

SOUTH CAMBRIDGESHIRE DISTRICT COUNCIL

REPORT TO: Climate Change Working Group 21 June 2007
AUTHOR/S: Chief Executive / Corporate Manager - Policy, Performance & Partnerships / Strategic Sustainability Officer

TAKING ACCOUNT OF CLIMATE CHANGE IN THE SOUTH CAMBRIDGESHIRE GROWTH AREAS

Purpose

1. At the last meeting of the Climate Change Working Group, members agreed upon three priority areas that they felt the Group should actively pursue as the first elements in a rolling programme of 'task and finish' work. The second of these was to focus upon reviewing the current level of incorporation of the climate change agenda within the South Cambridgeshire 'growth areas'.
2. An outline brief for this piece of work has subsequently been drawn up (attached as Appendix A to this report) and, subject to members' approval, will be used as its terms of reference.
3. The purpose of this paper is to take the first steps towards fulfilling this task. The specific objective at this point in time is to lay the groundwork for members in considering this matter. Looking to ensure that SCDC is taking all the necessary steps (within its sphere of control and influence) to maximise the opportunities for residents of the growth areas to live in ways which are exemplary in their positive response to the implications of climate change.
4. Ultimately it is how sustainably people are able to work, rest and play in these major new developments which will dictate the success or otherwise of planned measures which must include:
 - (a) mitigation against further and dangerous levels of climate change¹, and;
 - (b) adaptation to the potentially hazardous effects of enhanced global warming².

Outcomes

5. There are no specific recommendations attached to this paper. Rather, it is envisaged that, following consideration and deliberation, the working group will have:
 - (a) achieved a shared understanding of the current policy position in which the Council is currently operating with regard to advancing the climate change agenda in the growth areas;
 - (b) developed a prioritised list of significant climate change related matters through which the Working Group considers that it can add value and make a constructive difference in ensuring that the new growth area developments maximise climate mitigation and adaptation measures.

¹ Mitigation broadly involves measures to reduce greenhouse gas emissions – typically carbon based gases (predominantly CO₂). Hence the majority of actions are focused upon achieving what are known as low or zero carbon developments.

² Adapting to climate change broadly refers to measures that will sustain a high quality of life in an environment which has been markedly modified by global warming – it is a point of principal that these adaptations must be low or zero carbon based.

Structure

6. This report is looking to cover and / or revisit a great deal of the necessary preliminary understanding. Members may well find there are sections with which they are already familiar and can be readily skipped over. Apologies if this is the case but it is felt necessary to include as a matter of completeness.
7. The topics covered are as follows:
 - The relationship between climate change and growth areas
 - The South Cambridgeshire Growth Areas – present standing
 - Planning – players, interests and process
 - Current policy, advice and guidance

The relationship between climate change and growth areas

8. For the future of South Cambridgeshire, climate change and sub-regional growth currently stand as the two most significant agents of transformation and are quite likely to remain so for decades to come. Both are now fully acknowledged but responses are still, to a large degree, at the planning stage. Planned for correctly and the future for the District is a very positive one, incorrectly or ineffectively and the future is less certain. Establishing fully committed links between both mitigating against and adapting to climate change and the major new build projects is an imperative for which there is little room for excuses or putting off until tomorrow.
9. As introduced above, responses to climate change focus around 'mitigation' and 'adaptation' with the former presently receiving the greatest attention, although, in time, they will inevitably become more equal co-dependant partners. The reason for this more immediate emphasis upon measures to slow climate change is that, both locally and globally, greenhouse gas emissions from human activity continue to rise. Unless this rise is rapidly countered the effect upon global warming will become uncontrollable and almost unimaginably dangerous.
10. Modern economic growth and progress is utterly wedded to energy use which for decades has been cheap and predominantly fossil fuel derived (coal, oil and gas being burnt to release their energy whilst dumping significant amounts of carbon into the atmosphere). Cheap energy on tap at any time is now so taken for granted and built into the infrastructure and day-to-day living of the 'developed' world that society, as we experience it today in the UK, simply could not hold together without it.
11. The South Cambridgeshire Growth Areas will, without careful planning and the extensive use of climate change sensitive designs, infrastructures and technologies, simply become ill-adapted significant greenhouse gas contributors. It is the responsibility of this Authority, the landowners, developers, builders, other influential bodies, organisations and agencies and ultimately, and most importantly, future residents/occupiers to ensure that, as far as is practically possible, these major new developments contribute as little as possible to enhanced global warming. This must be achieved alongside securing a high level of quality of life and well-being both now and for future generations to come.
12. The language of climate change response revolves around the word 'carbon': carbon reduction, zero-carbon, carbon neutral, low-carbon, embodied carbon, carbon footprints, carbon sequestration, carbon capture and storage, carbon taxes, carbon markets, carbon trading, carbon credits *et al.*

