Cyngor Sir Gâr Carmarthenshire County Council

Climate Change Strategy

shaping our future

Sustainable Development in Carmarthenshire

It is the policy of Carmarthenshire County Council to pursue sustainable development through all of its plans and actions.

Sustainable development is a central organising principle for all the Council's work and the Council will engage only in actions that contribute towards sustainable development.

Carmarthenshire County Council
Sustainable Development Policy Statement
2004

The world will not evolve past its current state of crisis by using the same thinking that created the situation.

Albert Einstein
Theoretical Physicist
(1879 – 1955)

Nobody made a greater mistake than he who did nothing because he could only do a little.

Edmund Burke
British Statesman and Political Thinker
(1729 – 1797)

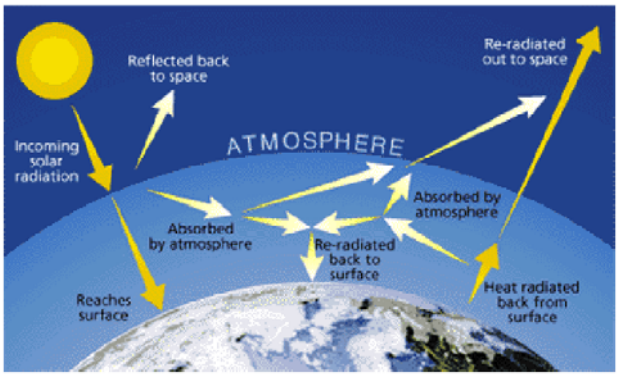
Contents

1. The Climate, Global Warming and Climate Change

Climate and the Greenhouse Effect

1.1 The climate is the name given to the conditions created by the earth's atmosphere, including temperature, wind and rainfall patterns. The climate of a place is influenced by factors such as latitude, altitude and position relative to oceans or continents.

1.2 Gases such as carbon dioxide (CO2) and water vapour (CH4) occur naturally in the atmosphere. They allow the sun's rays to pass through but then act as a "blanket" trapping some of the heat that is radiated from the earth's surface, warming the earth to around 33°C higher than it would otherwise be, providing a balance that supports the earth's natural ecosystems. This natural phenomenon is known as the "greenhouse effect". If this natural balance is altered the global temperature begins to change.



Source: www.newscientist.com

1.3 In addition to carbon dioxide, which arises mainly from burning coal, oil and natural gas; methane, generated by agricultural processes, especially rice paddy fields and animals, and emissions from landfill sites, coal mines and natural gas production; the other significant "greenhouse gases" are nitrous oxide, due mainly to agriculture; ozone, generated by automobile exhaust fumes; and industrial gases such as CFCs (chlorofluorocarbons), HFCs (hydrofluorocarbons), and PFCs (perfluorocarbons).

Global Warming

1.4 Leading scientists across the world agree that the earth is getting warmer.

1.5 Scientific observations show that global temperatures have risen by about 0.8°C over the past 100 years. Global sea level rose by between 10 and 20 cm during the 20th century.

1.6 The ten warmest years on record have all occurred since 1990 and 1998 was the warmest year in a 140-year record.

1.7 Average precipitation in England and Wales in 2000 was the highest for 30 years. August 2004 was the wettest August in the UK for a century.

1.8 Observations by NASA and others show that glaciers are melting, sea ice and snow cover is declining.

1.9 As temperature raises the amount of water vapour that can be held in the atmosphere increases, leading to a potential increase in the amount of rain and its intensity. Extreme weather events are already becoming more frequent.

1.10 There is strong evidence that most of the observed warming over the last 50 years is attributable to human activities.

1.11 Primarily through the burning of fossil fuels and long-term deforestation, humans have been increasing the concentration of carbon dioxide in the atmosphere, affecting its natural balance.

Climate Change

1.12 Our climate is changing.

1.13 "Climate Change" is the term used to encapsulate the impacts of human activity on temperature, weather patterns and natural systems.

1.14 Scientific research predicts that the effects of climate change in the UK over the coming century are likely to include:

- higher temperatures all year, more heat waves in summer, possible disappearance of snow and freezing weather from all but the highest mountains;
- more extreme weather events including hurricanes, flash floods, droughts and heat waves;
- less rain overall and in summer;
- more coastal and river flooding;
- more frequent disruption to transport;
- increasing risk of failure of infrastructure operating beyond the conditions that it was designed for, e.g. roads melting and railways buckling in high temperatures, drains overwhelmed by rate of rainfall;
- fewer winter deaths and illnesses as a result of cold, but more heat related summer deaths and stresses;
- inward migration of pests and diseases currently prevented by cold weather, e.g. malaria;
- loss of wildlife, especially near the southern end of their ranges;
- flood plains and other low lying areas near rivers likely to flood more often and more severely;
- dense urban areas likely to suffer worse extremes of summer heat because unshaded buildings, roads and paved areas absorb and retain solar heat;
- southern areas more likely to be able to grow crops currently present in warmer climates but less able to sustain traditional British crops, habitats and landscapes, with more irrigation required.

1.15 Some of these impacts are potentially beneficial but most impacts will be negative, costly and destructive.

1.16 In the future climate change will affect many aspects of our lives and our environment, including our employment opportunities and public services.

1.17 Climate change is the greatest international sustainable development issue and the most serious environmental problem facing the world.

The International and National Response to Climate Change

1.18 Many governments across the world have recognised the threat posed by climate change and are acting to address their emissions of greenhouse gases.

1.19 The ***United Nations Framework Convention on Climate Change***, launched at the Rio Earth Summit in 1992, requires signatory nations to adopt national programmes for mitigating climate change with the objective of *"the stabilisation of greenhouse gas emissions in the atmosphere at a level that would prevent anthropogenic interference with the climate system, within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner".*

1.20 The principal mechanism for international action to combat climate change is the ***Kyoto Protocol***. This was drafted in 1997 but only formally enacted in February 2005 following its ratification by Russia. It establishes a legally binding obligation on signatory nations to reduce their greenhouse gas emissions by at least 5.2% below 1990 levels by 2008-2012. Over 140 governments worldwide have now signed the Protocol but it continues to be a matter of international concern that countries such as the USA and Australia have declined to ratify it.

1.21 The European Union agreed to target an overall cut of 8%, to be met by distributing different rates among the member states. The UK agreed to a domestic target to reduce emissions by 12.5%.

1.22 In 2003 the UK Government published the ***Energy White Paper,*** which extended this goal to a target of 60% reduction by 2050, with real progress being achieved by 2020.

1.23 In July 2001 the Welsh Assembly Government published ***Climate Change Wales,*** which summarised the potential impact of climate change for the people of Wales and set out a range of measures aimed at delivering reduction in greenhouse gas emissions in areas that are devolved to the Assembly. Wales has significant natural potential for renewable and alternative energy and the Assembly's goal is to move towards a low carbon economy and to adapt to the impacts of climate change.

1.24 ***Energy Saving Wales***, published in 2004, established the Welsh Assembly Government's target to reduce carbon dioxide emissions in Wales by 20% by 2020. The Government is consulting during 2006 on a major review of national energy policy.

1.25 Further information on the international framework and national programmes and targets for addressing climate change are given in Appendix 1.

Summary of National Emissions Reduction Targets

UK

12.5% reduction in greenhouse gas emissions below 1990 levels by 2012
(Kyoto Protocol Target)

20% reduction in carbon dioxide emissions below 1990 levels by 2010
(UK Climate Change Programme Target)

60% reduction in carbon dioxide emissions below 1990 levels by 2050 with real progress by 2020
(Energy White Paper Target)

Wales

20% reduction in carbon dioxide emissions below 1990 levels by 2010
(Energy Saving Wales)

Securing 4TWHr per annum of renewable electricity production by 2010 and 7TWHr by 2020
(Energy Wales Route Map)

Today, the earth's atmosphere has the natural capacity to absorb only one third of the carbon dioxide that its inhabitants produce each year.

