

## Climate Change Paper- Full Report

### 1.0 Introduction

- 1.1 This paper follows the March 2008 Board meeting paper that addressed role of Cambridgeshire Horizons in tackling climate change issues relating to the growth agenda. Following the Board's discussion in March, we have been examining how we can take a more integrated and proactive role. The need for all stakeholders, including Local Delivery Vehicles, to integrate climate change considerations into their work is supported by policy statements at international, national, regional and local levels.
- 1.2 Cambridgeshire Horizons, as a Local Delivery Vehicle, primarily focuses on delivery of local and regional policy objectives, whilst climate change is an issue that respects no geographical boundary, and the international context is vital to understand. Our Business Plan for 2008-11 includes a key responsibility to, 'Promote the highest achievable level of sustainable development, including future-proofing against climate change'. An Action Plan setting out how we hope to achieve this follows, for discussion by the Board. It sets out short, medium and long-term goals for Cambridgeshire Horizons (and by extension for the wider growth partnership) towards integrating climate change considerations fully and helping to reduce carbon dioxide emissions across the County.

### 2.0 Policy Context

- 2.1 Responding to climate change is no longer a choice; it is a necessity. Until recently the existence of climate change was a politically charged issue; now there is near unanimous agreement that business as usual cannot continue. In order to avoid the worst-case scenario of swiftly rising world temperatures and to adjust to the unavoidable changes already set in motion, society and the economy will need to change fundamentally over two generations. However, the great challenges and risks of climate change are not inimical to growth and increases in quality of life in the Cambridge sub-region. As the Stern Review emphasised, 'Emissions have been, and continue to be, driven by economic growth; yet stabilisation of greenhouse gas concentrations in the atmosphere is feasible and consistent with continued growth'. The growth agenda must overcome inertia and adherence to traditional methods of delivery to dynamically reduce pollution, minimise the detrimental impacts of changing weather patterns and demonstrate the art of the possible so the solutions for new communities can be translated to existing communities. Cambridgeshire Horizons is in an excellent position to reduce barriers and explore cross-border solutions, building on our existing record of strong partnership.
- 2.2 It is essential to have a shared understanding of what we mean by climate change at the outset. For the purposes of this paper, emissions of carbon dioxide are being treated as a proxy for greenhouse gases, a group of gases that cause the greenhouse effect. This phenomenon traps heat within the Earth's atmosphere, increasing the average temperature across the globe and altering weather patterns. Carbon dioxide is the most ubiquitous and plentiful of the greenhouse gases, and its concentration in the atmosphere has been rising dramatically since the Industrial Revolution. Transport, energy generation, industry and agriculture around the world all emit large quantities of CO<sub>2</sub>, and policy at every level has targeted CO<sub>2</sub> emissions. Despite the strong emphasis on reducing the amount of carbon dioxide

generated by day-to-day activities, this cannot be considered in isolation. Tackling the greenhouse effect also involves protecting and enhancing carbon 'sinks'. These are natural mechanisms that remove CO<sub>2</sub> from the atmosphere and release oxygen, and occur in forests, oceans, soils and in peat bogs particularly. Green spaces are therefore a vital component of climate change policy, both for mitigation and adaptation.

2.3 Scientific consensus on the veracity and seriousness of climate change took some time to coalesce, but now has gained worldwide political acceptance. The response so far has been an avalanche of policy, including myriad strategies, frameworks, and targets. The most recent and significant of these are summarised below.

### 2.4 International

The Kyoto Protocol was adopted in 1997 and entered into force in 2005. It commits those countries that have ratified it, including the United Kingdom, to reduce their greenhouse gas emissions. The binding target agreed to by the UK is a 12.5% reduction by 2012, from a 1990 baseline. Kyoto targets are legally binding, an extremely unusual characteristic for international environmental law, which as a rule uses soft implementation mechanisms. The UK is on track to meet its Kyoto targets, as long as emissions from aviation and shipping are not included in the total. When these are factored in, UK emissions clearly show an increase on 1990 levels. This is of grave concern given the consensus that much larger reductions in greenhouse gas emissions will be necessary than was anticipated during the Kyoto negotiations.