13. The effect of a particular activity upon enhanced global warming (and subsequently climate change) is generally measured in terms of the amount of carbon it emits into the atmosphere. Not all greenhouse gases contain carbon (e.g. nitrous oxide and sulphur hexafluoride) but for convenience they can all be given a 'global warming potential' figure (the potential each gas has to trap heat over a given period) with a fixed quantity of carbon dioxide (CO₂) being given a potential of 1. On this basis methane is 23 times more potent and chlorofluorocarbons (CFCs) 6,000 to 14,000 times more potent. The gases also have varying lifetimes in the atmosphere, e.g. CO₂: 100-1000 years, methane: 12 years, and CFCs: 45-1700 years.
14. The science of enhanced global warming is based upon measurements of the concentrations of these gases within our atmosphere (past and present) – the effects of which are then modelled to create climate change predictions. The headline figure for CO₂ is of most prominence (accounting for 85% of the UK's greenhouse gas emissions in 2005). In 1750 (pre-industrialisation) there were 278 parts per million (ppm) of CO₂ in the earth's atmosphere, now that figure is 380ppm and continuing to rise by 1.5-2ppm.
15. The Intergovernmental Panel on Climate Change states that temperatures will likely increase somewhere between 1.4 and 5.8°C over the next 100 years.
16. The presently envisaged 'safe' target is that we should seek to keep warming below a 2°C 'tipping point' (beyond which global warming may achieve unstoppable momentum). A 2°C rise is likely to equate to an atmospheric CO₂ concentration of approximately 400ppm and staying below this will probably require greenhouse gas emissions to peak by 2015.
17. A fundamental element in the uncertainty over the more precise timing and extent of this change relates to how humans will behave.
18. In the UK, the key issue is whether we are collectively capable of reducing our annual average per capita emission of 9.4 tonnes of CO₂³ by approximately two thirds (the US stood at 19.8 tonnes per person in 2005). Can we rapidly change our carbon (fossil fuel) hungry lifestyles for ones which need less energy, use it more efficiently and draw it from cleaner sources?
19. Emissions of CO₂ make up the bulk of most individual's contribution to global warming – the total of which can be usefully termed our 'carbon footprints'. Just about every energy-consuming activity we do has a carbon cost. Sometimes this is obvious (e.g. driving a car or firing up a domestic boiler) at other times less so (wasting drinking water, buying food with excessive packaging and / or that has travelled many miles to get to our kitchen cupboards). Adding up our individual contributions to global warming produces a total carbon footprint figure. Shrinking these footprints is a powerful means of visualising where we are now and what needs to be done.
20. The growth area developments, in creating thousands of new residences and other properties, stand to contribute very significantly to South Cambridgeshire's collective carbon footprint.

³ To make it easier to imagine what a kilogramme of carbon dioxide (CO₂) looks like, consider a party balloon. This would hold about 10g of CO₂. A hundred such balloons would hold a kilogramme of CO₂. A hot air balloon holds the equivalent of 1,800kg (or 1.8 tonnes) of CO₂. Each year, the average dwelling in the East of England emits approx 6,000 kilogrammes of CO₂ - enough to fill 3.3 hot air balloons or about 6,190 party balloons.

