

Section 3: Regulatory and Policy Framework

3.1 The Political Context

The aim of this section is to examine government policy, in a national and international context, insofar as it impinges on the construction of sustainable housing. The Government has already set a target for an additional 3.8 million new dwellings to be built in England between 1996 and 2021 [1] in different areas of the country, and a further target of 60 percent of those new houses to be built on brownfield sites [2]. It also wishes to promote greater efficiency and productivity in the construction industry, following on from the Egan Report [3].

There are two main areas in which the Government has intervened directly in order to facilitate separate but related policy objectives. These objectives are concerned with carbon dioxide (CO₂) reductions, and the elimination of 'fuel poverty'.

3.1.1 Carbon Dioxide Reductions

The UK Government has entered into a legally binding international agreement (as part of the Kyoto protocol) to make a 12.5 percent reduction on 1990 levels in a 'basket' of six greenhouse gases, including CO₂, within the period 2008-2012. In addition, there is a clearly stated domestic goal to achieve a 20 percent reduction in CO₂ on 1990 levels by 2010, which the government is confident of reaching [4].

A number of policy initiatives have been brought together in the Climate Change Programme, in order to achieve these objectives. For the construction industry, the most important measures are the changes to Part L of the Building Regulations, which deals with the conservation of fuel and power. Part L in turn is split into L1 and L2, the former dealing with domestic dwellings, the latter with non-domestic buildings. The operation of the building services necessary for space and water heating, cooling, lighting and ventilation accounts for 46 percent of our total national CO₂ emissions. With such a large share of the total, the scope for improvement and savings in building energy use is correspondingly significant.

In the proposals to amend the Building Regulations, published as a consultative document by the then Department of the Environment, Trade and the Regions (DETR) in June 2000, an estimated 2 percent annual carbon savings was predicted by 2010 as a result of the proposed higher standards of thermal efficiency.

In the most recent (2002) edition of Part L1, the scope of the Building Regulations was extended to include existing dwellings undergoing material alterations or change of use. Indeed, this sector is expected to yield half of the predicted CO₂ reductions (see 'Existing dwellings', Table 1). The intention was to require the same standards in elements of the building affected by renovation work as would be required for new build. It is anticipated that the main areas to be affected will have been window and boiler replacement. Double-glazed units are necessary in replacement windows, either with a low-E coating or an extra large gap, and replacement boilers need to be of the condensing or combination type. With 1.25 million contracts per year for replacement windows (average 6 windows per contract) and 1.5 million boiler replacements per year, the impact of these regulations on domestic energy efficiency will have been considerable.

Table 1: Predicted annual CO₂ reduction, in million tonnes of carbon (MtC), in England and Wales for each building type [5]

Current total carbon emissions from all buildings	60 MtC
New dwellings	0.250
Existing dwellings	0.680
Naturally ventilated, non-domestic	0.350
Air Conditioned / Mechanical Ventilation, non-domestic	0.035
Total annual saving by 2010	1.325

With regard to new build, two of the three methods for demonstrating compliance with the Building Regulations involve reference to standards of thermal efficiency of the building fabric, expressed in U-values (see Table 2), and standards of boiler efficiency expressed as SEDBUK (Seasonal Efficiency of Domestic Boilers in the UK) percentages (see Table 3) [6].

Table 2: The required U-values, in W/m²K, before and after the 2002 Part L amendments

Element	Pre 2002	From 1/4/2002
Roofs	0.25	0.20 - 0.16
External walls	0.45	0.35
Floors	0.45	0.25
Windows/doors	3.30	2.20 - 2.00

Table 3: Required efficiency rates for domestic boilers, by fuel type

Heating system fuel	SEDBUK %
Mains natural gas	78
LPG	80
Oil	85

The third method of demonstrating compliance is based on the Standard Assessment Procedure (SAP) calculation, formerly required for all new dwellings. The mathematical workings of the SAP calculation can be altered to give a Carbon Index, which is expressed on a scale of 1 to 10 (the higher, the better). The 2002 Buildings Regulations allow a minimum score of 8 to be used to show compliance, which reflects the government's preference for using carbon as the unit of energy efficiency measurement, thereby taking into account the different carbon intensities for different fuels.

