

**EXETER CITY COUNCIL**

**SCRUTINY COMMITTEE – ECONOMY  
21 JANUARY 2010**

**EXECUTIVE  
9 FEBRUARY 2010**

**LAND USE PLANNING AND DEVELOPMENT MANAGEMENT**

**1.0 PURPOSE OF REPORT**

1.1 This report looks at the changes that are needed in our land use policies and actions if we are to address the challenge of climate change set out in the previous paper.

**2.0 CONTEXT**

2.1 The design of new buildings needs to change significantly if we are to begin to address the challenging carbon reduction targets that have been adopted. Whilst this is a very important issue for the long term, the building stock changes nationally at less than 1% per annum, though for Exeter the rate is rather higher. There is thus an equal, if not greater, imperative to address the existing building stock and the way in which we use it.

2.2 The drivers of emissions with respect to our use of buildings are:

- o the spatial distribution of activities
- o the thermal qualities of buildings
- o how buildings are used by their occupants, including the way they are heated.

2.3 This paper seeks to outline the issues which the local planning system needs to address and proposes a set of actions which Members may wish to consider.

**3.0 CURRENT PROGRESS**

3.1 The area of greatest progress has been in the setting of targets for the construction of new residential property. The government launched the Code for Sustainable Homes in 2007 which set demanding targets for new home design, with the energy performance of buildings set to ratchet up over a period of a decade. These are more than simply targets – the measures involve adherence to Part L of the Building Regulations, which require successively improved standards of energy performance. The targets are as follows:

<b>Level</b>	<b>Percentage reduction in emissions from a 2006 base</b>	<b>Year</b>
3	25%	2010
4	44%	2013
6	zero carbon*	2016

\* zero carbon: met through a 70% reduction in regulated emissions and the remaining regulated and unregulated emissions through allowable solutions.

- 3.2 The ability to meet these targets is comparatively straightforward at the lower Code levels through improvements in the fabric and air tightness of buildings and with the installation of fuel efficient boilers. However, as one rises up the Code levels, dramatic changes need to take place in terms of new forms of building design and in terms of different systems of heat supply. The basic design principles have been established through an extensive programme of new building in Germany with the “Passivhaus” principle pioneered by cities such as Freiburg. The City’s energy efficient housing standard has led to reductions of up to 80% in average household energy consumption and the Passivhaus achieves greater reductions. Low energy housing in Freiburg costs around 7% more to build than traditional housing, but energy consumption falls by up to 80% and CO<sub>2</sub> emissions have reduced by 30%. Energy bills are typically 1,000 euros a year per dwelling less than traditional houses.
- 3.3 With regard to commercial buildings, the establishment of new standards has been slower. In early 2009, the government consulted on a similar approach for all commercial property with the intention of requiring a 25% reduction in emissions by April 2010, 44% reduction by 2013 and zero carbon by 2019. In November 2009, the government issued a detailed consultation document on policy options.<sup>[1]</sup> The summary of the options and our proposed response is attached as Appendix 1 to this paper.
- 3.4 These two measures are perhaps the most critical for the longer term, although alongside this is the innovation pioneered by the London Borough of Merton which has driven renewable energy strategies around the country. Whilst the most important issue is to reduce energy consumption by better design, what the Merton Rule has done is to set a standard whereby new developments deliver 10% of their energy needs from renewable sources. This policy initiative has now become widespread across Britain. Indeed, the City Council has been applying this as a condition for some two years, along with a requirement to submit an energy assessment.
- 3.5 The Supplement to Planning Policy Statement 1 on Climate Change<sup>[2]</sup> sets out a wide range of measures that local authorities should adopt in terms of reducing vulnerability to climate change. The document makes it clear how important the planning system is in supporting ‘the delivery of the timetable for reducing carbon emissions from domestic and non domestic buildings’. It can, indeed, deliver the ambition of zero carbon development. The PPS advises that spatial strategies need to be prepared which help deliver the climate change programme, assist the expansion of sustainable energy systems, deliver sustainable patterns of development, enhance biodiversity and support the use of more sustainable modes of transport.
- 3.6 Specific advice in the Supplement is also worth highlighting:
- o sites being identified for development should consider the extent to which low carbon energy supplies can be facilitated and a realistic choice of access by public transport, cycling or walking can be achieved
  - o local planning authorities should have an evidence based understanding of the potential for renewable and low carbon technologies to supply new development

