Change (Stern Review, 2006) concludes that

⁶⁶ There is still time to avoid the worst impacts of climate change, if we act now and act internationally. **??**

The aim of this strategy is to set Hartlepool on the right track to both reduce its impact on the climate and to be prepared for changes already taking place.

It is easy to think that melting polar ice caps is happening thousands of miles away and has little to do with Hartlepool. However it is caused by many of our every day activities and if it continues will change how we live our lives.

Using electricity generated from fossil fuels adds to the amount of greenhouse gases released, and trees which can act as a sponge to soak up carbon dioxide (CO₂) have been cut down to provide more land for agriculture. Every plastic bag we use to carry our shopping for example is made in part from oil, and the new agricultural areas in the tropics which have been cleared of trees are often used to grow crops we eat.

In the recent past there has been some debate as to whether the climate is changing and how the impact of our activities were involved. The vast majority of scientists now agree that climate change is happening and has been exacerbated by human activity, indeed the Stern Report says "The scientific evidence that climate change is a serious and urgent issue is now compelling."

"We've reached the point where it's only by including human activity that we can explain what's happening."

(Dr Geoff Jenkins, Hadley Centre).







The Greenhouse effect

The greenhouse effect is a natural mechanism that keeps the earth warm. The layer of gases acts like a blanket to keep the earth warm, and without it the earth would be $20 - 30^{\circ}$ C cooler than it is now and would be a frozen lifeless planet.

Global warming

Accelerated global warming has occurred because there has been an increase in the amount of greenhouse gases in the atmosphere caused by human activities such as burning fossil fuels. Excessive greenhouse gases in the atmosphere enhance the greenhouse effect by making the 'blanket' more effective; this prevents even more outgoing heat (infrared radiation) from escaping. This causes some of the heat to be retained leading to global warming and changes to the earth's climate.







Greenhouse gases

The gases collectively known as greenhouse gases are Carbon Dioxide, Methane, Nitrous Oxide, Hydro fluorocarbons (HFCs), Per fluorocarbons (Paces), Sulphur Hexafluoride, water vapour and ozone. The diagram below illustrates that almost a quarter of all our greenhouse gas emissions in the UK are as a result of our need for power, i.e. the generation of electricity.

The greenhouse gases already released into the atmosphere have determined the changes to our climate for the first half of this century. "On current trends, average global temperatures will rise by 2 - 3°C within the next fifty years..." (Stern Review, 2006).

It will have a significant effect on our planet.







The evidence

Two hundred years ago, before the start of the Industrial Revolution, the level of CO₂ in the atmosphere was approximately 270-280 parts per million (ppm). It reached 360ppm in the 1990s and recently climbed to a high of 379ppm (www.bbc.co.uk), other evidence of climate change includes:

• Concentrations of greenhouse gases are now higher than at any point in the last 800,000 years. This is higher than at any time that humans have been around.

- Global temperatures have risen by 0.6°C during the last century.
- Temperatures are forecast to rise by about 3°C during this century.
- The ten warmest years on record have all been since 1990. Six of the ten warmest years on record in the UK were between 1995 and 2004.
- Between 4th and 13th August 2003, there were over 2,000 excess summer deaths in the UK as a result of the prolonged heat wave (Johnson et al, 2005).



(Brohan et al., 2005).

The information in the above diagram is based on regular measurements of air temperature at land stations and on sea-surface temperatures measured from ships and buoys. The diagram illustrates that there has been a general trend of increased temperature compared to the average (0.0) from 1980 onwards.





Why do we need to tackle climate change?



Climate change has been described as one of the most serious threats facing the world's environment, economy and society. But if we all act, the world can avoid its worst effects. The devastating floods, droughts and storms we have seen in the UK and across the world in recent years show all too clearly how vulnerable we are to climate extremes and how devastating they can be. We have been warned that things will get worse. We have to take practical action to deal with flooding and severe weather. However, we also need to tackle climate change by cutting the greenhouse gas emissions that cause it.

(DETR, 2000)

Clearly, the Hartlepool Partnership on its own cannot influence the world climate, but the world's climate does affect Hartlepool and adverse weather prospects will have a social and economic influence on the town. It is the responsibility of the Partnership to do what it can to contribute to the national and international efforts to reduce global warming and to develop local strategies to deal with the consequences of climate change.

The Hartlepool Partnership signed the Nottingham Declaration on Climate Change in 2004 which commits the Partnership to:

- Establishing a baseline of greenhouse gas emissions from the town
- Developing an action plan to reduce emissions
- Developing actions to adapt to climate change

After signing the declaration this strategy is the second step along the route. An action plan will follow which will set specific objectives and targets for all of the organisations represented on the Partnership to work towards and report progress.



What are the anticipated impacts of climate change?

The exact impacts of climate change on the UK are uncertain but some are predictable, and some are already known:

Deaths related to excess heat are likely to increase, although fewer winter deaths are likely.

In the UK we have seen an increased frequency of summer heat waves with less rain. This increases the chances of drought, crop failure, loss of native trees and shrubs prone to drought, increased skin cancer and more cases of food poisoning.