2. Climate Change and Carmarthenshire County Council

Climate Change is a Local Concern

2.1 Whilst climate change is truly a global issue it is also very much a matter for local concern. The earth's climate does not recognise national or administrative boundaries. The global effects of climate change will inevitably impact upon Carmarthenshire.

2.2 The well-known sustainable development maxim "think globally – act locally" is wholly appropriate to climate change. Action at the local level will not only contribute to local gain, for example by reducing costs, but will also contribute to improving the world's atmosphere and climate, conserving it for future generations.

2.3 Much of the change in climate over the next 30 to 40 years has already been determined by past emissions and cannot be stopped. It is necessary, therefore, to consider what needs to be done to deal with the inevitable consequences of this change.

The Role of Local Authorities

2.4 It is widely acknowledged, not least by government, that local authorities are uniquely placed to lead and mobilise action to address climate change and make a difference, through their own activities and through leading partnerships.

2.5 Local authorities in particular are regarded to have a key role to play by reducing energy use in their own buildings and council managed housing, supporting low carbon and renewable energy sources, providing more sustainable transport options, raising awareness amongst the public and providing advice on what people can do.

Adopting a Strategic Approach

2.6 Addressing climate change will require corporate Council-wide action. It presents a key opportunity to demonstrate the integration of social, economic and environmental issues and impacts.

2.7 Success will require the Council to act decisively and coherently, with ambition and determination. The challenge is to respond adequately to climate change whilst also meeting people's needs and aspirations in the present, without sacrificing quality of life or the effectiveness of services provided.

2.8 The central aim of policy to address climate change is to allow people to enjoy and improve their daily lives with less climate impact.

2.9 The Council's approach to directly addressing the impacts of its activities on climate change will be based around a series of positive steps, including:

- making a public commitment to tackling climate change;
- adopting a council-wide strategy on climate change and sustainable energy, using a variety of management tools and operational practices to deliver it;
- promoting sustainable energy and climate change objectives through the Community Strategy, land use plans and operational processes;
- adopting a "whole life" approach to investment and procurement;
- integrating action for climate change across all service areas;
- seeking early wins, where action directed at climate change will have consequential benefits for other objectives, especially reducing long-term costs.

Strategic Objectives

2.10 Carmarthenshire County Council's principal objectives in responding to the challenge of climate change are to:

- ***promote sustainable development:*** by integrating actions to address climate change as a central part of broader mainstream programmes for sustainable development;

- ***mitigate the impacts of its activities***: by reducing to the minimum extent possible its emissions of carbon dioxide and other greenhouse gases;

- ***adapt to the inevitable effects of climate change:*** by recognising the real and potential impacts of climate change and intervening to moderate harm and exploit opportunities.

The County of Carmarthenshire and Climate Change

2.11 Carmarthenshire is vulnerable to the effects of climate change.

2.12 Many areas along the extensive coastline, including residential and employment zones, are susceptible to flooding from the sea, with many locations already protected by sea defences. Should the predictions for sea level rise occur these areas may require further protection and, depending upon the extent of the rise, some may be beyond economic protection.

2.13 Some river valleys within the County are prone to flooding following periods of heavy or persistent rainfall. Transport routes in these vicinities are sometimes disrupted by floodwater. A number of properties are prone to flooding from heavy surface water run-off and any increase in severe rainfall events will exacerbate this threat.

2.14 Large areas of land have been identified as vulnerable to flooding, threatening existing settlements and employment areas and areas identified for development and regeneration programmes.

2.15 Agriculture continues to play an important part in the economy and social structure of the county. A

changing climate could well necessitate a shift in the structure of agricultural activity.

2.16 Demographic projections predict that the proportion of elderly persons in the population will increase significantly. Older people are more susceptible to extremes of weather, such as cold and heat, and there is a risk that health services could be placed under increasing stress.

2.17 The potential impacts of climate change are, therefore, directly relevant to the future well-being of the county and need to be taken seriously.

2.18 The total annual carbon dioxide emission for the county has been estimated (2002) as some 1.7 million tonnes, of which industry (32%), transport (29%), domestic (27%) and point sources (e.g. major industrial works) (12%) are the most significant contributors.

Carmarthenshire County Council and Climate Change

2.19 Carmarthenshire County Council is a large organisation;

- employing over 10,400 people;
- operating out of 1563 buildings or sites;
- utilising operational fleets of some 630 vehicles.

2.20 Using the most recent data available (2004/2005) the Council's annual emission of carbon dioxide has been evaluated at 25,900 tonnes, made up of:

	Tonnes	%
buildings	18831	73
vehicles	4600	18
business travel	1525	6
staff commuting	944	3
Total	25900	100

2.21 The areas with the greatest direct impact are evidently buildings and transport, whilst additional emissions from the council housing stock are also significant at around 55,600 tonnes per annum.

2.22 In one year council fleet vehicles travel a total of over 8 million miles. Business travel by staff totals over 3.8 million miles and commuting to work involves almost 5 million miles.

2.23 Energy use in Council buildings (electricity, gas, oil, LPG and solid fuel) amounted to over 87,253 KWh.

2.24 At the heart of each of these major areas of impact lies the use of energy. Any strategy to mitigate the Council's climate impact must, consequently, focus upon reducing its energy footprint.

2.25 It is interesting to note that whilst the County Council's emissions are a small proportion of the overall emissions in the county (at 2%, excluding council housing) the make up of the Council's carbon footprint is representative of that for the county as a whole. This provides the County Council with a real opportunity to influence change as if the Council is able to make progress in the dominant areas of estate management, transport and housing, the lessons learned should be transferable to other organisations and the public and so the benefit to be realised from Council attention in these areas could be reaped many times over.

2.26 For this reason the Council has decided to focus initially on addressing its own emissions performance, using the learning gained to set an example for others to follow within a strategy that will shift over time to become increasingly more community focused.

A Strategy to Address Climate Change

2.27 Achieving the scale and nature of change required will be a tough and complex challenge.

2.28 The immediate challenge is to acknowledge climate change as the important issue that it is and to make a start in addressing it. The production of this Strategy takes the next critical step.

2.29 This Strategy presents an ambitious yet achievable programme for progress.

2.30 The potential impacts of climate change are better understood in some sectors and areas than others. Whilst a great deal of study is being applied by central government to predicting the effects of a changing climate on all aspects of our lives the possible climate scenarios are not certain. It will be necessary, therefore, for a continuing consideration to be applied over coming years to refine understanding in the light of actual experience and improving science.

2.31 The intention is that this Strategy will be reviewed and updated every four years, along with the Council's Sustainable Development Strategy.

2.32 Detailed actions will be directed through a Carbon Management Plan, which will be produced annually and fully integrated with core performance management processes.

2.33 This Climate Change Strategy and the accompanying Carbon Management Plan will support the Council's organisational development and risk management objectives and procedures.

2.34 As the Council's own understanding of climate change and its implications develops over time the Council will increasingly develop its leadership role in the subject by sharing its knowledge and experience with other organisations and progressively moving its focus outward to encompass the wider community of Carmarthenshire.

2.35 From the outset the Strategy seeks to establish a platform for partnership and collaboration to promote joint action for adaptation to climate change impacts.

2.36 The following chapters point to the implications of predicted climate change for a range of County Council functions and services and propose strategic actions to mitigate the Council's direct climate impacts and the contribution that the Council can make to adapting to

the consequences of climate change across its spectrum of activity and responsibility. Actions are framed within the following timescales, which refer to the period for completion. Where actions are designated medium term or long term it is probable that they will commence at an earlier time and continue throughout the period indicated.

Ongoing	:	actions that have already commenced and will continue for the foreseeable future, either as a cyclic activity or as a continuing programme.
Short Term	:	within one year
Medium Term	:	within three years
Long Term	:	within five years

World carbon dioxide emissions, the gas responsible for 70% of the enhanced greenhouse effect, have grown fourfold since 1950 and are continuing to grow.