In 2007, the Intergovernmental Panel on Climate Change and Al Gore won a Nobel Peace Prize for their work on expanding knowledge and awareness of man-made climate change. Their report of the same year represented a step change in the worldview on climate change, and is considered by some to have ended the debate over whether humans are causing increases in world temperature. Now discussion centres on how we are to respond to it. The UN Bali Climate Change Conference met in December 2007 to negotiate a pact that will succeed Kyoto in 2012. This short conference did not result in a full treaty, but rather an agreement between the G8 nations to reduce emissions by 50% by 2050. The mechanisms for this massive worldwide cut have yet to be determined, although it is safe to assume that the current carbon trading mechanisms will need to be expanded.

### 2.5 European

The European Union has operated an emissions trading system since 2005, as a mainstay of European-level climate policy. This allocated each EU nation a certain volume of emissions and created a market to allow them to be traded within and between countries. However, the scheme does not currently cover CO<sub>2</sub> emissions from all sectors. Transport, by plane and road, is excluded, although reporting schemes for these sectors are being developed. The UK government is currently considering adding surface transport emissions to the trading scheme, and undertaking research into the impact of aviation also being included. However, in order to express their full cost to the environment, the market price of transport emissions would add a notable amount to transport costs. This would have political ramifications that governments are wary of.

EU policies on climate change have been firmly market-focused, and largely focussed on the supply side. A number of directives have sought to set standards or

make more information available to the consumer, for example the Energy Performance of Buildings Directive, End-use efficiency and Energy Services Directive, and Eco-design of Energy-Using Products Directive.

## 2.6 National

A Climate Change Bill has been introduced and is presently under consideration by the House of Commons. This was spurred by the influential Stern Review, published by HM Treasury on the 30<sup>th</sup> October 2006, which took the uncompromising view that, 'climate change threatens the basic elements of life'. The review examined the economic impacts of climate change in depth, and concluded that mitigating against climate change now is an essential investment in future well being and is economically justified. It emphasised the need to decouple economic growth and the perception of wellbeing from increased CO<sub>2</sub> emissions, in four ways:

- Reducing demand for emissions-intensive goods and services;
- Increased efficiency;
- Action on indirect emissions, for example avoiding deforestation;
- Switching to less carbon intensive technologies for power, heat and transport.

These aims are highly ambitious, and the provisions of the Climate Change Bill are arguably too weak to achieve them. Nonetheless, the Bill would commit the UK to a statutory target of 26% lower CO<sub>2</sub> emissions by 2020 and 60% lower by 2050. These targets are subject to review by a new independent Committee on Climate Change to determine whether they should be stronger. Significantly, reductions purchased overseas through emissions trading will be counted towards UK targets. The Bill contains enabling powers to introduce new trading schemes, requires binding five-year carbon budgets to be set, and introduces new requirements for regular reporting to parliament on risks and progress on adaptation to climate change. However it does not directly address the barriers in the energy market that are holding back investment in renewable energy or offer any new way forward for reducing emissions from transport.