- o opportunities should be taken to co-locate potential heat customers and heat suppliers and planning authorities can expect the proposed development to connect to a system or be designed to be able to connect in future and be expected to contribute to securing a decentralised energy supply system
- o local planning authorities should make use of Design and Access Statements to obtain information from applicants on how they will meet PPS1 requirements
- o new development should be planned to minimise CO<sub>2</sub> emissions, ensure the use of sustainable urban drainage systems (SUDS) where feasible, provide for sustainable waste management and secure sustainable transport

3.7 In terms of endeavouring to reduce emissions locally, there has been some good and measurable progress. The City's draft Core Strategy sets out a comprehensive range of sustainable development policies which are in line with PPS1 and its Supplement. The key to Exeter's future growth is the need for effective and integrated planning for the new community at Cranbrook and for the delivery of urban extensions in Monkerton, Newcourt and at Alphington. Some may argue that these urban extensions will no longer be necessary because of artificially high levels of household projections by the government in recent years. In practice, however, household formation, birth rates and life expectancy point to a significant growth in the population of the city, albeit this may not be at the top end of the spectrum which would require land to be allocated beyond these three urban extensions. The planning for those three urban extensions is well underway, with the preparation of draft Master Plans completed for Newcourt and for Monkerton, with the work for Alphington to be completed shortly. The principal features of those Master Plans are: comparatively high average net density (for Exeter) of 50 dwellings per hectare; core public transport spine routes, including the High Quality Public Transport service; extensive walking and cycling networks; green infrastructure corridors to promote biodiversity; and a mix of uses on a sufficient scale such that the need to travel can be minimised and opportunities for combined heat and power are maximised. The value of these draft Master Plans and the integration of this work with other projects in the New Growth Point is the ability to comprehensively plan and deliver Renewable Energy infrastructure by balancing heat loads and ensuring that such systems are viable.

3.8 In terms of delivery, there are positive signs that attitudes are changing along with designs. There is a considerable effort by a wide range of partners such that the new community at Cranbrook will be built at Code for Sustainable Homes Level 4. The New Community Partners have agreed to supply Cranbrook with heat from a Combined Heat and Power (CHP)\* plant to be provided at Skypark and have agreed to forego gas supply to housing in the new community in order to ensure the investment in sustainable energy supplies is underpinned. This has, however, required significant public investment, particularly from the Homes and Communities Agency alongside substantial risk investment from the principal provider, EoN. Within the city, the Council's new build programme for new housing will deliver Code for Sustainable Level 4 homes, as will any dwellings provided by Registered Social Landlords. At Rennes House, if the application for funding is successful, Level 6 will be achieved through careful and creative design.

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\* Combined Heat and Power is a plant where the heat from power generation is recovered to form usable energy. The heat will be distributed through a network of pipes..

- 3.9 All of this is an encouraging start but when we compare ourselves to progress by cities such as Freiburg, we still have a very long way to go. There is no comprehensive programme to dramatically improve the existing building stock and the level of modal shift achieved so far in Exeter has been modest in comparison with European experience. Contrast this with Freiburg, which has achieved a 7.3% reduction in carbon dioxide emissions between 1992 and 2005. This has been the result of a number of measures, including high energy efficiency standards for new buildings, and ambitious schemes to improve the energy efficiency of existing buildings, through grants to householders. The provision of public transport, cycling and walking alongside the prevalence of car sharing through car clubs, is such that in the new suburb of Vauban in Freiburg there are only 150 cars per 1000 people compared with 450 cars per 1000 people in Exeter. In Freiburg, 23% of people drive to work alone compared to 50% in Exeter. The contrasts are dramatic and the challenge is real. Further information on Freiburg's achievements is contained in Appendix 2.