Case Study

Examples of Photovoltaic Installations in the Carmarthenshire Street Scene

3. An Energy Focused Strategy for Mitigation

Energy as the Key

3.1 The key to progress on reducing the climate impact of the Council's activities lies in energy – minimising energy consumption and where energy use is unavoidable making sure that energy is used efficiently and wherever possible generated from renewable or otherwise cleaner sources.

3.2 A sustainable approach to energy use can help to deliver a wide range of strategic objectives:

- ***fuel poverty***; better insulation and more efficient heating and appliances reduce the cost of keeping warm, taking vulnerable people on low incomes out of fuel poverty;
- ***health;*** cold is a major cause of illness and winter deaths so improving thermal performance in housing will contribute directly to improved health and well-being; promoting sustainable forms of transport, such as cycling and walking, will reduce harmful emissions whilst also encouraging exercise to combat problems such as obesity;
- ***local environmental equality;*** reducing the volume and impacts of traffic can improve the public realm, make streets safer for people and make places more attractive to shop, visit or live in;
- ***economic development;*** better energy efficiency usually equates to lower costs for business improving competitiveness; markets for energy efficient technologies are likely to increase offering new employment opportunities;
- ***organisational efficiency;*** energy is a resource that should be managed efficiently, as all other resources; reduced consumption means lower costs as well as improved environmental performance.

The Energy Hierarchy

3.3 The use of energy will seek to limit environmental impact by following a hierarchy based upon:

- ***avoiding the need for energy:*** getting the benefits without needing to use energy at all, for example by designing buildings to be warmed by the sun, using natural light and ventilation, or enabling people to get access to services, amenities and jobs with fewer and shorter car journeys;

- ***using energy more efficiently:*** getting more benefit per unit of energy, for example by using higher efficiency appliances, generating heat and power together, or insulating buildings better to retain heat;

- ***switching to less damaging sources of energy;*** especially renewables, for example, solar, wind or hydro power or by digesting organic wastes or energy crops,.

3.4 Global energy prices have become increasingly volatile over recent times and are predicted to rise sharply in future years. The UK will move from being a net exporter of oil to a net importer by 2010, making the country increasingly vulnerable to movements in the international markets. The more that we can limit our dependence on fossil fuels for our energy needs the less vulnerable we shall be to threats of oil shortages and increasing oil prices. This approach would reflect effective risk management.

3.5 The County Council's Energy Policy is given in Figure 1 and the links between energy and the main corporate themes for action are illustrated in Figure 2.

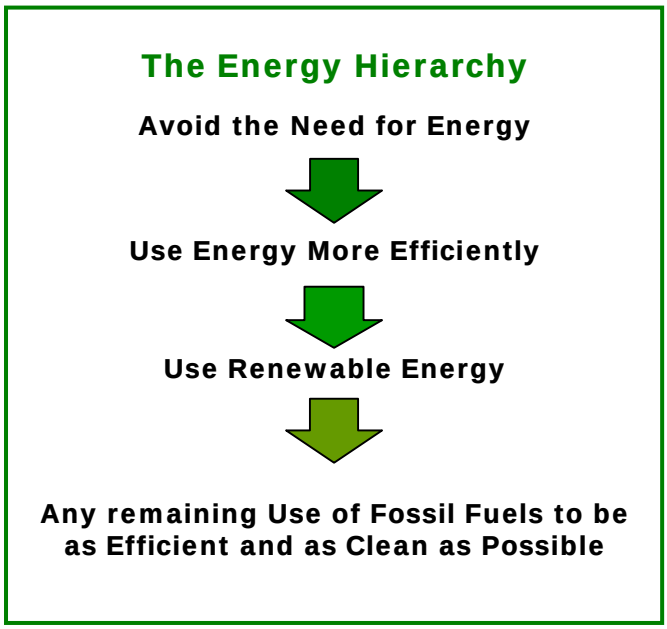


Figure 1

Energy Policy

Carmarthenshire County Council is committed to effectively managing its use and procurement of energy.

The responsible use of energy supports the Council's corporate objectives - Better Use of Resources - and the Council's Sustainable Development Policy through the prudent use of natural resources thereby respecting environmental limits so that resources are not irrecoverably depleted or the environment irreversibly damaged.

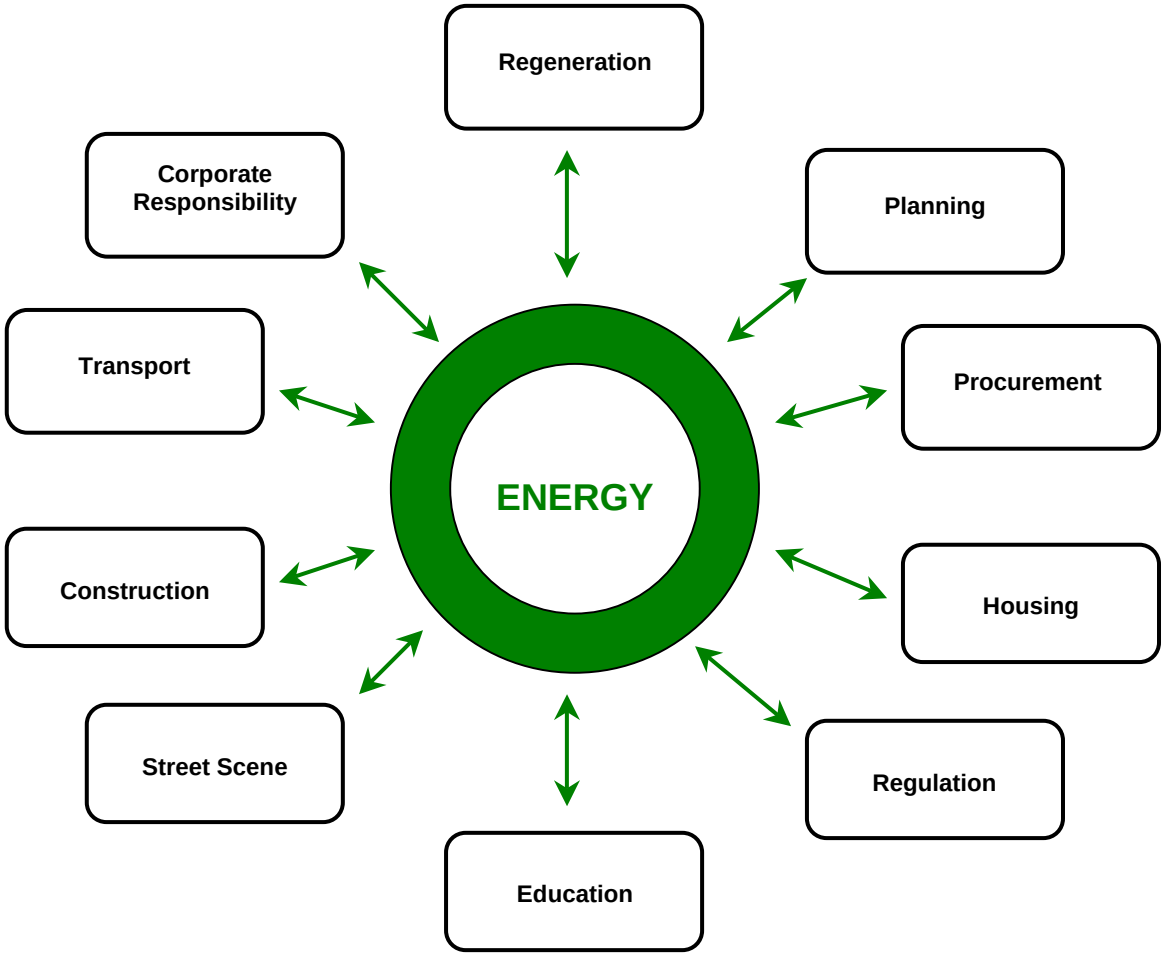
The Council recognises that it can have both a direct effect, via its consumption of energy in its premises, vehicles and operations, and also an indirect effect, via raising awareness and influencing the wider community, on the scale and nature of energy use and the alternatives for energy generation.