Sea levels are rising around our coast. This causes increased erosion of the coastline, loss of cliff-top properties, flooding of valuable coastal ecosystems, flooding of low lying areas and detrimental eff ects on tourism due to loss of coastal resorts.

The weather is becoming increasingly unpredictable, with more intense rainfall resulting in flash floods, stronger winds and hurricanes, and higher temperatures including heat waves and droughts all being experienced. For example the autumn and winter floods in 2000 in the UK were the worst for 270 years in some areas. Flooding on farmland cost the farming industry nearly \$500m. **Coastal waters** are warming, which may be nicer for paddling, but means that the fish species living there are negatively affected, the knock on effect is that many sea bird colonies have insufficient food.

There are now fewer frosts and cold spells, this affects our native animals and plants. For example, warmer winter temperatures may have disastrous consequences, including possible extinction of species that hibernate. More insects will survive the milder winters and we will be more prone to infestations.

Egg laying dates of 20 bird species are 4-17 days earlier than 25 years ago. The average sea level around the UK is now about 10cm higher than it was in 1990 and is expected to increase further.

There may be more infrastructure failures, where roads melt and drains overflow.

Winters in the UK have become wetter, with more rain falling in heavy downpours. This will get worse as global warming increases and people will be more at threat due to flash floods, damage to property, loss of life and increased insurance costs.

(www.climatechallenge.gov.uk and Environment Agency)





What are the impacts on Hartlepool?

Specific data for the impacts on Hartlepool are not readily available, but information is available on a regional basis which gives a good indication of the potential impacts.

Temperature change in the North East has been monitored by Durham University since 1847. These records show that over 150 years there has been a warming trend resulting in an overall increase of 0.5°C. The majority of this 'warming' has taken place since 1930. The 1930s and 40s were especially warm. There was a cool trend in the late 1960s and early 1970s, and more recently over the past 15 years very high temperatures have been recorded.

Between 1900 and 2000 the North Shields tide gauge recorded a sea level rise of approximately 20cm. The impact of extreme tides and storms and sea level rise could increase erosion.

Possible climate change scenarios for the North East region.



The North East in the 2080s?

	Low Emissions Scenario	High Emissions Scenario
Average Annual Temperature Increase	1.5°C to 2.0°C	3.0°C to 4.0°C
Average Winter Temperature Increase	1.0°C to 2.0°C	2.5°C to 3.0°C
Average Summer Temperature Increase	1.5°C to 2.5°C	3.5°C to 4.5°C
Average Winter Precipitation Increase	5% to 15%	15% to 30%
Average Summer Precipitation Reduction	-15% to -25%	-30% to -50%
Sea Level Rise	6 cm	66 cm
Snowfall Reduction	-45% to -60%	-90% to 100%
Changes in average length of thermal growing season	30 - 50 days	70 – 100 days

(Sustaine, 2002)

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The potential knock on impacts, both positive and negative of such changes will include:

- Incidents of skin cancer, cataracts and food poisoning will increase
- Increased respiratory problems associated with traffic pollution and sunshine
- Damage to coastal habitats
- Migration of new species to the North East alongside a detrimental impact on some fish populations
- Increased tourism opportunities
- Times of planting and harvesting may change as the growing season lengthens
- Different pest species
- Water demand may increase
- Flooding events may become more common
- Sewers may not have the capacity to cope with storm events and may overflow
- Cliff and beach erosion may increase resulting in higher costs in maintaining sea defences
- Changes in energy use as winter heating use reduces and demand for air conditioning in summer months rises
- Increase in insurance claims and cost of insurance owing to weather events
- Disruption to transport networks, energy supplies and communications infrastructure through more extreme weather events
- Injuries from gale force winds, flooding and other extreme weather events may increase
- Condensation, damp and mould inside buildings could increase

(Sustaine, 2002).



Service providers and climate change?

All service providers need to be aware of climate change for two reasons:

- 1 To be aware of the impact of their operations on the climate
- 2 To be aware of how their operations and customers might be affected by the impact of climate change.

The following table represents some of the potential impacts upon the town's service providers' activities and responsibilities.

Organisation or service	Potential impact
Police	Whenever there is an emergency situation such as storms, flooding or blocked roads, the police have a public order and protection role to play. Increased storms will result in an increased demand on the Police Service and is likely to have an impact on training needs.
Fire Service	The Fire Service provides a front line response to natural disasters. Their work may include search and rescue or dealing with flooding and structural collapse. In recent years, severe floods in Boscastle, Glastonbury and Carlisle have stretched our emergency services to the limit.
Health and social care providers	The change in weather conditions will have an impact on people's physical and mental health. Incidents of skin cancer and cataracts are likely to increase so more treatment will be required, as will prevention related information.
Education and training providers	Through innovative design and management of their estates schools and colleges can ensure that they tackle issues of increased consumption and reduce carbon emissions. The use of renewable technologies can also provide a rich learning resources for teaching of science, geography, design and technology, citizenship and mathematics.
Housing	Social landlords have a responsibility to ensure that their properties are energy efficient and built to withstand the projected changes in our climate. They also have an important leadership role to play in providing information on the energy efficiency of the houses they rent out and in changing the behaviour of residents and organisations in the neighbourhoods they serve.
Planning	The Council's Planners will need to work with developers to ensure all new buildings are designed to the highest standard of energy efficiency and sustainable construction techniques are used throughout. Strategic Flood Risk Assessment will be used to match the flood vulnerability of a development to the likelihood of it flooding. Development of lower risk sites should normally be the preferred option. However, with suitable mitigation, essential development within high-risk areas might be permissible.