## 2.7 Local

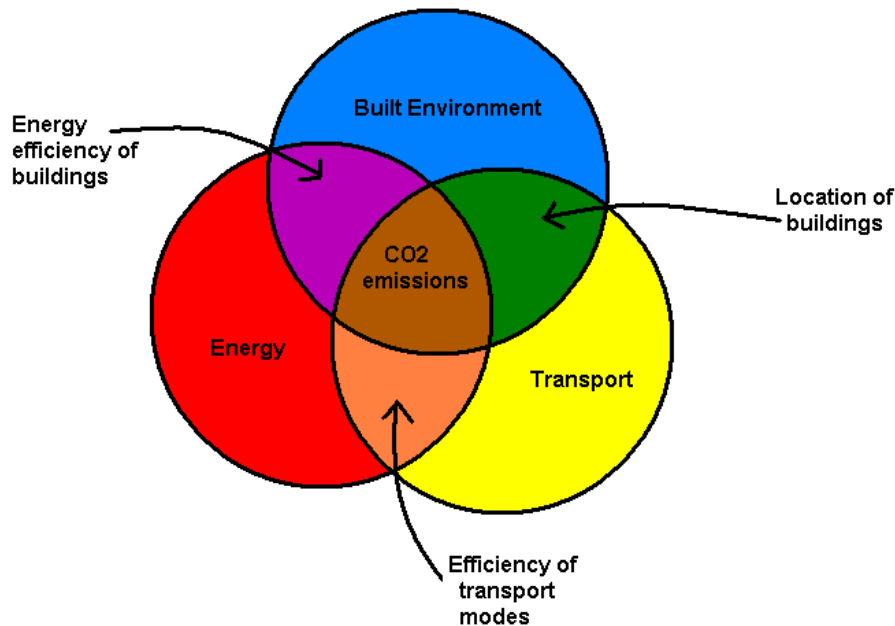
Within the spatial planning system, Local Planning Authorities have had a statutory duty to have regard to sustainable development since the Planning and Compulsory Purchase Act was passed in 2004. Planning Policy Statement (PPS) 1 on Delivering Sustainable Communities followed in 2005, broadly setting out the balance to be struck between social, economic, and environmental considerations in order to ensure the highest quality communities. In 2007 a supplement to this Statement was published that specifically deals with Climate Change, strengthening the argument for mitigation and adaptation measures to be included in new developments. It also details the overarching 'decision-making principles' that regional and local planning bodies must integrate into all their policies. These cover the limitation of CO<sub>2</sub> emissions, promotion of renewable or low carbon energy, consideration of both mitigation and adaptation concurrently, monitoring, and sustainability appraisal of all plans and policies. Planning Policy Statement 25, on Development and Flood Risk, and 3, on Housing, build on PPS 1 to bring out more specific requirements to respond to climate change risks.

PPS 3 requirements for high quality, well-designed housing are supported by the Code for Sustainable Homes. This sets out standards for the environmental performance of a home across nine categories, from ecology to waste, and gives a rating from zero to six stars. At 'level six', the development is considered to be an exemplar of zero carbon, as it will draw all energy from renewable sources. To achieve six stars, a development cannot rely on efficiency measures and the inclusion of individual renewable energy features (such as rooftop solar panels); a site-wide approach to sustainability is required. This will include a renewable energy source, such as biomass combined heat and power plant or wind turbine scheme. The Code is currently a voluntary standard, but it will become mandatory to build to certain levels from 2009. The level will rise until 2016, when level 6 will be obligatory. In 2019, the zero carbon requirements will be extended to all other buildings. As things stand, zero carbon developments are rare exemplars, and it is therefore anticipated that capacity and skills in the building market will need to change radically for this target to be achieved.

2.8 With pressure both at international and national levels to reduce CO<sub>2</sub> emissions and ensure climate change proofing, there is a strong and growing case for investment now. The growth agenda in the Cambridgeshire must ensure that the appropriate risks are mitigated and opportunities explored as climate change policy crystallises. The most important message to extract from reams of analysis is that the less we consider climate change now, the more difficult it will be to catch up in the future. The world is on the cusp of an unprecedented period of change, and the choice to make is whether to embrace the potential of less carbon-intensive development, or to deny and delay until mitigation is impossible. For the growth agenda to succeed, it must not only choose the former, but lead the way. The next sections will detail the ways in which growth in the sub-region could act as a catalyst for reducing CO<sub>2</sub> emissions, despite also having potential to increase them.

### **3.0 How and where does the Growth Agenda contribute to CO<sub>2</sub> emissions?**

3.1 Levels of CO<sub>2</sub> emitted per head of the population vary between regions and counties, as well as between countries. The East of England's economic expansion has made it a high emitter in comparison with other regions. In order to understand how Cambridgeshire's growth agenda can proceed sustainably, in hand with reductions in emissions, it is necessary to examine how and where most emissions are generated. The diagram below gives an overview of the interdependencies, showing that no one source of emissions can be effectively tackled in isolation.



### 3.2 The Built Environment

The Regional Spatial Strategy formally adopted in May 2008 requires 73,300 new homes to be built across the County from 2001 to 2021. Considerable increases in non-residential development, including offices, industrial spaces, public buildings and roads, will also be required as the population and economy expand. The built environment is currently carbon-intensive, although exemplar projects and stronger design policies are starting to improve this. It generates emissions both directly in the short term, during building works, and indirectly in the medium and long term. Careful design impacts on behaviour, use of efficient materials saves energy and water, and siting influences transport choices. New build also has the potential to trigger wider environmental improvements, such as new wildlife habitats and the rejuvenation of green space for leisure use. Unfortunately the reverse can also be the case, and badly planned development can lead to the loss of green space and entrenchment of unsustainable consumption and transport patterns.