Information on the operation of heating, lighting and ventilation systems is to be provided in an Owner's Manual, and the systems themselves are to be fully commissioned before handover. There are requirements on lighting efficiency and guidance on minimising thermal bridging and air leakage.

Thinking ahead, the Department of Transport, Local Government and the Regions (DTLR) indicated areas of continuing concern and possible future regulation. These include:

- To ensure that the ‘as built’ construction conforms to the standards shown in the design.
- To encompass more aspects of work to existing buildings, e.g. conservatory extensions
- The introduction of air tightness standards applied to domestic buildings
- Requirement for control measures to guard against solar overheating
- Greater encouragement for low-carbon or zero-carbon technologies, such as Combined Heat and Power (CHP)

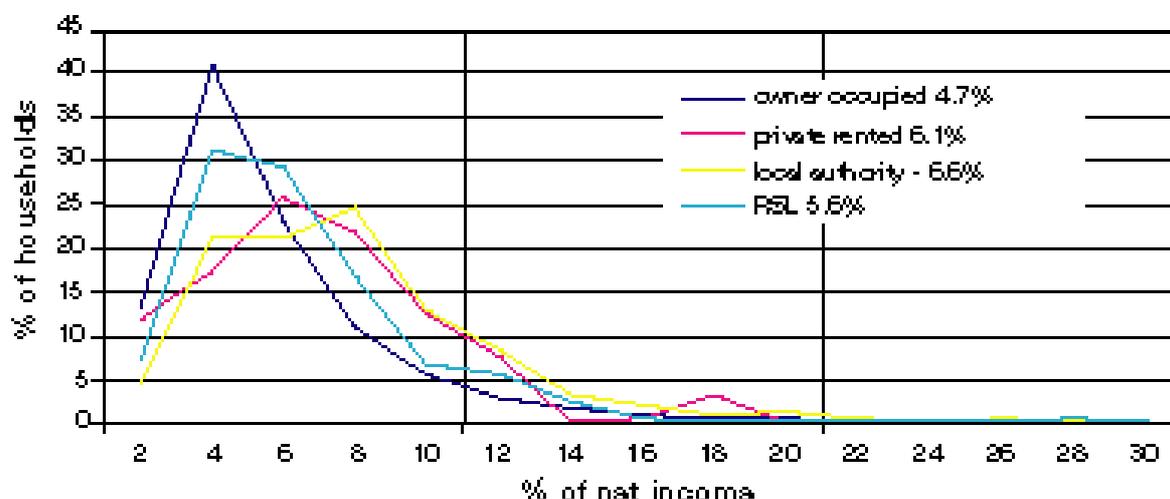
A more imminent development concerns proposals that were announced in 1999 to require property vendors to provide an information pack on their house/flat for prospective buyers (The Home Information Pack), the final contents of which are still under consideration by the Government (June 2004). It has been suggested that the energy rating of the dwelling being sold, based on SAP calculations, could be included in the Pack. A scheme along these lines has been piloted in the Bristol area, and the findings reports are available from the Office of the Deputy Prime Minister [7].

Whatever the particular measures to be introduced, it is clear that for the foreseeable future the Government will be seeking continuous reductions in building related carbon emissions, as far as it is economically feasible to do so.

3.1.2 Fuel Poverty

The term ‘fuel poverty’ refers to a vicious cycle of deprivation, whereby people on low incomes tend to live in inefficient, difficult-to-heat homes; meaning that those who can afford it least, pay the most to achieve a comfortable indoor temperature. It is exacerbated by under-occupation of large properties. Fuel poverty is officially deemed to exist if more than 10 percent of a household’s disposable income is spent on heating costs. In 1996, it was estimated that 5.2 million, or 27 percent, of all households were in this position, including 60 percent of single older persons. Figure 1 shows that people living in private or local authority rented accommodation are more likely to be affected than owner-occupiers or housing association tenants.