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Transport and Highways	Nearly 20% of the emissions of greenhouse gases in Hartlepool in 2003 arose from transport sources. There is an urgent need to reduce private car travel wherever practical by providing integrated and affordable alternatives, even though car ownership is below the national average in Hartlepool.
	Service providers need to work closely with people who do not currently use public transport to find out what would make it a more attractive option to them. Services need to be well integrated and reflect people's travel patterns and needs.
	There is a need now to respond to the needs of public transport providers rather than the private car user in order to help facilitate an integrated transport system.
	As climate change will result in more frequent and more intense storms it is imperative that drains remain free of blockages and that sustainable drainage systems are installed. Increased frequency and intensity of storms and hotter days in summer months are also likely to lead to damage to the highways network causing disruption to the flow of traffic.
Environment Health Officers The Environment Agency.	 Environmental Health Officers at the Council will be aware that changes in weather patterns will have an impact upon food storage in commercial properties for example. The Environment Agency and the Council both have preventative and reactive roles in relation to flooding. Both organisations have a regulatory function relating to emissions to the atmosphere from discrete sources. Water quality and quantity will need to be carefully monitored and protected in future years as rainfall patterns change, for both environmental reasons and for human use. Changes in climate will impact upon habitats and species, particularly those at risk
	already. Some habitats and species will benefit from climate change, others will suffer.
All service provider - energy	Decreasing energy use, by being more energy efficient or switching to 'green' energy decreases the amount of greenhouse gas emissions produced. All organisations and businesses operating in Hartlepool have a role to play in reducing their energy use, and switching to 'green' energy.
All service providers - waste	The majority of Hartlepool's household waste, following recycling and composting, is treated at the Energy from Waste Plant at Haverton Hill. Reusing and recycling leads to less resources being required to produce new goods and a reduction in associated emissions. Technologies such as energy-recovering incinerations also help to reduce emissions.
	When waste is disposed of by landfilling it rots and generates greenhouse gases so this option should be avoided where possible. Although a relatively small proportion of the waste generated in Hartlepool is landfilled, it should be treated as a last option.
	The actual amount of waste from all sources should be reduced, and when waste is generated it should either be treated as a resource and re-used or recycled wherever possible.



What is already being done to tackle climate change?

World wide

The Kyoto Protocol was originally agreed in 1997 but only came into force in 2005 when it was ratified by 55 countries, which accounted for 55% of emissions. The protocol includes a binding global target for decreasing greenhouse gases by 5.2% over the period 2008-2012 based on 1990 emissions (Energy Saving Trust). All 15 European Union states had ratified the protocol by 2002, however only four of the states are on track to meet their targets.

(www.bbc.co.uk).

Nationally

Under the Kyoto Protocol, the UK has a target to reduce greenhouse gas emissions by 12.5% based on 1990 levels. In addition the government's Energy White Paper of 2003 also set an aspirational target of a 60% decrease by 2050.

'Energy Efficiency: The Government's Plan for Action' was then published in 2004 and sets out how the Government aims to cut carbon emissions by over 12 million tonnes of carbon per year by 2010. This is 20% greater than the original Energy White Paper figure of 10 million tonnes and will save households and businesses over £3 billion per year on their energy bills by 2010.

Government policies relating to climate change include measures to promote energy efficiency in homes and businesses, introduce industry to the benefits of emissions trading, increase the share of electricity generated by renewable resources, encourage the take up of less polluting vehicles, and encourage individuals and communities to consider how to reduce carbon dioxide emissions for example through the work of the Energy Saving Trust.



In order to encourage businesses to take up this challenge, not only to save money but also to conserve natural resources and protect the environment, the UK government introduced the Climate Change Programme in April 2001. The Climate Change Programme includes the Climate Change Levy (CCL), a tax on the business use of energy providing an incentive to cut usage. The aim of the levy was to save at least 5m tonnes of carbon a year by 2010. To 2005 the levy had cumulatively saved 16.5m tonnes of carbon. For more information on the Climate Change Programme, visit www.defra.gov.uk/environment/climatechange/ index.htm

The Department for Environment, Food and Rural Affairs (DEFRA) published the Government's strategy for Combined Heat and Power (CHP) to 2010 in April 2004. The strategy incorporates the full range of support measures to support the growth of CHP capacity needed to meet our CHP target, and lay the foundation for long-term growth in CHP.

In March 2007 Defra published a draft Climate Change Bill, the first of its kind in any country. This bill provides a legal framework to manage future emissions. The Climate Change Bill makes challenging carbon dioxide reductions targets for



2020 and 2050 legally binding. This Bill requires the UK to reduce carbon dioxide emissions through domestic and international action by 60% by 2050 and 26-32% by 2020, against a 1990 baseline. Although recent research suggest this reduction target should now be between 70% - 90%.