#### **4.0 CHALLENGES TO DELIVERING ZERO CARBON**

- 4.1 There are a number of key challenges for officers and Members to address when looking at the future form and nature of development and the future priorities for the City's planning function. Several of the fundamental planning principles that have underpinned British planning since its inception will be challenged. They will potentially have a lower priority if we are to significantly reduce carbon emissions. British planning has focused very strongly on the general principles of urban containment, landscape protection and aesthetics. Apart from a limited number of showpiece schemes, the house building sector has, by and large, exercised extreme caution in changing its approach to design, claiming that the customer is resistant to looking beyond standard house types with dedicated individual parking provision. There has also been a resistance to change unless it is underpinned by legislation. The planning system has tended to be driven by the historic view that employment and housing should be separated because, in the immediate post-War period when the planning system was established, industrial uses were largely incompatible with nearby residential neighbours. Another received wisdom has been to avoid construction on higher ground because of landscape impact yet the clear guidance from government to avoid risks from development in flood plains is such that we will have to turn our attention to more exposed sites which is likely to impact on landscape character.
- 4.2 To maximise public transport use and to maximise the economic prospects for CHP – and both are essential in moving towards zero carbon – higher densities are crucial. Though Members have been critical of such schemes as Central Station Yard and the properties at King's Heath fronting the bypass, because of the use of four storeys or more, the schemes do have the benefits of minimising land take and maximising the scope for public transport and CHP use. In terms of the densities achieved, these schemes need to be seen as precedents which can be repeated elsewhere in the city centre or as part of the three urban extensions. Housebuilders are however resistant the provision of flats outside city centres. There is also now a very clear imperative from an energy efficiency viewpoint, that employment, housing and leisure uses should be broadly co-located because, together, they provide a balanced heat load which can make CHP economic. All of the emerging Master Plans for Monkerton, Newcourt and Alphington envisage a greater mixing of uses than has previously been the case and it is essential that Members, house builders and the public accept that these fundamental changes are needed if we are to dramatically reduce CO<sub>2</sub> emissions. The proposed form of development at Monkerton is also a departure

from previous practice in respect of skyline protection – the previous practice of preventing development occurring above the 34m contour is abandoned in the desire to achieve an effective layout which is not artificially constrained.

- 4.3 Delivering a CHP system and heat energy network for each of the urban extensions will be a major challenge in itself, given that a de-regulated energy market and consumer choice, mean that it will be quite difficult to devise schemes which will have the necessary large scale and long term “buy in” to make them cost effective. Despite the lack of statutory powers (beyond Building Regulations), it is essential that the local authority takes the lead in pushing house builders and commercial developers to engage in this kind of collaborative solution. It is only the pressure of national legislation in the form of tighter Building Control Regulations regarding emissions that will drive developers and investors down this road and it won't be done voluntarily. The City Council needs to follow the lead of the New Growth Point team which has been successful in acting as “ring master” in pulling together developers and energy providers alongside public funding to successfully deliver CHP for Skypark and the new community. This approach is, indeed, being adopted for development at Matford and has great potential at Monkerton, Newcourt and Alphington.
- 4.4 A further and significant challenge to established attitudes will be with regard to individual house design. The Building Research Establishment has a large programme of research, looking at how zero carbon homes can be designed and delivered. Examples of those housing types have been built at the BRE in Watford. Illustrations of these schemes are appended to this report [Appendix 3] provide a stark contrast to the type of houses that are built by the conventional market. A number of landmark schemes have been built in developments around the country to deliver low or zero carbon, and again a number of these are illustrated in the Annex. All of them point to the need for radical change in the way in which we view the acceptability of different house designs. The move to greater prefabrication of buildings, in order to improve air tightness, will also affect the appearance of new properties.
- 4.5 At a further level of detail there are design elements which also need to be accepted as a departure from past practice: the provision of renewables; innovative roof design that includes green roofs or photo voltaics; the use of permeable materials on surfaces around houses to reduce run-off; and the prefabrication of substantial elements of the structure off-site. Design elements also influence travel behaviour; for example a lack of bicycle storage will discourage residents from owning bicycles which they could use instead of a car for short journeys. The draft Residential Design Guide will reflect these emerging design issues along with the need to accommodate micro-renewables and provide for bicycle storage. The government recently announced changes to Permitted Development rights in respect of renewables and low carbon technology and these changes are summarised in Appendix 4.
- 4.6 In following through these changes in the standard of design and delivery, it is not clear that we have put in place a framework to ensure that the Planning and Building Control teams work sufficiently closely together at the formative stages of design, nor that the two sets of professionals have the skills necessary to advise applicants on design detail. Neither can we demonstrate that we have in place the full range of practical strategies that are needed to deliver our polices on reducing our carbon footprint.