21. However, being new build on a large scale, the opportunities to achieve demanding carbon reduction targets could hardly be greater. Construct and incorporating physical infrastructure, design, technologies, facilities and services which are deliberately, comprehensively and integrally tailored to achieve the necessary carbon reduction targets is thus much more than desirable – it is an imperative.

The South Cambridgeshire Growth Areas

22. SCDC is presently involved as a major partner (principally as the Local Planning Authority (LPA)) in four key growth area sites. These are, in order of development:

Arbury Park (Cambridge Northern Fringe)

23. Outline permission for the whole site (approx.900 dwellings with some mixed use) has been granted along with detailed permission for certain sectors within it. The build out is well advanced and a proportion of the dwellings are now occupied. There is however a significant area still to have detailed permission granted. From a climate change perspective mitigation and adaptation measures are, by today's standard, at the basic minimum level. An Innovation Fund was established, as part of the planning obligation, to match fund the introduction of new technologies and approaches. There is, however, no compulsion on builders to take up this offer and, to date, the number and extent of applications has been disappointing. Central Government policy, advice and best practice was not as progressive on climate change matters at the time this application was developed as it is now. Approved application for innovation fund to date for installation of a small vertical axis wind turbine and solar hot water for the new Primary School. A proportion of affordable housing is to benefit from having ground source heat pumps installed.

Trumpington Meadows (Cambridge Southern Fringe)

24. Shared LPA responsibilities with Cambridge City Council. Outline planning application currently expected for determination by October 2007 – 1200 dwellings in total, split 600/600 between SCDC and that City Council.
25. We are currently seeking to pursue the incorporation of more significant climate change measures in line with rapidly progressing Government policy, advice, best practice and a combination of SCDC and City Council develop plan documents. Key elements currently incorporated or under discussion include:10% on site renewables (biomass heating option proposed), minimum level 4 Code of Sustainable Homes (re. Appendix B) with Level 5 for biomass heated dwellings and striving for Level 6 for biomass heated show homes, water conservation, sustainable urban drainage system (SUDS), sustainable travel planning, and show homes which show benefits of low carbon living and make options available for 'off-plan' purchases. These measures are seen as appropriate/necessary for the site to achieve a 'sustainability exemplar' status as required by our planning policies.

Northstowe

26. Outline planning application currently expected end of October 2007 for up to 9500 new dwellings. Joint planning determination process – precise details yet to be finalised.
27. Full text of Inspectors' report onto Area Action Plan has recently been released. Most significantly this advocates pursuit of 20% on site renewables and a carbon saving markedly in advance of the current building regulations.

28. Tangible proposals as regards climate change mitigation and adaptation are yet to be disclosed. Work is ongoing with regard to options surrounding an appropriate energy strategy and commitment to an exemplary level of carbon reduction.
29. It is envisaged that the masterplanning process must rapidly start to fill out with more tangible specifics as the strategic design process should now be approaching its conclusion.
30. A framework and detailed methodology for a sustainability assessment of the application is presently being advanced as an iterative process highlighting strengths and weaknesses – to be effective this assessment process must be allowed to be genuinely influential in the planning process.

Cambridge East

31. This site is still at the preliminary planning stage for 10-12,000 dwellings in a mixed use development. Shared LPA responsibilities with the City Council. Initial outline proposals for consideration hold from a climate change perspective but will need solid support and working up to bring them to full fruition and beyond.

Planning – players, interests and process

32. The planning process allows for the inclusion of very many players with a range of interests, values and objectives. All will probably want to look after and protect the common environment we live in, but will feel their choices and decisions are differentiated by different priorities.
33. They will also be nearer or further from that crucial point at which the new inhabitants actually interact with the environment – locally and globally.