Figure 1: Fuel spending as a percentage of income, by tenure [8]



The Home Energy Efficiency Scheme (HEES), set up in 1991, has been the Government's main mechanism for delivering energy efficiency. The HEES was reviewed and revised in 1999, and the focus of grants moved from public to private rented accommodation and owner occupied property, with only £45 million out of a £300 million budget being allocated to social housing during the period 2000-2002. An emphasis was placed on multi-agency working between health, housing and social services departments, to tackle the problem in a holistic way.

In September 2000, the Warm Homes Bill was passed through the House of Commons, and in November 2000 it became the Warm Homes and Energy Conservation Act. Its main aim was to abolish fuel poverty within 15 years, and it required government and local authorities to initiate a programme of energy conservation measures, targeting half a million homes a year for the next 15 years.

The main mechanism for delivering this target currently is HEES, which complements existing local authority obligations under the Home Energy Conservation Act 1995 (HECA). HECA required all Local Authorities with a responsibility for housing to prepare and publish a report setting out energy conservation measures that the authority considers practicable and cost effective with the aim of achieving a 30 percent improvement on household energy efficiency within 10-15 years, based on 1995 levels.

A growing recognition that the HECA and Warm Homes and Energy Conservation Act targets were unlikely to be met has led to the emergence of the Home Energy Conservation Bill, which had its second reading in October 2001. Part 2 of this Bill deals specifically with fuel poverty and seeks to rectify the lack of coordination between central and local government, which is deemed partly responsible for the lack of progress. Part 3 makes proposals for the licensing of Houses in Multiple Occupation (HMOs), which would be linked to minimum standards of energy efficiency and, it is claimed, would help to eradicate fuel poverty.

These various political measures directed at improving domestic energy efficiency are likely to have social and economic benefits, as well as environmental ones. It has been estimated that over the next 15 years, the provisions of the Warm Homes and Energy Conservation Act will save the taxpayer £2.5 billion, not only in reduced fuel costs, but also in reduced pressure on the NHS and other support services, particularly in the winter months.

3.1.3 European Legislation and Standards

The Construction Products Directive (CPD) came into effect in 1991 with the aim of establishing free and equitable access to a single market and the removal of all trade barriers for construction products. The CPD also has to ensure minimum standards of performance, and products must meet the 'Conformité Européene' (CE) mark to prove conformity with European health, safety and environmental protection legislation. The CE mark is the product manufacturer's declaration that the product meets a set European standard, and allows free movement of the product within the European Community (EC). The technical performance standards for construction products are based on the following 'essential requirements':

- Mechanical resistance and stability
- Safety in fire
- Hygiene, health and environment
- Safety in use
- Protection against noise
- Energy economy and heat retention

Currently, products can display the CE mark if they meet:

- A harmonised European standard (of which there are very few)
- A European Technical Approval (ETA), such as an Agreement Certificate
- An agreed national standard e.g. British Standard (BS)

The intention is that eventually harmonised European standards will replace national ones. This will greatly enlarge the range of construction products that designers and specifiers have to choose from. As Professor Brian Edwards wrote in his book on sustainable architecture and European directives however, 'The harmonisation of construction products... carries obvious environmental and energy costs. Harmonisation threatens to erode regional character.' [9] The use of local materials, for instance, will be more difficult to specify and local vernacular styles may become lost in the blanket of standardisation. The environmental and energy costs of increased transportation, which the promotion of free trade encourages, will only undermine the energy savings looked for in building performance.

A new European Directive on energy efficiency in buildings was approved in the UK in February 2003. Member states have three years to transpose the requirements of the Directive into national laws. These are based on certain energy performance parameters, and will apply to all new buildings and to existing buildings with a floor area greater than 1,000m². Provision is also made for regular inspection and assessment of heating and air conditioning systems over a certain size. The energy performance parameters relate to:

- Building form
- Insulation
- Glazing and solar gain
- Ventilation and air tightness
- Heating systems
- Water use
- Lighting efficiency
- Renewables

The Directive will provide for a system of energy certification of buildings when they are constructed, sold or rented, which would describe their actual energy performance, together with benchmark values and advice on cost effective improvements. The vexed question of normalisation of standards across Europe will have to be resolved however, before this Directive can take effect.