The manufacture of standard building materials, such as concrete, requires considerable amounts of energy. Further emissions will be caused by the transport of such materials, which often occurs by road. CO<sub>2</sub> generated in the manufacture and transport of objects is known as their 'embodied carbon'. Although this pollution is not attributed directly to the growth agenda, as it often occurs elsewhere, it must be factored into the overall sustainability of the building. Levels of waste are also important to consider.

Once buildings are occupied, their design and the behaviour of their inhabitants determine how energy and water efficient they can be. Poor insulation, badly sited windows and lack of natural ventilation can all contribute to unnecessary energy use. Likewise, if grey water recycling systems and efficient fittings are not included, water savings will be missed. The Code for Sustainable Homes is going beyond current building regulations to increase aspirations and, eventually, requirements for resource efficient building. In 2016 it will become obligatory for all homes to be built to code level 6, classed as 'zero carbon', but reaching this standard before 2016 would contribute markedly to reducing CO<sub>2</sub> emissions, water use, and waste in new communities.

It must be noted that building new developments to high environmental standards is not sufficient to reduce emissions from the built environment. The growth planned for the county to 2021 will constitute an increase in housing stock of approximately 5%. The vast majority of buildings will therefore require upgrading and retrofitting to promote energy and water efficiency. Moreover, individual patterns of behaviour can have a massive impact. Without awareness of unnecessary energy and water use, the built environment's carbon footprint will remain high. Analysis suggests that an additional 40% reduction in carbon emissions can be achieved through behavioural change in the home and in transport choices.

### 3.3 Transport

Transport is a significant and increasing source of CO<sub>2</sub>, responsible for more than a third of current emissions in Cambridgeshire. Use of all types of transport is best understood as a derived demand, because travel almost always occurs for an indirect purpose rather than for its own sake. Transport networks are thus inextricably linked to economic and social activity. The spatial planning system has long recognised this linkage, most recently highlighted in the Eddington Transport Study. The East of England Regional Spatial Strategy (RSS) put in place a sequential test for growth in the Cambridge sub-region. Development within Cambridge is given precedence over urban extensions, which in turn are to be developed as a higher priority than the new settlement of Northstowe or extensions to market towns within Cambridgeshire. The rationale for this extends beyond transport infrastructure, but encouraging sustainable travel, particularly for commuting journeys, is integral.

Congestion within Cambridge city centre and on the County's arterial routes has significant costs to the environment and economy. The growth agenda risks increasing such problems if jobs, social infrastructure and homes are not located prudently in relation to each other and if increased population is not accompanied by investment in public transport and effective demand management. Moreover, the range of sustainable travel options available to the population of the County will be a key determinant whether CO<sub>2</sub> emissions from transport can be reduced.

If successful, the Cambridgeshire bid for £500 million Transport Innovation Fund will have considerable potential to reduce emissions. In combination with full implementation of the Local Transport Plan (LTP) and Cambridge Huntingdon Multi-Modal Study (CHUMMS), these transport infrastructure projects could reduce CO<sub>2</sub> emissions by 80,000 tonnes per annum by 2021. However providing the infrastructure to offer sustainable choices is not sufficient, as user choices have a massive impact on modal split. Public transport, cycling and walking must be made more attractive to the population in order to reduce the number of car journeys. National road tax and major increases in petrol costs are showing signs of initiating behavioural change. However more progress is needed, as car use is an entrenched habit that must be reduced for CO<sub>2</sub> emissions targets to be met. There are also significant links to be made here with health issues, as increased use of sustainable transport options reduces sedentary lifestyles.

### 3.4 Energy

The new communities to be built through the growth agenda will add to the County's consumption of electricity. The vast majority of energy currently consumed in

## **Appendix B**

Cambridgeshire is derived from non-renewable sources. The Department for Business and Regulatory Reform energy statistics show that in the first quarter of 2008, 45.7% of electricity supplied in the UK was generated from natural gas, 32.2% from coal and 12.6% by nuclear power. Only 7.3% of electricity was derived from 'oil, renewables and other'. Both Cambridgeshire and the UK at large have massive untapped potential for renewable energy generation. The ESD Carbon Appraisal of the Long Term Delivery Plan (LTDP) notes that the technical renewable energy potential of Cambridgeshire is almost seven times the capacity currently installed. The report picks out wind power, biomass and landfill gas as the most promising sources of renewable power for the sub-region. The dynamism and innovation of the Cambridgeshire high tech economy also offer promising opportunities to lead the way in these sectors.