## 5.0 A PROGRAMME OF ACTION

- 5.1 The following programme of action is suggested as necessary to put the strategy and delivery functions of the planning system onto the right footing, if we are to begin to tackle the carbon challenge.
- (i) Work on the Council's Core Strategy
- 5.2 Work is well in hand and needs to be pursued with urgency whatever the complications arising from the lack of an approved Regional Spatial Strategy. There are a wide range of policies contained within the draft Core Strategy which need formal endorsement so that we can apply them with a degree of confidence so that they will be backed by Inspectors on appeal. We have completed consultation on the Core Strategy and a draft document will be returned to Members for their consideration later in the Spring. An Inspector is likely to consider the Core Strategy at Inquiry in Autumn 2010, followed by adoption in Spring 2011. The second critical element in ensuring progress with the strategic planning framework is to adopt a set of Master Plans for Newcourt, Monkerton and Alphington which are consistent with the aims of the Core Strategy to provide a framework for developers to work to. The biggest threat to sustainable urban extensions is a piecemeal approach to development based on individual land owner interest. Thus, as soon as we have completed the Master Plans, these need to be approved by Members as interim guidance prior to their being brought forward for adoption as Supplementary Planning Documents which will form part of the Local Development Framework and therefore will have statutory backing. Unfortunately, the latter cannot be completed until the Core Strategy is approved so the full force of these documents will only come into play in 2011.
- (ii) A Sustainable Energy Strategy for each urban extension
- 5.3 Work commissioned by the New Growth Point team from Regen South West in connection with the plans for the new community has demonstrated how sustainable energy supply networks can be created and CHP delivered. The Lead consultant, Tony Norton, from the Centre for Energy and the Environment, continues to advise the authority on specific measures to be taken on individual developments. To date one piece of work has been completed on reducing carbon emissions and reducing fuel poverty in Exwick. Tony Norton has also been advising the Council on how to put together a commercial plan for the use of the heat being provided by the Energy from Waste (EfW) Plant which is consented on Marsh Barton so that existing commercial heat users on Marsh Barton save energy, save money and reduce their carbon footprint by tying into this network. He is also assisting us with negotiations with Eagle One regarding their commercial employment site at Matford Marshes which will be considered by Planning Committee later in the Spring. This is to ensure that a site wide energy supply system can be provided in this new development with the heat or steam provided from the EfW plant.
- 5.4 In the latter case and in the case of the New Community, the approach has been to use external advice to develop a strategy and then engage developers and energy suppliers in a collaborative effort to secure an agreed sustainable energy solution. As long as the government continues to enforce and ratchet up standards in Part L of the Building Regulations, then the economics of such provision will increasingly improve, but in the interim public sector financial support is still likely to be necessary to bridge the gap in financing. It is proposed that the University with Tony Norton continue to advise the Council on

appropriate strategies for delivering sustainable energy supplies for Newcourt, Monkerton and Alphington, with funding provided by Housing and Planning Delivery Grant or through the Council's Climate Change Levy.