3.2 The Social Context

3.2.1 The Social Effects of Poor Quality Housing

Shelter is one of our basic needs. It should provide benefits, which add to our health, well-being, and ability to function as responsible citizens. In the past, many social reformers and progressive employers have recognised the importance of providing basic but good quality housing for working people, such as the Bournville Village Trust set up by the Cadbury family in Birmingham. These innovative and progressive measures ranked alongside the founding of the National Health Service, in terms of the provision of basic needs to the mass of the population.

Unfortunately, these pioneering efforts remain isolated examples. The most recent survey of the condition of the housing stock showed that there are currently 3 million people living in 1.5 million homes classified as 'unfit'. 2.5 million homes suffer from severe damp, and the cost of remedying these conditions has been estimated to be £46 - £70 billion [8].

The UK has one of the worst records for additional winter death rates (known as excess winter mortality) with a 23 percent higher rate of deaths in the December-March period, compared with August-November or April-July. This is twice as high as rates in the USA and Germany, and is even higher than in Bulgaria. Winter death rates are strongly related to cold weather illnesses such as flu, pneumonia, bronchitis and hypothermia, all of which can be exacerbated by cold, damp living conditions. A report on the state of the nation's housing published by the National Housing Forum in 1996 came to the sobering conclusion, sensationalised in a newspaper headline: 'Thousands Die of "Home Sickness" - Bad Housing Kills'.

The importance of fuel poverty as a political issue lays partly in the way that it brings together social, economic and environmental concerns. In addition, the dignified and compassionate treatment of the sick, the old or the disadvantaged, is generally taken to be a mark of a civilised society.

Fortunately, steps are being taken to alleviate the problem, and means tested grants are available under HECA and HEES for energy efficiency measures. The Association for the Conservation of Energy (ACE) is promoting new partnerships between local authority housing officials and health professionals, to identify housing defects as sources of ill health. This multi-agency approach is considered to be vital if initiatives in this field are to succeed. In some areas, GPs are able to use a new referral scheme, whereby they can request the housing department of their local authority to prioritise 'minor works grants', where such work is necessary to prevent a patient's health from deteriorating further.

To achieve greater social inclusion, there is a need to directly target the needs of those excluded from the social and economic mainstream. The costs of failing to tackle this problem are high. Bad housing and poverty tend to feed on each other in a vicious circle, creating a depressing cycle of poor health, low self-esteem, educational failure, unemployment and crime. The effects of this cycle are not just personal and local, but global as well. As the Brundtland report put it in 1987, 'Poverty reduces people's capacity to use resources in a sustainable manner: it intensifies pressure on the environment' [10].

3.2.2 Social Inclusion as a Part of Sustainable Development

A document published by central government in 1998, entitled 'UK Strategy for Sustainable Development', identified three main components of the process necessary to achieve sustainable development - social progress, environmental protection, and economic prosperity [11]. Social progress was taken to include a wider range of access to affordable housing types, greater access to facilities such as work, shopping, education and leisure for all sections of the community, and a stronger sense of community ownership and pride in the local environment.

In addition, social stability is enhanced by a perception of 'fairness' or equitable distribution. When surveys show, for example, a positive correlation between social deprivation and poor air quality [12], or between low income and various forms of environmental deprivation [13], then people feel excluded and social cohesion is undermined. Future sustainable development worldwide will depend not only on the environmental impacts of resource use, but also on the degree of equal access to those resources. In short, equity is a prerequisite of sustainability.

It is becoming widely accepted by leading ecologists that the real barriers to sustainable development are no longer practical or technical, but economic, social and political. If we fail to recognise this, then whatever 'progress we make towards sustainability will be undermined, in the short term by the costs of inequality, and in the longer term by the lack of social cohesion that results from inequality' [14].

3.2.3 Affordable Social Housing

As the provider of accommodation for people in housing need, Registered Social Landlords (RSLs) have a crucial role to play in facilitating social inclusion and improving the quality of the housing stock, in a way that promotes sustainable development.