Like transport, energy is consumed for many purposes and can be used in an unsustainable manner even if generated sustainably. Reducing emissions by increasing renewable energy capacity must be matched by demand management measures. Smart electricity metres that give exact real time information on energy consumption help households and businesses to identify unnecessary energy usage. For example, it is notable that as wealth has increased, ownership of electronic consumer goods such as flatscreen televisions, DVD players, and wireless routers has become widespread. Such devices are often left constantly on standby.

Energy use by homes, businesses, and public buildings contributes a substantial proportion of Cambridgeshire's CO<sub>2</sub> emissions, estimated at 59.2% of the 2005 total by the Department of Environment and Rural Affairs. Note that this statistic must be treated as inclusive of emissions from the built environment, but excludes transport and land use.

### **3.5 Land Use**

The final major contributor to CO<sub>2</sub> emissions is termed land use, land use change and forestry (LULUCF). Although not shown on the diagram above, this underlies other sources of emissions. This encompasses loss of carbon sinks, areas able to absorb CO<sub>2</sub>, as well as natural decomposition processes in the soil. The level of LULUCF emissions will be impacted by agricultural methods and waste activities such as landfill. The Growth Agenda therefore has the potential to add to this by increasing levels of waste and reducing green space.

The Growth Agenda will contribute differently to emissions in different parts of the County, and a uniform approach to reduction should therefore be guarded against. In aggregate, CO<sub>2</sub> emissions will be higher in urban centres and lower in rural areas. However, when population is taken into account, per capita urban areas perform better. LULUCF emissions can more usefully be targeted in rural areas, whereas sustainable transport options can more effectively be promoted in towns and cities. The Growth Agenda is focussed on the expansion of existing urban settlements, but it must be remembered that a third of the new homes within the 2021 RSS target are expected to be built on small sites scattered around the County. Reducing CO<sub>2</sub> emissions in rural parts of Cambridgeshire presents different challenges to those of urban areas, but these cannot be ignored.

## **4.0 What are the Key Issues for the Growth Agenda?**

- 4.1 The section above has shown that in order to ensure that the Growth Agenda does not increase CO<sub>2</sub> emissions across the built environment, transport, energy and LULUCF, concerted action will be needed. Cambridgeshire Horizons and all its partners need to focus on the key issues that will unlock carbon savings. It is fair to say that action on climate change has thus far lagged considerably behind intention. There remains a significant gap between belief in the need to swiftly reduce CO<sub>2</sub> emissions and a roadmap for how this will actually occur. Without an understanding of how to achieve them, 2050 CO<sub>2</sub> emissions targets of 60% less (The Climate Change Bill), 80% less (The Stern Review), and 90% less (Cambridge City Council Climate Change Strategy) are essentially meaningless. It is clear that sweeping changes will be required to meet the least of them. In order to make the route clearer, key issues to be addressed within the growth agenda follow.
- 4.2 The Carbon Appraisal of the Long Term Delivery Plan states that at the moment the sub-region is not on track to meet long-term carbon reduction targets, and that a new strategic approach is called for in order to deliver zero carbon development. As a Local Delivery Vehicle (LDV), Cambridgeshire Horizons is tasked by the Regional Spatial Strategy to support these goals. The Regional Spatial Strategy Implementation and Monitoring Framework includes LDVs as key contributors to the following regional sustainability objectives:
- A i) Locate development so as to reduce the need to travel;
  - A ii) Effect a major shift in travel away from car use, towards public transport, cycling and walking;
  - A iii) Maximise the energy efficiency of development and promote renewable and low carbon energy sources;
  - A iv) Reduce the risk of adverse impact from flooding on people, property and wildlife habitats;
  - C iv) Ensure adequate and sustainable transport infrastructure;
  - D i) Ensure new development fulfils the principles of sustainable communities, providing a well designed living environment adequately supported by social and green infrastructure;
  - E i) Ensure the protection and enhancement of the region's environmental assets, including the built and historic environment, landscape and water;
  - E ii) Re-use previously developed land and seek environmental, as well as development, gains from the use of previously undeveloped land;
  - E iii) Protect and, where appropriate, enhance biodiversity through protection of habitats and species, and create new habitat through development;
  - E iv) Provide a network of accessible multi-function green spaces;
  - E v) Reduce the demand for, and use of, water and other natural resources, and reduce waste while increasing the sustainable management of waste.