(iii) Lobbying on legislation

- 5.5 The only reason we are seeing some movement on this issue is that the government have laid down a firm trajectory to achieve zero carbon residential development and more recently set out its intentions in relation to commercial buildings. It is worth noting that several years ago when this was first launched for residential construction, the house builders' view was that they would lobby for the standards to be watered down or deferred. In Scotland, there is a current active lobbying campaign to push back the timetable for reducing emissions in new construction. Thus, it is crucial, if we are to address the carbon challenge, that the Council, along with other authorities through the LGA, continue to lobby government on the importance of both sticking to the residential carbon emission standards and adopting the same firm targets for commercial construction.
- 5.6 Another conundrum which has not been resolved is the government's very positive view about the role of the Building Control service in delivering its climate change objectives but its continued acceptance of a disjointed delivery of this service because of the independence of Approved Inspectors. Where the City Council is responsible for both Development Control and Building Control Approvals, there is the prospect of real synergy in ensuring that these demanding CO<sub>2</sub> reductions are met at the earliest stage of the design process. But the difficulty with the Approved Inspector system is that there is simply no tie up between them and the local authority Building Control service, nor with its Development Control function. The issue does need to be addressed if effective, integrated working is to occur.
- (iv) New skills
- 5.7 Our existing approach involves using a sustainability checklist to review the performance of submitted schemes. Building Control also check the SAP (Standard Assessment Protocol i.e. energy) ratings of proposals. The Council also normally applies a 10% renewables condition and an energy assessment condition. It has been acknowledged by staff that their knowledge of sustainability issues is limited compared to their detailed technical knowledge of a wide range of other long standing planning issues. It is proposed therefore that a programme of training and mentoring is put in place facilitated by external advisers to ensure that the team gains confidence in dealing with such issues. Members need to advise whether they wish to be party to some of this training as well. Again, this would be funded by Housing and Planning Delivery Grant.

## 6.0 FUNDING

- 6.1 The biggest challenge over the next five years is funding the necessary infrastructure to ensure the delivery of sustainable communities. Until two years ago a combination of significant public sector investment and Section 106 funding from rising land values delivered significant infrastructure packages in association with new development. Whilst the scale of public sector funding remains in place for the moment, the landscape with regard to Section 106 funding has changed dramatically. There has been a very widespread perception that whatever a community needs (or wants!) can be funded through a Section 106 so the list of requirements has grown longer and longer. To underline the dramatic nature of the change, it is worth reflecting that the County Ground site which was sold at the top of the market fetched some £2 million an

acre for residential uses. The Exeter market generally delivered in excess of £1 million an acre until late 2007.