Corporate commitments – the Council will seek to:

1. Minimise the unnecessary use of energy in all its own buildings, vehicles and activities.
2. Monitor energy consumption within buildings and vehicle fleets on a regular basis and compare against national benchmarks.
3. Deliver a significant reduction in greenhouse gas emissions by procuring electricity generated from renewable or cleaner technologies.
4. Improve the energy efficiency of the Council housing stock in accordance with the Carmarthenshire Homes Standard / Welsh Housing Quality Standard.
5. Maximise the use of external funding opportunities to supplement its fund dedicated for the implementation of energy efficiency measures.
6. Appraise the use of innovative renewable, energy efficient technologies in all Council buildings including schools.
7. Develop 'whole life costing' in the design and construction decision-making process to realise long-term efficiencies.
8. Raise staff awareness of the need and benefit of energy efficiency and to disseminate information on good housekeeping measures.
9. Maintain Energy Efficiency Accreditation Scheme status.
10. Encourage local residents and businesses to take action on energy efficiency and where appropriate publicise their actions.
11. Encourage the development of practical, economically viable, sustainable energy.
12. Work with others at a local, national, European and international level on energy issues.
13. Actively contribute to help meet the National Assembly for Wales and UK's reduction targets for greenhouse gas emission and climate change programme.

Figure 2

Energy at the Heart of Action to Address Climate Change and Sustainable Development



4. Corporate Action: Exercising Social, Economic and Environmental Responsibility

4.1 Carmarthenshire County Council has formally adopted a policy to pursue sustainable development through all of its plans and actions. The Council has published a Sustainable Development Strategy which is implemented through an annual Sustainable Development Action Plan that is integrated with corporate performance management and improvement processes.

4.2 Sustainable development is one of the "building blocks" of the Carmarthenshire Community Strategy and the Council's own Corporate Strategy. It is mainstreamed as a central organising principle for everything that the Council does.

4.3 The Council's central objective is to further the economic, social and environmental well-being of Carmarthenshire and to do this in a fully integrated way. The Council acknowledges that its activities as the community leader and the commissioner and provider of a range of essential public services has an impact on the environment and it is committed to minimising this impact as far as is practicable. The Council takes its community leadership role very seriously and is committed to exercising responsibility for its actions and to encourage others to do the same.

4.4 The Council regards the publication of this Climate Change Strategy and the implementation of the strategic commitments that it makes as an important contribution to its community leadership role with the intention of inspiring the public and organisations across all sectors to follow suit and reduce their own impacts on the environment.

4.5 The Council will take a number of actions to establish a robust policy framework to address climate change through its governance and corporate management.

4.6 The initial objective will be to address emissions in areas that the Council controls or can exercise influence over. The early focus will be placed on improving the Authority's own impact as an organisation, by seeking to reduce its own operational emissions and by delivering plans to mitigate the impacts of climate change across the wider community.

Strategic Priorities for Corporate Action

Exercise leadership for climate change, by setting an example and by sharing the Council's experiences and learning with others.	*Ongoing*
Make a public commitment to tackle climate change by signing the Welsh Declaration on Climate Change and Energy Efficiency.	*Short Term*
Allocate corporate responsibility for climate change to a member of the Executive Board and Scrutiny Committee and nominate a senior manager to lead and co-ordinate action for climate change across the Council.	*Short Term*
Produce an annual Carbon Management Plan (CMP) to direct corporate action to reduce the level of emissions of carbon dioxide and other greenhouse gases created by the Council's activities.	*Medium Term*
Review corporate and operational data capture and management arrangements to ensure that the objectives of this Strategy and the CMP can be effectively delivered.	*Medium Term*
Publicly report on progress achieved against objectives and targets included in the CMP.	*Medium Term*
Evaluate the feasibility of preparing and implementing a corporate "Carbon Neutral Programme" to mitigate the unavoidable impacts of the Council's activities though investing in local environmental and regeneration projects and where appropriate through participating in other independent carbon mitigation initiatives.	*Medium Term*
Develop with key partners and other agencies (through the Community Planning Steering Group and the Advisory Panel for Sustainable Development) a plan to assess the potential effects of climate change on our communities and to identify ways in which to adapt.	*Medium Term*
Assess the feasibility of producing an Ecological Footprint for Carmarthenshire, to include an assessment of greenhouse gas emissions within the county.	*Medium Term*
Consider whether corporate and operational health and safety at work procedures need to be adapted in response to changing working conditions caused by climate change, e.g. heating and cooling of buildings, exposure of operatives working in the open air, etc.	*Long Term*

5. Economic Development and Regeneration: A Prosperous and Sustainable Economy

5.1 Climate and weather have impacts across a range of business areas. Climate change presents businesses with commercial opportunities as well as threats, for example through demands for new products and services. Businesses that recognise these opportunities early and react to exploit them can achieve significant commercial advantage.

5.2 Insurance costs are likely to increase for business and domestic premises as a result of climate change, especially those more exposed to risk of flooding. Businesses may wish to invest in mitigation or protection measures to reduce insurance premiums and safeguard business continuity.

5.3 Agriculture in particular will need to adapt to the effects of a changing climate. Changes in the agricultural sector are potentially complex with some activities potentially growing whilst others decline. Issues such as irrigation may become more prominent.

5.4 Changes in sea level and natural coastal systems could affect the operation of harbours and sea or coastal zone based businesses.

5.5 Tourism, leisure and recreation may benefit from warmer summers.

Strategic Priorities for Regeneration and Economic Development

Continue to support an integrated advice service for businesses on environmental management and energy efficiency as gatekeepers for the Business Eye gateway.	*Ongoing*
Maintain an effective dialogue with local businesses, encouraging them to adapt to the threats posed by climate change and to exploit opportunities presented in renewable energy technologies and services.	*Ongoing*
Continue to work with partners to remediate land left contaminated or derelict by past heavy industry and bring such land back into productive use for economic or community purposes.	*Ongoing*
Examine the feasibility of introducing an award for local businesses which succeed in improving their environmental performance and reducing their emissions of greenhouse gases.	*Medium Term*
Monitor developments in national policies and strategies, e.g. “Business and the Environment Action Plan”, new “Biomass Energy Strategy”, etc, to identify and respond to opportunities for sustainable economic development in Carmarthenshire.	*Short Term To Long Term*

Case Study

Procurement as a Tool for Regeneration and Sustainability

Carmarthenshire County Council has developed its procurement function as a means to deliver community improvement and regeneration as well as the traditional benefits of value for money.

The Council has established a programme of procurement surgeries in which officers meet with local SMEs, at six locations across the county and at times convenient for the local business people, to advise them of the nature of goods, services and works that the Council intends procuring and the timescales and processes involved. Each local business is allocated one officer as a single point of contact for trading opportunities across the entire Authority, making it much easier for small local businesses to engage with the Council and secure trade. The range of trading opportunities offered is wide, ranging from needlework to construction.

The surgeries have been extremely well received and supported by local businesses and there is clear evidence that local firms are securing an increasing share of the Council’s business, thereby increasing local employment.

The surgeries have also improved Council officers understanding of the issues facing small companies in bidding for work with the Council and as a result procurement processes have been refined and improved. One practical example of this is in the provision of financial information by bidders. Until recently companies tendering for work were required to submit audited accounts for the previous two years but it became apparent that this policy was discriminating against young companies which had not been trading for this period. This was a real issue as a key strand of the Council’s economic development strategy is to encourage new business start-ups and the growth of young companies. A simplified financial requirement has been introduced into the tendering process which removes this difficulty whilst protecting the Council’s interests.

6. Spatial and Land Use Planning: Encouraging the Better Use of Land

6.1 The way in which developments are planned, built and regulated and the way in which resources are used to do this determines whether or not they are sustainable.

6.2 The land use planning system is one of the most powerful and practical tools for sustainable development available to the County Council.

6.3 Spatial planning will be an essential component of adapting to climate change. The planning system offers a significant opportunity to create climate headroom for the long-term.