- 4.3 The Draft East of England Regional Economic Strategy reinforces these priorities and seeks to set targets of a 80% reduction in CO<sub>2</sub> emissions by 2050, as suggested by the Stern Review, as well as a reduction of a third in average household water use by 2030, 37% less waste arising by 2031 and 20% of all energy from renewable sources by 2020.
- 4.4 Both the Regional Spatial and Economic Strategies, to be combined in due course to form the Integrated Regional Strategy, suggest that Local Area Agreements will deliver their targets at a sub-regional level. The Cambridgeshire Local Area Agreement includes National Indicators 186, per capita CO<sub>2</sub> emissions and 188, adapting to climate change. A Climate Change Partnership for the County has been set up, however the contribution to these targets from the delivery of growth will be led by Cambridgeshire Horizons. To do so we must address the key issues listed above and build on our existing strong partnership working arrangements.
- 5.0 How can the Growth Agenda support reductions in CO<sub>2</sub> per capita?**
- 5.1 The Growth Agenda for the Cambridge sub-region offers the chance to demonstrate what the Stern Review refers to as the ‘decarbonising’ of an economy. This requires a multifaceted approach, using new communities to demonstrate the achievability and desirability of a more sustainable way of life, attracting public and private investment, and encouraging diversification in the economy towards innovative sustainable products, or ‘clean tech’. The Carbon Appraisal of the LTDP echoes Stern’s warning that ambitious reductions in CO<sub>2</sub> emissions will not succeed without suitable low carbon infrastructure. As infrastructure has such significant initial costs and long life spans, there is a danger that outdated transport, water, and energy infrastructure will block decarbonisation. This is known as ‘lock-in’ to an undesirable outcome. However, the Growth Agenda requires an immense programme of infrastructure works that can impact much more widely than just the new communities. This investment comes at the right time to instigate lock-in to sustainable infrastructure, as well as offsetting CO<sub>2</sub> emissions in existing stock.
- 5.2 When considering transport infrastructure, examples of this include the Cambridgeshire Guided Busway, a major public transport project that opens up development of the new settlement of Northstowe, whilst also offering an attractive public transport alternative to existing communities around and within Cambridge. The Transport Innovation Fund bid, if successful, will have wider-still ramifications for sustainable transport in the sub-region.
- 5.3 The Growth Agenda is also attracting skills, investment and innovation to the area of the built environment. Supported by Growth Area Funding, the SmartLIFE Centre widens awareness of modern methods of construction. The Cambridge Fringe Sites and Northstowe intend to reach levels of the Code for Sustainable Homes in advance of legal requirements, while the Programme of Development currently being refreshed by Cambridgeshire Horizons includes exemplar eco-home projects.
- 5.4 Energy infrastructure is particularly in need of additional investment and institutional change to break the reliance on non-renewable fuels. Cambridgeshire Horizons is partnering with Renewables East to lead a pioneering project to establish a Combined Heat and Power Plant in Northstowe. This scheme could provide 100% of the electricity and 50% of the heat required by the new settlement. To establish this, a Special Purpose Vehicle is expected to be launched using Housing Growth Fund and European Regional Development Fund monies. The Carbon Appraisal of

the Long Term Delivery Plan identifies that for large scale development projects such as Northstowe, it may be necessary for the public sector to act as an intermediary, providing up-front infrastructure investment which generates energy and carbon rights to be used as a marketable community asset at some future point in time.

- 5.5 In addition to leading projects, Cambridgeshire Horizons will support our partners' Climate Change Strategies. Cambridgeshire County Council's recently adopted Climate Change Action Plan specifies support from Horizons to achieve the following:

Action 12 – Development of recycling centre infrastructure to cope with planned growth in the Cambridge sub-region;

Action 49 – Increase renewable energy provision in new developments, specifically Northstowe, Cambridge East and Cambridge North West;

Action 53 – Deliver appropriate water infrastructure in Cambridgeshire, as set out in the Water Cycle Strategy for the Cambridge sub-region.