In the North East

In 2002 the regional partnership for sustainable development Sustaine, published a report on climate change in the North East 'And the weather today is...' (Sustaine, 2002) which was intended to raise awareness of climate change and help people preparing policies, plans and projects in the region.

Sustaine has now appointed a Regional Climate Change Co-ordinator to take this work forward and develop an action plan for the region in partnership with other organisations in the region.

In the Tees Valley

The Tees Valley Climate Change Partnership (TVCCP) includes the five local authorities, Environment Agency, Renew Tees Valley, Tees and Durham Energy Advice (TADEA) and Scottish Power, and this group with the Tees Valley Climate Change Co-ordinator, has prepared a sub-regional Climate Change Strategy. The aim of the strategy is to facilitate co-operation of all individuals and public and private bodies together, to safeguard the future of the Tees Valley. The TVCCP believes that all businesses, organisations and households have the potential to become low carbon, and benefit from the financial and societal gains that this way of life will bring. A low carbon economy will result in increased resource efficiency, leading to competitive and innovative businesses, low fuel bills, communities that are affordable and healthy places to live, learn and work.

The strategy commits partners to working towards a minimum annual reduction of carbon dioxide emissions of 1.25% until 2012, and for each to monitor their own organisations' CO₂ emissions. Reaching this target would achieve an 8.75% reduction by 2012, and a further 27% by 2030. The targets will be achieved through energy efficiency, changed habits and routines, innovation, and adaptation.

In Hartlepool

The Hartlepool Partnership signed the Hartlepool Declaration on Climate Change in October 2004. By signing the declaration the Partnership agreed a commitment to:

- developing a climate change strategy across all elements of and sectors in the Partnership
- establishing a baseline of greenhouse gas emissions for the town
- developing a community action plan to reduce emissions and adapt to climate change.



Hartlepool's greenhouse gas emmissions

A vital part of any climate change strategy is to have an accurate inventory for a baseline year. This enables the identification of the main energy using sectors, and allows us to set reduction targets and benchmark to allow for meaningful comparisons of emissions over time. This strategy uses the Tees Valley Emissions Inventory (TVEI) and Emissions Reporting Protocol (ERP) to assist us in reporting emissions (Tees Valley Climate Change Strategy Supporting Document).

A baseline has been developed which captures the most significant sources of greenhouse gas emissions arising from activities in Hartlepool.

An Emissions baseline for Hartlepool

Emissions of greenhouse gases in CO₂e by various sectors in Hartlepool during 2000. (Tees Valley Climate Change Strategy, 2006).

	Fuel Type	kTonnes of CO ₂	kTonnes of CO ₂ per category	% of CO ₂ per category
Domestic Energy Use	Gas Electricity Solid Fuel Fuel Oil	139.4 63.6 1.1 2.5	204.1	27.8
Industrial and Commercial Energy Use	Gas Electricity Solid Fuel Fuel Oil	118.9 163.4 74.2 19.3	375.8	51.1
Personal Transport	Bus Diesel Car Petrol Car Motorcycle	8.5 13.0 74.2 0.3	96.6	13.1
Freight Transport	HVG Diesel LGV Petrol LGV	22.5 16.2 2.4	41.1	5.6
Household Waste	Landfill Incineration Recycle Compost	3.6 10.0 0.0 0.0	13.6	1.9
Non-Household Waste	Landfill Incineration Recycle Compost	0.0 1.1 0.0 0.0	1.1	0.1
Transport of Waste	Litres of Diesel	0.5	0.5	0.1
Major Industry	Major Industry	130.0	130.0	15.0
	Total	865.288		
	Total - Major Industry	735.288		



Reduction Targets

The Tees Valley has committed to an ambitious target of 1.25% annual reduction, this will achieve a minimum of 8.75% reduction in CO₂e (Carbon dioxide equivalent). For 2012 – 2030 the long-term minimum target will be 27%

which is an annual target of 1.5%. Both targets will help Hartlepool to contribute to the long-term delivery of the national CO₂ reduction target of 60% below 1990 levels by 2050.

Hartlepool short-term emission reduction targets (tonnes of CO₂e, based on a 1.25% annual decrease.) (Tees Valley Climate Change Strategy, 2006)

CO2e Emissions (tonnes)	
2000 Baseline	735,288
Average annual reduction 2006 - 2012 (1.25%)	9,191
Total reduction required 2006 - 2012 (8.75%)	64,337

In addition we have aspirational short-term and long-term emission reduction targets. The short-term aspirational annual emissions reduction target is a 2% reduction from 2000 levels each year (total net reduction of 14%). The long-term aspirational emissions reduction target is a 2% reduction from 2000 levels each year (cumulative net reduction of 50% below 2000 levels from 2006 – 2030.)





From an analysis of the issues, potential impacts and baseline information, the Hartlepool Partnership has agreed an aim for this Climate Change Strategy and a set of associated objectives.

Aim

Hartlepool will be prepared for the impacts of climate change and will be working in partnership to secure local and global action to tackle it.