Key players

- current local population
- parish councils
- future residents
- landowners/developers
- consultants: designers, architects etc.
- builders
- Infrastructure suppliers (roads, utilities, schools, doctors etc.)
- Councillors – elected members – district and county
- Central Govt. depts. and offices, quangos and other centrally supported bodies
- District Council officers
- Future community management bodies
- Community and voluntary sector

Indicative interests

- quality of life, local amenity, local environmental protection, sustainability, threats from change.
- as above but in representative role.
- quality of life, local amenity, local environmental protection, sustainability.
- return on investment, securing outline planning permission.
- fulfilling client brief – i.e. ensuring application success and fee.
- securing detailed permission, return on investment.
- meeting immediate, medium and long term capacity; management and security of provision.
- meeting needs of electorate, political gain.
- linking the hierarchy of delivery
- professional delivery of Council's statutory obligations and key objectives/priorities.
- Long term benefit, security of community, support to develop infrastructure.
- meeting community need – sectoral and socially inclusive.

34. The right to develop land is formally controlled by the UK's planning system – until this right is granted, development (i.e. building) cannot begin.
35. The system is plan-led – democratically established and agreed plans (which bring together an array of local, regional and national policy) sit at the heart of the material considerations taken account of in reaching decisions on planning applications.
36. Despite changes to the system, it takes significant time for plans to be agreed and adopted. A criticism of the system is that circumstances and new norms overtake this process so that some plan policies may become outdated relatively quickly.
37. In its most simplistic form, these policies would guide a process for major development that looks as follows:
 - Expressions of interest from landowner/developer to submit outline planning application for build.
 - Process of pre-application discussions across and between all stakeholders (likely to include public consultation).
 - Submission of outline planning application.
 - Formal consultation period.
 - LPA determines outline application; if approved will include any binding conditions, obligations and reserved matters. If application refused then applicant may appeal to the Secretary of State (LPA decisions may therefore be over-ruled).
 - Once outline application approved the developer/landowner will seek to partner up with construction companies – selling off the land with the right to develop it (including conditions etc.) in parcels for the 'build-out' stage.
 - Construction companies (e.g. housebuilders) submit detailed or reserved matters planning applications within conditions previously set at outline (will probably include adherence to a previously approved design guide for the site).
 - LPA determines detailed applications.
 - Once approved build-out can commence, adhering to any conditions specified (as above, if refused applicant may appeal).

Current policy, advice and guidance

38. There is a tremendous range of formal policies, guidance and statements which have a bearing climate change matters in the South Cambridgeshire Growth areas. As a general rule the documents most significance and weight in a plan-led system are the approved/adopted pertinent development plan documents (e.g. area action plans and development control policies).
39. The number and extent of relevant outputs is such that they have separated out an included as Appendix B.

Implications

40.	Legal	None
	Staffing	SSO working with Planning staff (and partnering with City Council)
	Risk Management	Exacerbated climate change Lack of leadership Reduced quality of life
	Equal Opportunities	No specific implications

Consultations

41. No formal consultation has been necessary in preparing this report.

Effect on Annual Priorities and Corporate Objectives

42.	Affordable Homes	For the future of South Cambridgeshire, climate change and sub-regional growth currently stand as the two most transformative agents of change and are quite likely to remain so for decades to come. Both are now fully acknowledged but responses are still, to a large degree, at the planning stage. Planned for correctly and the future for the District is a very positive one, incorrectly or ineffectively and the future is less certain. Establishing fully committed links between mitigating against /adapting to climate change and major new build will have influences across all sectors of the Council's Priorities and corporate objectives, especially those relating specifically to the growth areas.
	Customer Service	
	Northstowe and other growth areas	
	Quality, Accessible Services	
	Village Life	
	Sustainability	
	Partnership	

Recommendations

43. There are no specific recommendations attached to this paper. Rather, it is envisaged that, following consideration and deliberation, the working group will have:
- (a) achieved a shared understanding of the current policy position in which the Council is currently operating with regard to advancing the climate change agenda in the growth areas;
 - (b) developed a prioritised list of significant climate change related matters through which the Working Group considers that it can add value and make a constructive difference in ensuring that the new growth area developments maximise climate mitigation and adaptation measures.

Background Papers: the following background papers were used in the preparation of this report:

Numerous – as referenced / listed in Appendix B

Contact Officer: Richard Hales – Strategic Sustainability Officer
Telephone: (01954) 713135