6.4 The UK Government has issued planning guidance that states - *"local planning authorities should ensure that development plans contribute to global sustainable development by addressing the causes and potential impacts of climate change, through policies which reduce energy use, reduce emissions (for example, by encouraging patterns of development which reduce the need to travel by private car, or reduce the impact of moving freight), promote the development of renewable energy resources, and take climate change impacts into account in the location and design of development".* The Carmarthenshire Unitary Development Plan (UDP) does this.

6.5 The theme of sustainable development underpins all of the UDP's policies and proposals, including those concerned with economic development, the provision of adequate housing and community facilities and the protection, conservation and enhancement of the natural and built environment. The draft UDP has been subject to a detailed sustainability appraisal.

6.6 At the heart of the UDP is a sustainable strategic settlements framework that promotes good public transport networks and links, maintaining the vitality of existing settlements and remediating and restoring to productive use land left contaminated and derelict in the wake of the demise of the traditional heavy industries.

6.7 A fundamental policy objective is "*to encourage environmentally sustainable proposals which seek (inter alia) to:*

- *reduce car usage and energy consumption;*
- *incorporate effective energy efficient layout and design;*
- *develop renewable energy sources;*
- *conserve non-renewable environmental resources*"

6.8 The UDP seeks to minimise flood risks by avoiding development in flood plains and establishes a supportive agenda for renewable energy.

6.9 The Carmarthenshire UDP is due to be adopted in 2006, following which it will evolve into a Local Development Plan.

6.10 Biodiversity will be affected by climate change as habitats are affected, causing changes in species distribution and migration patterns. The County Council has published, in partnership with a number of other organisations, a Local Biodiversity Action Plan (LBAP) that seeks to conserve and enhance local habitats and species. The LBAP will be kept under review to accommodate changing circumstances caused by climate change.

Strategic Priorities for Spatial and Land Use Planning

Keep habitat and species action plans within the Carmarthenshire Biodiversity Action Plan under review and revise when appropriate to account for climate change impacts.	*Ongoing*
Adopt the Carmarthenshire Unitary Development Plan and begin the process of preparing the successor Carmarthenshire Local Development Plan.	*Short Term*
Continue to work with the Environment Agency Wales to define flood risk areas and assess the implications for development across the county.	*Medium Term*
Work with the Environment Agency to assess the potential impacts of climate change predictions for existing settlements and developments and propose mitigation measures where required and practical.	*Medium Term*
Develop supplementary planning guidance and design guides for new developments which encourage layouts that exploit natural advantages, e.g. sustainable urban drainage systems, building orientation, minimising hard paved areas, etc.	*Medium Term*
Develop the use of Section 106 Agreements (under the Town and Country Planning Act 1990) and/or the proposed Planning Gain Supplement to embody renewable energy and energy efficient technologies in all appropriate developments and to support more sustainable access for those without private transport.	*Medium Term To Long Term*
Consider how strategic and local development plans can accommodate possible changes in recreational needs.	*Long Term*

7. Procurement: Delivering Sustainability Through Procurement

7.1 Public sector procurement can play an important role in creating markets for more sustainable products and stimulating suppliers to improve performance.

7.2 Carmarthenshire County Council is a large buyer of goods and service, spending over £140 million each year in this area.

7.3 The Council's corporate procurement unit has produced a Sustainable Procurement Policy that includes guidance to help council officers incorporate sustainable development considerations into their buying decisions.

7.4 Energy is a component of all goods and services. The Council's long-term objective is to minimise the level of energy that is embodied in the products that it buys by:

- buying recycled or reclaimed products wherever possible, as recycled products usually have lower embodied energy, use fewer virgin materials and reduce waste;
- buying locally produced products, to reduce transport impacts;
- increasing the proportion of products purchased that are sustainably produced, e.g. sustainable timber, etc.

Strategic Priorities for Procurement

Continue to develop the application of sustainable procurement through the ongoing development of the Corporate Procurement Strategy and Sustainable Procurement Policy.	*Ongoing*
Continue to develop and implement the Local Sustainable Food Strategy and School Meals Nutrition Strategy, which promote the local production and consumption of healthy foods.	*Ongoing*
Develop procurement decision-making frameworks to take account of the whole life cost and environmental implications of energy use and energy embodied within products and services.	*Medium Term*
Strive to become a Fair Trade Council.	*Medium Term*
Review vehicle procurement decision-making protocols, for purchase, lease and hire, to examine the feasibility of applying fuel type and consumption performance factors within assessment criteria.	*Medium Term*

Case Study

Buying Green Electricity

Renewable sources of energy make an important contribution to secure, sustainable and diverse energy supplies and are an essential element of a cost-effective climate change programme.

The County Council has been proactive in seeking to purchase electricity generated from renewable and cleaner technology sources. This commenced during 2001 with various Council offices, including the 3 largest (County Hall, 3 Spilman Street and Ty Elwyn), being supplied in this way. As part of their responsibilities under the statutory Renewables Obligation electricity suppliers are required to produce a proportion of their electricity from renewable sources and are able to certify that the electricity provided to the Council contributes to their obligation.

The Council's commitment to green energy has been developed by the Authority stipulating within its tenders for electricity supply that suppliers must submit prices for electricity generated from renewable sources as well as conventional sources.

An energy study carried out by the Wales Audit Office on Carmarthenshire County Council has confirmed that the proportion of the Authority's electricity supplied from renewable and cleaner technology generation stands at 63% for 2004/05.

At present the premium for procuring electricity generated in this way is offset by not having to pay the applicable Climate Change Levy.

The Council intends to pursue its strategy for procuring green energy as contracts for electricity supply are renewed, with the aim of ultimately procuring all its electricity on a green tariff.

8. Energy: Sustainable Power for Public Services

8.1 Minimising the use of energy and improving energy efficiency, according to the energy hierarchy (Section 3), will be the key to addressing climate change.

8.2 Energy efficiency is a cross-cutting issue that affects all building users, all transport users and all service areas across the Council's wide range of activities.

8.3 The Council has already made significant progress by purchasing green energy. At September 2005 some 63% of the electricity purchased by the Council came from renewable sources, saving some 8350 tonnes of carbon dioxide emissions annually. In 1999 the Council implemented its "Environmental Stewardship Programme" to progressively improve its energy and water consumption efficiency across the Council estate. Since that time some 4170 tonnes of carbon dioxide has been eliminated and financial savings in excess of £765,000 have been achieved. Since 2004 the Council's 23,800 streetlights and 4,550 illuminated road signs have been energised by electricity generated from renewable sources, saving 3461 tonnes of carbon dioxide annually. The Council is one of only a few to have succeeded in securing grant aid from the Carbon Trust to support its "invest to save" programme.

8.4 The Council has also engaged with partner organisations to begin to consider the development of alternative fuels for energy. This includes supporting the creation of the Carmarthenshire Energy Agency, which in turn has established the Carmarthenshire Hydrogen Group, which is examining the potential for the development of the hydrogen economy in the region.

8.5 The Council will continue to develop and enhance these programmes over future years and will supplement them with improved information and advice on energy (and water) efficiency.