Objectives

A number of objectives have been identified to achieve the aim:

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To safeguard and enhance Hartlepool's competitiveness, encourage technological innovation and support the development of clean technology.

To ensure effective climate change 2 communication so that Hartlepool's young people, residents, businesses, communities and organisations understand the issues and challenges ahead, recognise what needs to be done to tackle the issue and what they can do themselves.



To minimise the health impacts of climate change and ensure those most vulnerable are not differentially affected.

To put in place robust integrated emergency management and seek to ensure a greater targeting of spending to reduce the risks associated with climate change.

To make better use of natural resources, reduce the generation of waste and maximise recycling.

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To reduce green house gas emissions, minimise energy use and increase the use of alternative and renewable energy.

Work in partnership to combat the effects of climate change on natural habitats and the plants and animals that rely upon them and act to reduce those pressures which are under our control and build greater resilience into natural ecosystems.

To promote sustainable patterns of development and movement and minimise the adverse impacts of transport on climate change.

To ensure that every home is adequately and affordably heated and that new build is low carbon and highly energy efficient.





Consultation is a vital part of the process as it enables everyone to get involved and input into the strategy, and to gain commitment from all sectors of the community.

The Consultation Exercise

Consultation on Hartlepool's first Climate Change Strategy ran until 13th April 2007.

A public consultation event was held at Hartlepool Maritime Experience on Tuesday 3rd April 2007. The event was open to members of the public, the voluntary sector, businesses and organisations. A variety of workshops took place to discuss how climate change might affect Hartlepool and what could and should be done. Participants were asked to complete a consultation response form.

34 responses were collated and a report is available on the Hartlepool Partnership website at www.hartlepoolpartnership.co.uk



Mitigation: reducing greenhouse gas emissions

We all need to reduce our current greenhouse gas emissions in order to prevent our climate from changing even further in the future. Only when all sectors of the community act will action against climate change be truly effective, preventing further climate change can be achieved if all individuals, communities and organisations across the world take action now.

Buildings

Significant new build and housing market renewal is taking place across Hartlepool to provide a wide choice of housing within mixed sustainable communities. It is vital that these homes are built in a sustainable way that minimises their other environmental impacts, such as the water they use, the waste they generate, and the materials they are built from.

Older buildings and houses should be insulated and draught proofed to the highest standard. Heating and cooling systems should use the most efficient systems possible etc.





Waste

Waste from all sources should be reduced as far as is possible, all remaining waste should be recycled or re-used, and where this is not possible, treated in the most sustainable way. Linking up waste streams will help, that is linking organisations so that waste is traded as a raw material or resource.



Mitigation: reducing greenhouse gas emissions

Transport

The use of private cars should be minimised and in order for this to become a reality integrated public transport systems need to be supported. Public transport must be efficient, effective and affordable for people to use it as their first choice. It is practical to assume that there will be a need for the private car, so alternative clean fuels ought to be developed and promoted.

Organisations and businesses in Hartlepool which operate a fleet of vehicles need to be aware of their impact. Reducing travel to only that which is necessary will reduce cost, time and emissions; moving from conventional fuels to bio-diesel or auto-gas can also help to reduce emissions.





Purchasing

All organisations and businesses ought to have implemented sustainable procurement policies to ensure they gain long term value for money, the products and services they procure have limited impacts upon the community and environment locally and further afield and that their impact on the climate is minimised. A sustainable procurement policy would for example, include switching to 'green' energy or on site micro-generation.





Case studies

These are examples of what local organisations and individuals are doing to reduce their greenhouse gas emissions.

How Hartlepool Borough Council is making a difference

'Councils owe it to the community to take on the challenge of climate change with strong commitment and leadership. Whatever a local authority has or has not done in the past, now is the time to start action on climate change' (Leading the way: how local authorities can meet the challenge of climate change, LGA, 2005).

Hartlepool Borough Council in its role of community leader is championing the response to climate change in Hartlepool. As the largest employer in the Borough, Hartlepool Borough Council has the ability to change both attitudes and behaviour to energy efficiency in the workplace and the home. The council is committed to managing its own estate and providing services in the most sustainable way and as a result minimising its future impact on the climate. Heating and cooling systems will be operated as efficiently as possible. In April 2006, Hartlepool Borough Council switched to a green electricity tariff. Five schools in the Borough opted out, however. The overall contribution of these schools is in the order of 10% of the electricity used by the Council. By switching to a 100% green electricity tariff, Hartlepool Borough Council will save just under 550 tonnes of CO₂e (Carbon dioxide equivalent) based on consumption patterns over the period 2005-06.



The council plays an active role in the Tees Valley Climate Change Partnership to work with the other Tees Valley local authorities and Local Strategic Partnerships in the sub region to tackle climate change together. Hartlepool has successfully achieved a 2 million litre reduction in water consumption over a 5-year period. Whilst water consumption cannot be calculated as an actual emission reduction within the Tees Valley Emissions Reporting Protocol as this would result in a double counting, the hypothetical COge reduction due to the emission reduction is equivalent to around 13 tonnes of CO₂e savings. (Source: Tees Valley Climate Change Strategy).