- 6.2 It is very difficult to put a firm figure on current land values because of the impact on the market over the last year of the many 'distress sales' as builders and developers have had to off load assets at prices that were way below the then prevailing market prices. Nevertheless, the evidence suggests that, at present, values are in the range of £200-400,000 an acre, which is a fraction of their former value. Furthermore, detailed analysis by one of those house builders at a conference in 2008 made it clear that the fall in house prices, the rising expectations of Section 106 Agreements and the forthcoming implementation of Code for Sustainable Homes Level 6 in 2016 would soon result in negative land values. This clearly is an untenable position since in this situation sites will not be brought forward for development until either the market changes or the 106 'overhead' reduces. If development is to take place, trade offs and choices will have to be made in terms of 106 funding priorities. Furthermore, during this period it is widely accepted that public sector funding will be reduced significantly and yet of course in more benign times it has been crucial for delivering the Cranbrook new community.
- 6.3 Members will therefore be very shortly faced with the choice of priorities they wish to see delivered, rather than having perhaps the luxury in the past of being able to select all of them. At the moment, the major items are:
- o Affordable Housing – currently set at 25% which Members have already resolved they wish to see increase to 35%. Members should note that the market could deliver an affordable house with £30,000 as a subsidy two years ago, the typical subsidy is now £60,000 per dwelling and higher in certain cases.
  - o Education Contributions – our standard contribution for a secondary space is £2,519 per two (plus) bed dwelling and £2,769 per two (plus) bed dwelling for a primary school place.
  - o Transportation – with multi million pound contributions being required for highway schemes, along with significant contributions for public transport.
- 6.4 Lesser sums are also required for items such as play space provision, amenity space provision and maintenance, public art, security, public realm enhancement and so forth.
- 6.5 It is worth pointing out that all of Exeter's future housing and employment growth areas are focused around the Trunk Road or Motorway network. This potentially has a significant distorting effect on the funding regime for future development as the Highways Agency has the power of veto over any development impacting on the strategic highway network. The power of Direction from the Highways Agency means that it can prevent the local planning authority from determining an application and can indeed direct refusal if they are unhappy with a proposed development. Whilst Directions for Refusal are very rarely used, the use of Holding Directions tends to encourage third parties to work to the Agency's agenda if a planning application is to gain consent. The result is that a significant amount of resources often has to be devoted to highway network enhancements, if an application is to gain consent. The Science Park Planning consent is a good example.
- 6.6 Whilst Members themselves have frequently expressed concerns about congestion, one has to ask the question whether, when set against the overriding

concern of climate change and the need to provide a roof over people's heads, such large scale investment in meeting those fixed design standards is justified. It is suggested that if we are looking to prioritise future Section 106 negotiations and funding bids to address our problems, investment in sustainable energy, affordable housing, new school provision and public transport enhancements would come a considerable way ahead of simply investing in peak hour highway infrastructure so that people can travel by car at a time that is convenient to them. This may sound provocative but it is a real choice we will face in the next few years in trying to fund the delivery of sustainable communities.

## **7.0 CONCLUSIONS**

7.1 This paper has outlined the key challenges we are currently facing in delivering sustainable communities and has set out a range of actions which are either in hand, or need to be considered. It is not intended to be comprehensive, but is designed to guide Members on their short and medium term priorities and to seek their approval for the long term strategy.

## **8.0 RECOMMENDATION**

8.1 It is recommended that Members:

- (i) endorse the change in land use planning priorities and design philosophy outlined in Sections 4 and 5 in particular relating to the co-location of uses and adopting higher densities;
- (ii) endorse the development of a sustainable energy supply strategy for the City's growth areas with an implementation plan based on advice from the Centre for Energy and the Environment;
- (iii) lobby the LGA to ensure that:
  - o government provides a comprehensive policy and funding regime for delivering whole house/neighbourhood enhancements to secure substantial reductions in CO<sub>2</sub> emissions
  - o government maintains a firm line on the Code for Sustainable Homes and for the parallel tightening of Part L of the Building Regulations for commercial premises
  - o government addresses the lack of an effective tie up between Approved Inspectors and the Local Planning Authority in delivering low carbon designs
- (iv) approve the draft responses to the consultations on zero carbon in new non domestic buildings at Appendix 1 and on permitted development rights for small scale renewables at Appendix 4.
- (v) agree the need for appropriate training for staff and, if desired, Members to ensure they are skilled in this new area of work; and
- (vi) ensure that the finalised Residential Design Guide adequately addresses all of those issues relating to sustainable design.

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**ECONOMY & DEVELOPMENT DIRECTORATE**

**Local Government (Access to Information) Act 1972 (as amended)**

***Background papers used in compiling this report:-***

1. Zero Carbon for new non domestic buildings. Consultation on policy options. Communities and Local Government. November 2009.
2. Planning and Climate Change. Supplement to Planning Policy Statement 1. Department of Communities and Local Government. December 2007.