Strategic Priorities for Energy

Continue to implement the corporate Energy and Water Efficiency Programmes, utilising own funding and external grants.	*Ongoing*
Seek to increase the proportion of electricity generated from renewable sources purchased by the Council as contracts are renewed.	*Ongoing*
Continue to participate with partners in the Carmarthenshire Hydrogen Energy Group to explore the development of hydrogen as a clean fuel and to support demonstration projects developed by the Group.	*Ongoing*
Monitor developments in national energy policy and progress with national energy strategies, such as "Energy Saving Wales", and react as appropriate.	*Ongoing*
From 2007 the County Council will report annually on its use of energy, as part of the reporting arrangements for the Carbon Management Plan.	*Short Term*
Monitor progress with the preparation by WAG of a national micro-generation strategy and evaluate its implications and potential for Carmarthenshire, including community benefits, translating these into local plans as appropriate.	*Short Term To Medium Term*
Monitor progress with the preparation by WAG of a national biomass strategy and evaluate its implications and potential for Carmarthenshire, translating these into local plans as appropriate.	*Short Term To Medium Term*
Examine the feasibility of energy and heat generation from alternative less environmentally damaging sources, e.g. biomass, and explore the opportunity for such options to support local sustainable economic development.	*Medium Term*
Evaluate the feasibility of establishing Council Energy Service Companies (ESCOs) to generate electricity at appropriate sites and to sell surplus energy to the national grid.	*Medium Term*
Introduce a programme to provide energy efficient light bulbs in all Council buildings.	*Short Term To Long Term*

Case Study

Environmental Stewardship

A corporate Environmental Stewardship Programme, involving an Energy Efficiency Programme and a Water Efficiency Programme, was established in 1999 aimed at identifying and reducing the wasteful consumption of energy and water in Council buildings. The programme is funded through the corporate 'invest-to-save' Development Fund. The total investment to date is £400,000. The Council has secured grant funding in the sum of £138,000 for the period 2004 to 2007 from the Carbon Trust's Local Authority Financing Scheme to support its energy efficiency work.

Since 1999 the Energy Efficiency Programme has produced a 5% reduction in energy consumption overall (16.8 MWh) by the end of the 2004/2005 financial year, which equates to a cumulative financial saving of over £765,000 and a total reduction of 4170 tonnes of carbon dioxide emissions. The Water Efficiency Programme has yielded a total saving of over 170,000 cubic metres of water over the same period.

The Council's energy and water efficiency programmes have been commended by District Audit in efficiency reviews as examples of good practice.

The photograph shows swimming pool covers installed at Carmarthen Leisure Centre to retain heat when the pool is not in use.

Case Study

Streetlights and Road Signs

Since the beginning of the 2004/05 financial year all of the County's 23800 streetlights and 4550 illuminated road signs have been energised by electricity purchased under a green tariff, i.e. generated from renewable sources.

The contract for this electricity supply, which amounts to over 8 MWh per annum at an annual cost in excess of £430,000, has been established for three years until the end of the 2006/07 financial year. The energising of streetlights and road signs through a green tariff saves 3461 tonnes of carbon emissions to the atmosphere each year.

The Council has for a number of years used low energy lamps in all of its public lighting installations.

The earth's people now consume in 6 weeks the same amount of oil that was consumed in one year in 1950.
Half of it is used for transport.

9. Housing: Providing Quality and Affordable Housing

9.1 In Carmarthenshire the annual emissions of carbon dioxide from Council owned stock have been evaluated as 55,576 tonnes with 626,239 tonnes arising from other stock (privately owned and other social registered landlords). The total release of 683,815 tonnes from housing accounts for 44% of the total amount of carbon dioxide generated in the county.

9.2 Housing is evidently a significant area requiring attention. It has been estimated that the potential saving for householders and tenants in Wales is as much as 30%. Reducing domestic heating costs by this amount would be a major contribution to eliminating fuel poverty.

9.3 The Council's efforts will be applied in two main areas – directly improving the energy performance of its own stock and working with other organisations to raise awareness of energy issues amongst the tenants of other landlords and homeowners to encourage improved energy efficiency in the other stock.

9.4 The Home Energy Conservation Act (HECA) 1996 requires the Council as a social landlord to seek to reduce energy consumption in its residential properties by 30% within fifteen years.

9.5 A major investment programme to refurbish council housing, comprising some 9,500 dwellings, to the Carmarthenshire Homes Standard (incorporating the Welsh Housing Quality Standard), commencing in 2006, presents an opportunity to significantly improve the energy efficiency of council housing and will move the Council towards achieving its HECA obligations.

9.6 Whilst new housing will be built over coming years to meet increasing need the majority of people will live in dwellings that are already built, many of which are old. Adapting properties so that their energy use has a much lower environmental, social and economic impact will need to be a major objective as it offers a means to contribute to other strategic objectives such as health improvement, deprivation, etc.

9.7 Energy demand within housing is likely to change in the future as the result of climate change. There is likely to be reduced need for winter warming but an increased demand for summer cooling as temperatures generally rise. This will make the intrinsic heat characteristics of the fabric of buildings increasingly important and will need to become a more prominent factor in the design process for new dwellings (e.g. aspect) and the refurbishment of existing dwellings (e.g. insulation).

Strategic Priorities for Housing

Work with local Energy Advice Centres to provide that all households receive advice on home energy efficiency.	*Ongoing*
Developing and implementing an Affordable Warmth Strategy to eliminate fuel poverty over the next ten years.	*Short Term To Long Term*
Updating the Home Energy Conservation Act (HECA) Action Plan and implementing it in conjunction with the Delivering the Carmarthenshire Homes Standard project.	*Short Term To Long Term*
As part of the HECA Action Plan and in accordance with the Council's Policy Agreement with the Welsh Assembly Government reducing carbon dioxide emissions and energy use in the Council owned housing stock by 12% of 1997 levels by March 2007.	*Short Term To Medium Term*
Reviewing the public sector housing renewal programme to more effectively target and support energy efficiency and affordable warmth objectives within support programmes.	*Short Term To Long Term*
Exploring opportunities arising our of the construction of new affordable housing, including working with public and private sector partners, to ensure that new build incorporates the highest standards of sustainable design and construction, energy efficiency and exploits opportunities to embed renewable energy generation where feasible.	*Short Term To Long Term*

The 20% of human beings who live in the wealthiest countries consume 60% of energy.

40% of the world's population (2 billion people) have no electricity.

10. Transport: Getting About - Enabling Sustainable Access and Mobility

10.1 Transport emissions account for 29% of the carbon dioxide generated in the county and are the main source of ozone.

10.2 Emissions from vehicles account for a significant proportion of the carbon dioxide generated by the Council's activities. In 2004, 6125 tonnes of carbon dioxide was generated through council business travel with an additional 944 tonnes through staff commuting. Together these represent 27% of the Council's carbon footprint.

10.3 Transport lies at the heart of the Council's functions. The nature of many of the public services provided by the Council, e.g. refuse collection, care in the community, housing maintenance, etc, depend intrinsically upon the movement of people and materials or produce, almost entirely in road based vehicles. Many other important Council services require citizens to travel to central facilities such as schools, libraries, day-centres, leisure centres, etc. The scope to fundamentally change the way in which these socially necessary services are provided is limited and so it is not practical to expect that the need for travel can be eliminated.

10.4 Carmarthenshire is geographically large and predominantly rural and road based transport will always be a key issue in simultaneously promoting social inclusion, economic prosperity, quality of life and sustainable development.

10.5 Whilst an objective to reduce the level of road based transport should continue to be pursued vigorously it has to be acknowledged that in practice the functioning of society within Carmarthenshire will inevitably depend on road based movements. The critical challenge, therefore, will be to devise transport systems, e.g. car sharing arrangements, etc, and utilise transport technologies which maximise opportunity whilst minimising environmental impacts and to mitigate those impacts which cannot be avoided.

10.6 Fuel choice will become increasingly important for the future. With world oil process expected to rise considerably in years to come the availability and use of alternative vehicle fuels will become increasingly important for business efficiency, competitiveness and continuity reasons as much as environmental concerns.