It is important for the council to continue to encourage energy efficiency for electricity, gas and water consumption. Whilst emissions decreased over the 04/05 reporting period, they have begun to show an increase again.



Combined Heat and Power at Hartlepool Hospital

Dalkia Utilities Services developed a new energy centre at the Hartlepool Hospital as part of a PFI (Private Financial Initiative) contract with North Tees and Hartlepool NHS Trust. This development includes the installation, operation and the management of a 1.4 MWe (Mega watt equivalent) reciprocating engine based combined heat and power scheme with waste heat recovery boiler. The boiler extracts heat from the engine's exhaust gases to generate steam which will then be fed into the hospital's steam system. The low-grade heat from the engine water jacket will also be utilised to provide hot water. The scheme is designed to provide most of the Hospital's steam and electricity requirements.

Any surplus electricity is to be exported to other Trust properties so they can benefit from the climate change levy exemption. The scheme is to generate about 11,000 MWh (mega watt hours) of electricity per year for on site use and export to the Trust's other properties.



How businesses in Hartlepool are making a difference

Leonards Electricals in Hartlepool (The Smart Corporation) have been working with the Energy Saving Trust (EST) to obtain an Energy Saving Recommended Accreditation. The staff have been given a presentation by the EST indicating all the benefits of energy efficient products, this ensures that this product knowledge can be passed to customers who want to purchase energy efficient electrical goods to save money due to rising fuel bills and act responsibly by reducing their CO₂ emissions.



How Housing Hartlepool is making a difference

When Housing Hartlepool took over the ownership and management of the former Hartlepool Borough Council housing stock in March 2004 they pledged to improve every home to more than the Government's Decent Homes Standard by 2010. To fulfil the Decent Homes Standard one criteria is that homes have a reasonable degree of warmth & comfort. Therefore, this investment programme will ensure that homes are energy efficient and affordable for tenants to heat. The energy efficiency of a property is measured by its SAP rating, to reach the Decent Homes Standard the SAP rating must exceed 65. Energy efficient properties are cheaper to heat as they are heated efficiently and insulated properly so less fuel is wasted, this means that less carbon dioxide is produced by burning gas and using electricity thus reducing the amount of greenhouse gases produced.

Housing Hartlepool has recently invested £3.4 million refurbishing 80 non-traditional dwellings, increasing SAP ratings from 44 to 82, saving an average 3.5 tonnes of Carbon per house refurbished. In addition in 2004/05, Housing Hartlepool refurbished 390 traditional houses increasing SAP ratings from 65 to 71, saving an average of 0.8 tonnes of carbon per household. This gives an overall saving of 592 tonnes of carbon per year. In 2005/06 682 traditionally built properties were brought up to the Decent Homes Standard, increasing SAP ratings from 65 to 71, saving an additional 546 tonnes of carbon and the work is ongoing.

The work is being carried out in partnership with Wates Construction and Gus Robinson Developments along with their own Building Services Team.



We can all do our bit to reduce CO2

emissions by changing the way we travel on different journeys. Surveys indicate that more than half of children in the UK live close enough to their school to be able to walk or cycle, but many still travel by car. Getting children into the habit of walking or cycling to school is an excellent way to both encourage lifelong healthy habits and to reduce dependency on the car.

31 (or 78%) of schools in Hartlepool have an authorised School Travel Plan. The target is for 100% of schools to have an authorised School Travel Plan by 2010. School Travel Plans include a variety of initiatives to promote and encourage more sustainable travel methods to travel to and from school, while educating everyone involved about the reasons why these changes are important, including:

- Walking buses a walking bus is made up of two adult operators, who act as a 'driver' and 'conductor', to escort a group of children walking along a designated route collecting children at agreed 'bus stops' on the way at set times.
- The WOW Scheme promotes and encourages walking once a week or Walking on Wednesday's.
- Cycle schemes
- Park and stride schemes
- Car sharing schemes





The way in which Hartlepool's climate has changed in the past, and is predicted to change further in the future was set out earlier in this strategy. Adverse impacts included an increased risk of flooding and coastal erosion, pressure on drainage systems, habitat and species loss, and possible increased winter storm damage. Some opportunities were also identified including reduced demand for winter heating, less winter transport disruption and less cold-related illness. To deliver a successful programme of action to adapt to these impacts in Hartlepool, it is essential that residents, businesses and service providers have an increased knowledge and understanding of the impacts of climate change.



44 Adaptation to climate change – that is, taking steps to build resilience and minimise costs – is essential. It is no longer possible to prevent the climate change that will take place over the next two to three decades, but it is still possible to protect our societies and economies from its impacts to some extent, by providing better information, improved planning and more climate-resilient crops and infrastructure.

(Stern review, 2006).

Individuals

Individuals can take responsibility for themselves, and their homes and gardens by implementing simple common sense actions, for example:

- Repairing windows and roofs to ensure they are storm proof.
- Protect your skin by using effective sun protection lotion.
- Plant gardens with drought tolerant species such as geraniums and senetti and let the grass grow longer to retain moisture.
- Leave areas of your garden as wildlife areas and/or plant wild flowers.