- 5.6 Cambridgeshire Horizons is also leading a partnership to deliver the Green Infrastructure Strategy. Green spaces and habitat enhancements will increase the carbon sink potential of Cambridgeshire. The Growth Agenda will contribute to this by delivering strategic networks of green infrastructure for leisure, habitat, walking & cycling use. These will also contribute to more sustainable transport choices for the whole County.
- 5.7 The extent of the Growth Agenda offers wide potential for economies of scale. New technologies, including certain renewable energy and transport projects, are only viable if a certain amount of housing growth can support them. Once viability is achieved, projects that promote sustainable energy generation and transport choices can have wide social benefits, as well as demonstrating new solutions with wider application to existing communities. Likewise, the new public buildings required by the Growth Agenda offer the chance to demonstrate the art of the possible in terms of low carbon building and co-located facilities. There is also an opportunity to influence transport choices by ensuring convenient access by foot, cycle, and bus to new facilities such as medical centres and libraries.
- 5.8 Cambridgeshire Horizons is already seeking to influence planning and design of the Growth Agenda through development and promotion of the Quality Charter for Growth. This includes focuses on four characteristics of quality development: consideration of community, connectivity, climate, and character. Adoption and implementation of the Quality Charter will help climate change considerations to become integral to design in the Growth Agenda.
- 5.9 In the long term, the Growth Agenda will be used to set in motion wider behavioural change. It has the opportunity to act as a springboard for the transition to a culture of low carbon living. However, a cautious note must be sounded on funding. Concerted, swift action and sufficient financial support is needed to match high aspirations. The Long Term Delivery Plan shows a funding gap of approximately £763,800 for infrastructure required by the Growth Agenda, not including the additional £2.2 billion estimated to be required to reach zero carbon by 2016. Cambridgeshire Horizons are developing strategies to fill this gap, including the

development of a Community Infrastructure Levy, or Variable Tariff, and lobbying central government. The financial challenges of delivering low carbon growth are great, but as emphasised in the Stern Review are essential for long-term economic and social cohesion.

### 6.0 Conclusion

- 6.1 When climate change is viewed on global scale, it appears insurmountable and overwhelming. Thus the first and most important aim must be to tackle and overcome the fatalism and inertia that this sense of inevitability feeds. The Growth Agenda for Cambridgeshire offers a unique and timely opportunity for cutting CO<sub>2</sub> emissions by investing in low carbon infrastructure and changing patterns of behaviour and demonstrating for other parts of the country, or indeed the world, that a new way of doing things is possible. Cambridgeshire Horizons must grasp this opportunity and act swiftly in partnership with local, regional, and national government, infrastructure providers and agencies to ensure the best outcome for the County is achieved. An Action Plan is attached to show how we propose to promote reductions in CO<sub>2</sub> emissions and adaptation to climate change across the Growth Agenda.
- 6.2 As the Stern Review says, 'It is still possible to avoid the worst impacts of climate change, but it requires strong and urgent collective action. Delay would be costly and dangerous.' Cambridgeshire has recognised this, now we must translate ambition into action.

### 7.0 References

BERR Energy Trends June 2008  
CLG Planning Policy Statement 1: Delivering Sustainable Communities  
Planning and Climate Change: Supplement to Planning Policy Statement 1  
CLG Planning Policy Statement 3: Housing  
CLG Planning Policy Statement 25: Development and Flood Risk  
Cambridge City Council Draft Climate Change Strategy  
Cambridgeshire County Council Climate Change Strategy  
Cambridgeshire County Council Climate Change Action Plan  
Draft Regional Economic Strategy for the East of England  
Stern Review Executive Summary  
Climate Change Bill  
CLG Code for Sustainable Homes  
East of England Plan: Revision to the Spatial Strategy for the East of England  
Cambridgeshire Horizons Business Plan 2008-11  
Cambridgeshire Quality Charter for Growth  
Cambridge Sub-region Long Term Delivery Plan  
Carbon Appraisal of the Cambridge Sub-region Long Term Delivery Plan  
East of England Plan Implementation and Monitoring Framework