Strategic Priorities for Transport

Continue to support socially necessary non-commercial public transport services to provide sustainable transport choices for citizens and to contribute to the achievement of other strategic objectives, such as social inclusion and community safety.	*Ongoing*
Continue to provide, and seek to enhance where feasible and effective, dial-a-ride services.	*Ongoing*
Keep the Carmarthenshire Local Transport Plan under review with the objective of promoting sustainable transport and reducing the overall environmental impact of traffic.	*Ongoing*
Continue to work with regional partners in SWWITCH (South West Wales Transport Consortium) to encourage more sustainable commuting through car sharing via the www.switch2share.com website.	*Ongoing*
Continue to support local schools in the development and implementation of Sustainable School Travel Plans.	*Ongoing*
Continue to collaborate with partners to explore opportunities for the development and use of alternative fuel technologies, e.g. through the Carmarthenshire Hydrogen Energy Group.	*Ongoing*
Maintain a Staff Travel Group to support the development and implementation of a Travel Plan for Council staff, which seeks to minimise travel whilst effectively meeting operational needs.	*Medium Term*
Continue to work with regional partners in SWWITCH to prepare a Regional Transport Strategy that promotes more sustainable transport choices.	*Medium Term*
Improve fuel consumption for Council vehicles and improve vehicle technologies to include equipment that will reduce harmful emissions.	*Medium Term*
Evaluate the feasibility of using alternative clean fuels for the Council's fleet of operational vehicles	*Medium Term*
Review specifications for the hiring and leasing of vehicles by the Council with a view to procuring vehicles that are fuel efficient and have the minimum environmental impact.	*Medium Term*

11. Street Scene and the Built Environment: Improving Public Places and Managing Waste

11.1 The County Council manages and delivers a range of technical services that care for elements of the public realm, from roads and shopping areas to the coastal zone. Predicted climate change will have an impact on many of these service activities.

11.2 An increased risk of riverine flooding is expected as a consequence of increased precipitation and more intense storm events. Properties and infrastructure situated in floodplains and estuaries will be exposed to higher risk of flooding as will some properties in towns where heavy downpours may overwhelm drainage systems. Transport systems will be more prone to disruption by flooding.

11.3 With rising sea levels and increased storminess coastal areas will be prone to inundation. Coastal erosion could also increase, threatening land and property.

11.4 Maintenance regimes for grassed and landscaped areas are likely to require change and increased costs may be expected due to lengthened growing seasons.

11.5 Street lighting is an important service because of its contribution to road and community safety. Street lighting is a significant energy user but the Council has already made good progress in reducing its impact by procuring green electricity to energise its lights and illuminated road signs, saving around 3461 tonnes of carbon emissions per annum.

11.6 The Council is responsible for managing all the domestic waste arising from the county's 77,000 households and a significant proportion of commercial waste generated by local businesses. The Council's Waste Strategy is based upon the hierarchy of reduce – reuse – recycle as waste deposited in landfill is a major source of methane emitted into the atmosphere. The Council has achieved good progress in its recycling efforts with over 25% of the waste collected being recycled but further progress is required in order to meet Government targets.

11.7 The Council owns CWM Environmental Limited, a local authority waste management company, which operates a landfill site, recycling centres and waste processing facilities, including a successful composting operation. A waste to energy plant has been installed to capture the methane generated within the landfill site and convert it into electricity, which is distributed into the national grid.

Strategic Priorities for Street Scene and the Built Environment

Continue to implement the Flood Management Plan to minimise the impact of heavy rainfall, keeping the Plan under review to ensure that it is modified to cater for changing circumstances.	*Ongoing*
Continue to develop and increase the use of renewable energy to power road signs and street furniture (e.g. bus shelters).	*Ongoing*
Continue to implement the Municipal Waste Strategy to minimise the amount of waste deposited in landfill, thereby reducing the amount of methane generated.	*Ongoing*
Continue to harvest gas from the municipal landfill site at Nantycaws and convert to energy.	*Ongoing*
Continue to work with partners to develop and implement the Coastal Zone Management Strategy.	*Ongoing*
Keep maintenance regimes for grassed and landscaped areas under review to respond to changing conditions, e.g. to maintain service standards or ensure road safety, etc.	*Medium Term To Long Term*
Keep gully emptying and ditch cleaning frequencies under review to ensure that drainage systems operate to full capacity under increased pressure.	*Medium Term To Long Term*
Keep highway and bridge inspection protocols under review to ensure that they have regard for changing conditions brought about by climate change, e.g. increased risk of subsidence due to drying our or increased risk of erosion due to higher rainfall, etc,	*Medium Term To Long Term*

12. Regulation: Ensuring Sustainable Standards

12.1 The use of electricity and heat within buildings is a major cause of carbon dioxide in the atmosphere. Improving the energy performance of buildings must be a major focus of effort in combating climate change.

12.2 The Building Regulations set out national construction standards for new and refurbished buildings. Part L of the Building Regulations 2000 cover the conservation of fuel and power in dwellings and buildings that are not dwellings. The Council's Building Control Unit (as well as private sector consultants) monitors compliance with these standards.

12.3 New measures to make buildings more energy efficient take effect from the 6th April 2006. The objective of the new measures is to improve the energy efficiency of buildings by 40%.

12.4 The Environment Act 1995 introduced a duty upon the Council to review and assess air quality in the county by reference to national standards set by the Government for 2005. A review completed by the Council confirms that the levels of all designated pollutants are below the national standards, although there is concern for a small number of locations affected by heavy traffic flows.

12.5 Air quality in the future could be affected by increased dust in drier and hotter periods with possible consequences for respiratory diseases. Maintaining good air quality is a key objective for the County Council and so it will continue to monitor the level of air borne pollution and emissions in order to protect the health of the population and the local environment.

12.6 Food hygiene will become increasing important as temperature patterns change. Inspection regimes may need to be modified in response.

Strategic Priorities for Regulation

Ensure that the energy efficiency provisions of the Building Regulations are applied in all new buildings and in the refurbishment and improvement of existing buildings.	*Ongoing*
Continue to implement an Air Quality Plan to monitor the level of air borne pollution in the county and to maintain air quality within Government set standards.	*Ongoing*
Keep food hygiene inspection regimes under review and modify them as necessary in response to changing temperature patterns.	*Ongoing*
Evaluate the feasibility of establishing standards for the environmental performance of taxis and private hire vehicles and incorporating requirements in operators' licences.	*Long Term*

Case Study

Waste to Energy at Nantycaws Landfill Site

CWM Environmental Limited, the County Council's Local Authority Waste Disposal Company (LAWDAC), operates a number of waste recycling, processing and disposal facilities across the county, including a large landfill site for biodegradable municipal waste at Nantycaws.

A waste to energy system has been installed at the site, which captures methane and other gases generated through the bio-degradation of wastes in the landfill mass and transfers them as a fuel into a mechanical combustion plant, generating electricity in the process. The output from the plant is fed into the national grid.

The system generates up to 18,000 MWh of electricity per annum, equivalent to the total needs of around 5000 homes.

Through the operation of this waste to energy plant the LAWDAC avoids the release of significant quantities of greenhouse gases to the atmosphere, generates electricity for use by itself and others and provides an income which supports other waste reduction and recycling processes.

13. Buildings and Sustainable Construction: Delivering Construction Excellence

13.1 Energy use in buildings accounts for around half of carbon dioxide emissions in the UK. This can be reduced by a range of measures, including improving efficiency, installing renewable energy sources such as photovoltaic cells (solar panels) or wind turbines, installing combined heat and power systems or by improving insulation to reduce heat loss and wasted energy.

13.2 Whilst sustainable approaches to energy often require higher capital investment this can be recovered over a period of years through lower running costs and/or better service delivery.

13.3 Capital infrastructure projects provide an opportunity to integrate sustainable design principles into the fabric of essential facilities through the use of high performance materials and locally produced materials. Such an approach will generally improve the energy efficiency of buildings and thus reduce emissions and long-term running costs.

Strategic Priorities for Buildings and Sustainable Construction

Review and update Council specifications for building works in the light of the new Sustainable Code for Buildings.	*Medium Term*
Explore opportunities for promoting the use of sustainable urban drainage systems (SUDS) within the Council's estate and in all new appropriate developments.	*Medium Term*
Examine the feasibility of micro-generation of sustainable energy in projects for the construction of new buildings or the refurbishment of existing buildings.	*Medium Term*
Examine the feasibility of specifying "zero waste" or "minimum waste" conditions for infrastructure construction projects.	*Medium Term*

Case Study

Integrated Care for the Elderly, Plas-Y-Mor, Burry Port

The Burry Port integrated care scheme, with 38 self-contained flats for the elderly was developed as a partnership project between Gwalia Housing Group, Carmarthenshire County Council and the Welsh Assembly Government. It has many energy efficient features, including biofuel heating, solar hot water panels and high levels of thermal insulation. A solar street maximises passive solar gains.