Service providers and businesses

All organisations and businesses operational plans should take account of the impacts of climate change and detail the actions they each need to take to be ready for future changes in the climate. Actions would include those to manage their own estates as well as their operations as service providers and / or employers.

As community leader the council leads by example on climate change. The council will promote its own good work in newsletters, at community meetings and on its website to inspire others to take action. All service providers and businesses need to be aware of the anticipated changes in the climate and to take account of them in their operational planning. Health and care providers need to plan for the physical and emotional impacts of different weather patterns, the emergency services and the Environment Agency needs to plan for more frequent and more dramatic flooding surges from rivers and the sea. Good business practice suggests that employers ought to be aware of the potential impacts of climate change on their operations and their employees and act on them as a matter of urgency.



The cost benefits of adapting to Climate Change

'The shift to a low-carbon economy will also bring huge opportunities. Markets for low carbon technologies will be worth at least £250 billion, and perhaps much more, by 2050 if the world acts on the scale required.' 'Tackling climate change is the pro-growth strategy; ignoring it will ultimately undermine economic growth.'

(Stern Review, 2006).

There are benefits available from tackling climate change for the council, other service providers in Hartlepool and for the community, these can include:

- Higher quality buildings including houses with improved insulation.
- Financial savings from lower heating and electrical bills, meaning that businesses can be more competitive and services more efficiently provided.
- Less air pollution from lower car use rates, leading to improvements in health and the environment.



Businesses operating in the Hartlepool area need to be prepared for climate change. Their buildings need to be as storm proof as possible so that in the event of a storm they can carry on trading safely. Premises should be well insulated and effi ciently cooled or heated so that costs are minimised as well as the amount of greenhouse gases emitted. In order for businesses to remain competitive they need to consider their impact on climate change and the impact of climate change on their business now.

There are two main messages in the Stern Review – The economal impact of climate change is clear.

- The economic benefits of strong, early action on climate change outweigh the costs; the mitigation costs to reduce emissions now must be viewed as an investment in avoiding future risks, and
- The stabilisation of carbon emissions and averting climate change is feasible and consistent with continued economic growth, there does not need to be a choice between climate and growth.

The Stern Review also promotes international mechanisms required, which if implemented

the private sector in Hartlepool could be involved in, they include:

- Creating international flows of carbon finance through linking carbon trading schemes.
- Supporting effective policies and programmes to support developing countries in the transition to a low carbon economy. For example, the establishment of the Clean Energy Investment Framework by the World Bank.
- Accelerating international co-operation for technological innovation and diffusion, for example, the co-ordination of regulations and product standards.



Links to other local strategies

'The climate change issue of sustainable development. As a result, climate policies can be more effective when consistently embedded within broader strategies designed to make national and regional development paths more sustainable. This occurs because the impact of climate variability and change, climate policy responses, and associated socio-economic development will affect the ability of countries to achieve sustainable development goals. Conversely, the pursuit of those goals will in turn affect the opportunities for, and success of, climate policies. In particular, the socio-economic and technological characteristics of different development paths will strongly affect emissions, the rate and magnitude of climate change, climate change impacts, the capability to adapt, and the capacity to mitigate.'

(IPPC, 2001).

It ought to be the aim of all organisations providing services to the community to support the concept of a sustainable community which would include an awareness of how their operations could contribute to climate change and to mitigate against its impacts.

For the Hartlepool Partnership this includes links to the Community Strategy, Neighbourhood Renewal Strategy, Local Area Agreement and Local Development Framework.



Community strategy

Part 1 of the Local Government Act 2000 places a duty on Local Authorities to prepare Community Strategies for promoting or improving the economic, social and environmental well-being of their areas, and contributing to the achievement of sustainable development in the UK.

The Hartlepool Partnership and Hartlepool Borough Council adopted a first Community Strategy in April 2002 agreed a timetable for review in five years. In line with this agreement, the Community Strategy Review 2006 was launched on 5th May 2006 and a new Community Strategy will be in place in April 2007. The revised Community Strategy builds on the 2002 Strategy and will establish a new policy framework for Hartlepool. Proposed revisions include the integration of the current Hartlepool Sustainable Development Strategy (2001) within the new Community Strategy.

The 2002 Community Strategy establishes a vision that:

Hartlepool will be a prosperous, caring, confident and outward looking community, in an attractive environment, realising its potential

The 2002 Strategy sets out a number of objectives relating to climate change covering transport, waste minimisation, use of natural resources, minimising energy use, increasing the use of renewable energy, minimising pollution, maximising opportunities for recycling waste and the effective use of buildings, land and transport.





Links to other local strategies

Neighbourhood Renewal Strategy

The context for the Neighbourhood Strategy (NRS) is provided by 'A New Commitment to Neighbourhood Renewal – National Strategy Action Plan' (January 2001), which was published as part of the government's modernising agenda.

The Hartlepool NRS is a key element in ensuring that the vision of the Community Strategy is realised. Its purpose is to reduce inequalities in the most disadvantaged areas and to help to tackle social and economic exclusion. The vision, aim and objectives of the NRS are those of the Community Strategy.