The design is intended to give residents full independence but with access into the communal services available within the complex. It is focused around a private internal-garden that has a visual transparency to and from the outside community. The development ensured that the 'green' technologies were properly integrated into the building, and not treated as 'bolt on' additions. This made them affordable and ensured no conflict between different strands of the design strategy. The cost of the scheme at £720/m^2 was relatively low for buildings of this type (Architect: PCKO; Contractor: Tycroes Group)

Extract from 'Building a Future for Wales: A strategy for sustainable housing' (February 2005)
http://www.wwf.org.uk/filelibrary/pdf/building_future_0205.pdf

14. Education and Awareness Raising: Leadership and Communication

14.1 Creating greater awareness of climate change and sustainable development, through education and publicity, will be essential to stimulating the behavioural change that will be required to achieve the progress needed.

14.2 Educating young people will be a particular focus as our present school children will become the citizens of the future and key messages embedded within mainstream learning are more likely to stimulate more sustainable behaviour for the long term. The Council has successfully implemented the Eco-Schools programme in a number of secondary and primary schools over recent years, with an increasing number achieving the Green Flag award. Eco-Schools will continue to be a major plank of the Council's education programme for sustainable development.

14.3 The Council has also held an "Into the Future" festival in the past few years to engage people of all ages, but particularly young people in interactive events to learn about sustainable living choices. The event has been very well received by the public with attendance figures growing each year. In 2005 over 2000 school children attended the event.

14.4 The Council has over a period of time published a number of sustainable living guides for the general public and will seek to enlarge this provision, linking with any national publicity campaigns.

14.5 The County Council's approach to education and awareness raising will be to provide people with the knowledge to allow them to understand the relationship between the social, economic and environmental aspects of their lives, to instil within them sustainable values and equip them with the skills to choose between behavioural options so that they may seek to improve the quality of their lives without prejudicing the prospects of future generations.

14.6 The Council will do this through a range of means, including the publication of information and guidance, through public events and promotions, through the local press, etc.

Strategic Priorities for Education and Awareness Raising

Share knowledge, experience and learning on climate change with the Council's strategic partners through the Community Planning Steering Group and Advisory Panel for Sustainable Development and incorporate climate change challenges within reviews of the Community Strategy.	*Ongoing*
Continue to hold an annual "Into the Future Festival" to promote sustainable development and sustainable living.	*Ongoing*
Continue to promote the Eco-Schools programme as a structured process for raising awareness of sustainable development and climate change issues amongst school pupils.	*Ongoing*
Continue to publish a bi-annual "Stocktake of Sustainable Development Successes" and various sustainability guides.	*Ongoing*
Publish the Climate Change Strategy, including on the Council's website, to encourage wider consideration of climate change issues.	*Short Term*
Publish a Climate Change Handbook for Council staff to encourage more emissions effective behaviour.	*Short Term*
Monitor progress with the preparation of the Welsh Assembly Government's Education for Sustainable Development – A Strategy for Wales and when published develop local measures to deliver aspects of the national programme throughout the spectrum of formal educational activity.	*Short Term To Medium Term*
Monitor progress with the anticipated Welsh Assembly Government strategy for public communication on sustainable development and climate change and when published devise local campaigns and resources to enhance the national provision.	*Short Term To Medium Term*
Produce and deliver training modules for elected members and officers to raise awareness of climate change and its potential implications for the world and Carmarthenshire and to promote alternative behaviours that could contribute to solutions.	*Short Term To Medium Term*
Develop new resources to raise awareness of climate change issues amongst the public to encourage behaviour change.	*Medium Term To Long Term*

APPENDIX 1

The International and National Response to Climate Change

The ***Intergovernmental Panel on Climate Change*** (IPCC) was set up in 1988 to assess the science of climate change. In 1998 the IPCC reported *"the balance of evidence suggests a discernable human influence on global climate".*

The ***United Nations Framework Convention on Climate Change***, launched at the Rio Earth Summit in 1992, requires signatory nations to adopt national programmes for mitigating climate change with the objective of *"the stabilisation of greenhouse gas emissions in the atmosphere at a level that would prevent anthropogenic interference with the climate system, within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner".*

The ***Kyoto Protocol***, which was drafted in 1997 but only enacted in February 2005 following its ratification by Russia, establishes a legally binding obligation on signatory nations to reduce their greenhouse gas emissions by at least 5.2% below 1990 levels by 2008-2012. The European Union agreed to target an overall cut of 10% with the UK agreeing to reduce by 12.5%. It continues to be a matter of international concern that countries such as the USA and Australia have declined to ratify the Protocol.

The ***European Union Greenhouse Gas Emissions Trading Scheme*** (EU ETS) is the main mechanism for ensuring that the EU meets its targets under Kyoto. It officially started on the 1st January 2005 with a first phase running to 2007 and a second phase to run from 2008 to 2012 to coincide with the Kyoto commitment period. All 25 member states are participating in the scheme. They are required to submit a National Action Plan (NAP) setting out how they intend to achieve their obligations.

The ***EU Energy Performance in Buildings Directive (2002/91/EC***) comes into force in January 2006. The Directive requires Member States to specify minimum standards for the energy performance of new buildings and major refurbishments of existing large buildings and to introduce a system of building certification to make energy consumption levels more visible to owners, tenants and users.

The ***UK Climate Impacts Programme (UKCIP)*** was established in 1997 to assess climate change impacts in the UK. In 2000 the ***UK Climate Change Programme*** was launched to outline the UK Government's policies and measures for achieving its target under Kyoto to reduce emissions by 12.5%. Believing the UK can and should go further the Government and the devolved administrations set a domestic goal to cut the UK's emissions of carbon dioxide by 20% below 1990 levels by 2010. UKCIP, funded by the Department for Environment, Food and Rural Affairs (Defra), helps organisations to assess how they might be affected by climate change, so that they may prepare for its impacts.

The ***UK Emissions Trading Scheme*** is a voluntary scheme that began in 2002 aimed at giving UK businesses a head start in emissions trading and to promote the introduction of cost effective emissions reductions measures. 31 businesses and other organisations, including one local authority, have participated in the scheme, which has succeeded in delivering significant emissions reductions.

The ***Energy White Paper***, published in 2003, extended this goal to a target of 60% reduction by 2050, with real progress being achieved by 2020. The UK Government is consulting on a major review of national energy policy during 2006.

The ***Climate Change Levy*** was introduced in 2001 as a tax on the business use of energy, aimed at reducing energy consumption by businesses. The County Council is subject to the levy.

The ***Renewables Obligation*** was introduced by the Government in 2000 to require energy suppliers in the UK to provide a certain proportion of the country's energy from renewable sources. Presently the target is for at least 15% of electricity to come from renewable sources by 2015.

In July 2001 the Welsh Assembly Government published ***Climate Change Wales,*** which summarised the potential impact of climate change for the people of Wales and set out a range of measures aimed at delivering reduction in greenhouse gas emissions in areas that are devolved to the Assembly. Wales has significant natural potential for renewable and alternative energy and the Assembly's goal is to move towards a low carbon economy and to adapt to the impacts of climate change.

Energy Saving Wales, published in 2004, established the Welsh Assembly Government's target to reduce carbon dioxide emissions in Wales by 20% by 2020. In the summer of 2005 WAG consulted on its proposed ***Energy Wales: Route Map to a Clean, Low-Carbon and More Competitive Energy Future for Wales***. In this the Assembly Government sets out its ambition to put Wales in the forefront of clean energy generation, while simultaneously developing a dynamic economy and driving forward a strong energy conservation ethos across our public and private sectors.

The Welsh Assembly Government continues to review its ***Planning Guidance*** to local authorities and is progressively issuing revised ***Technical Advice Notes (TANs)***, which seek to address climate change issues.