Local area agreement

Local Area Agreements (LAAs) are a Government initiative, launched in 2004. LAAs are aimed at delivering a better quality of life for people through improving performance on a range of national and local priorities. They introduced a new way of working to build a more flexible and responsive relationship between central government and a locality on the priority outcomes that need to be achieved at a local level. Hartlepool's LLA is the delivery plan for the Community Strategy.

The Hartlepool LAA is structured around the aims and themes of the Community Strategy and forms the strategic framework for monitoring progress. Hartlepool's LAA was agreed by the Partnership Board in February 2006 and was signed off by Government in March 2006. The LAA recognises that climate change is a priority for action and a number of outcomes relate to Climate Change. These include:

 make better use of natural resources, reduce greenhouse gases, minimise energy use and reduce the generation of waste and maximise recycling.





An Annual Delivery and Improvement Plan is produced that identifies planned progress. The 2006/07 plan highlights that:

- funding of £700k has been secured from British Gas through a partnership with Tees and Durham Energy Advice Ltd (TADEA) for insulation measures.
- the Home Energy Conservation Act (HECA) Strategy and the Affordable Warmth Strategy will be reviewed during 2007. Hartlepool has managed to reduce excess winter deaths and the energy efficiency programme has been credited with this success. Further work is ongoing to promote the take up of Warm Front central heating grants, Hartwarmers insulation grants, and free advice on energy saving. Hartlepool has a target of improving energy efficiency by 30% on 1996 levels, with a corresponding reduction in carbon emissions.





Local Development Framework

Local Development Frameworks are replacing development plans and related documents prepared and adopted by councils. The new regime includes a Local Development Scheme (LDS) which outlines the programme and milestones for the preparation of the local development documents; a Statement of Community Involvement (SCI); Development Plan Documents (DPD) which detail the core strategy, land use allocations and spatial polices; and Supplementary Planning Documents providing more detail on policies in the DPD. Each of the above documents must undergo a sustainability appraisal and a strategic environmental assessment.

In Hartlepool an updated Local Plan was adopted in April 2006, subsequently the LDS was published in July 2006. "The 2006 Hartlepool Local Plan was developed in close collaboration with the Hartlepool Community Strategy and the Hartlepool Local Transport Plan and gives spatial expression to the elements of these and other strategies that relate to the development and use of land" (Hartlepool LDS, July 2006). It is hoped that when the next stage in the move towards the LDF this climate change strategy and its action plan will be fully considered.







Hartlepool will report annually on its greenhouse gas emissions, specifically carbon dioxide emissions, through the Tees Valley Emissions Inventory and Emissions Reporting Protocal.

Through the Hartlepool Partnership, an annual action plan will be prepared and delivered to demonstrate key actions that partners undertake to bring about emissions reductions and adapt to the impacts of Climate Change. The Action Plan will include partnership activity relating to policy making, awareness raising and the management of estates. An Annual Report outlining progress on these actions will be communicated widely and made available on the Partnership's website <u>www.hartlepoolpartnership.co.uk</u>

To make a difference to climate change in Hartlepool, people first need to understand the issues and challenges ahead. They need to know that climate change is happening and what it means for them. This strategy sets out this information and, in line with activity within the Tees Valley, will be reviewed in the year 2012.





Appendix 1 Glossary

Climate – The long term average of weather in a given area.

Climate change – Any long-term changes or fluctuations in weather patterns.

Community Strategy – The Community Strategy for Hartlepool was produced by the Hartlepool Partnership. Community Strategies should promote or improve the economic, social and environmental well-being of the area.

Greenhouse Effect – The greenhouse effect is a natural mechanism that keeps the earth warm, a layer of gases acts like a blanket to keep the earth warm.

Greenhouse Gases – The main greenhouse gases are Carbon Dioxide (CO2), Methane, Nitrous Oxide, Hydro fluorocarbons (HFCs), Per fluorocarbons (PFCs) and Sulphur Hexafluoride.

Hartlepool Partnership – The Hartlepool Partnership is the Local Strategic Partnership for the town.

Local Area Agreement – Hartlepool's Local Area Agreement (LAA) is the delivery plan for the Community Strategy.

Local Development Framework – The set of planning documents produced by Hartlepool Borough Council replacing development plans.

Local Strategic Partnership – Local Strategic Partnerships (LSPs) are the partnership or service providers in a given area and are charged with producing a community strategy.

Neighbourhood Renewal Strategy – The Hartlepool NRS is a key element in ensuring that the vision of the Community Strategy is realised.



Appendix 2 Further information on climate change

Defra – www.defra.gov.uk BBC – www.bbc.co.uk UNEP – www.climatechange.unep.net European Commission – www.ec.europa.eu Tyndall Centre – www.tyndall.ac.uk Met Office – www.met-office.gov.uk

Hadley Centre – www.met-office.gov.uk/research/hadleycentre

UK CIP – www.ukcip.org.uk

Sustaine - www.sustaine.com

Environment Agency – www.environment-agency.gov.uk

Sustainable Development Commission – www.sd-commission.org.uk

Ends Report – www.endsreport.com

Climate Change Bill – www.defra.gov.uk/corporate/consult/climatechange-bill

Intergovernmental Panel on Climate Change – www.ipcc.ch/







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Notes



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