Many RSLs foster tenant participation in the way properties are managed, and even in development decisions. Having some access to decisions about their homes and neighbourhood will tend to encourage a sense of social inclusion and community involvement in residents.

Compared with other landlords, RSLs have a good record of promoting energy efficiency in new-build and refurbishment. They have a vested interest in low running costs for their tenants, who are then less likely to get into rent arrears. In many cases, RSLs will invest extra capital in schemes in order to deliver future savings in utility bills.

As developers with major buying power, RSLs have the potential to influence the kind of houses to be built and the standards deemed acceptable. By providing a market for more environmentally benign materials and technologies, and by showcasing examples of current low-energy developments, RSLs can help shape a climate where sustainable construction is the norm.

Some RSLs have also taken the opportunity of incorporating formal training schemes into their construction programmes, leading to qualifications such as NVQs. Local colleges are often enrolled as partners, to provide supervision and assessment. In this way, unemployed people, who are sometimes RSL tenants, can gain skills, experience and qualifications to improve their job prospects, and the benefits will extend into the local economy.

The task of publicising examples of sustainable, affordable houses developed by RSLs, is being carried out through the Hastoe Housing Association's 'Sustainable Homes' project, supported by an Innovation and Good Practice (IGP) grant from the Housing Corporation. It produces a quarterly newsletter and maintains an 'eco-database' of sustainable projects on its website [15]. It has published a Good Practice Guide and Directory, and advice to other RSLs on 'Developing an Environmental Policy and Action Plan'.

3.2.4 Demographic Issues

Although the UK population level is fairly static, the demand for new housing units is increasing. This is partly due to the changing nature of the family and the growth in single person and single parent family households. The geographical distribution of the demand for new housing is also changing, with London and the South East having a severe shortage of low cost homes for essential workers such as nurses. This situation needs to be addressed if city centres populated exclusively by the very poor and the very rich are to be avoided.

In one attempt at addressing this issue, the Joseph Rowntree Foundation has commissioned and invested in two CASPAR developments in Leeds and Birmingham (see Section 2.1.5). Government and social housing agencies are sponsoring the development of single-occupancy, prefabricated, modular units, for fast-track construction. The Housing Corporation has a £1.3billion development programme for 2003/4, which includes a £200 million 'Challenge Fund' to provide 4,400 new homes for rent or low cost sale in London and the South East. Over 1,000 of these homes will use 'innovative construction techniques' [16].

It is important that the design of new residential developments does not stop at the building envelope, but extends to creating secure, sheltered and landscaped open spaces. Mixed residential tenure in mixed-use developments seems to be the best recipe for the fostering of sustainable communities.

3.3 The Economic Context

Much of the debate on the economics of sustainable development centres on the question of whether eco-construction necessarily costs more than conventional construction; and if it does, what ways exist of offsetting those extra costs.

3.3.1 Life Cycle Costing

This refers to a cost/benefit analysis that takes into account future cost savings resulting from increased capital expenditure. It is much easier to make an economic case for the inclusion of energy efficiency measures, or renewable energy technology in a capital programme, if extra costs can be set against future savings on fuel bills over an agreed period. That period has to be agreed with the client or developer, and is usually between 5 and 20 years. Some technologies, such as solar water heating, can pay back over a relatively short period. Others will take longer, but most investors will expect to see a return within 10-20 years.

In the private housing market, this approach to evaluating costs is more appealing to the occupier rather than to the developer. The occupier is directly benefiting from lower running costs over a period of time; the developer is more likely to be interested in selling the property quickly and maximising profits. As more information on energy efficiency is becoming mandatory when selling a house, the advantages will potentially become more widely appreciated. The energy performance of a dwelling may gain further influence therefore on a buyer's decision to buy or not, and this would in turn influence the developer's design specification.

There is another approach to the economics of sustainable development that maintains that low-energy, low-impact buildings do not necessarily cost more to build. The work of the architects Robert and Brenda Vale is often quoted in this context. In 1982, they designed a pair of semi-detached houses for North Sheffield Housing Association, within normal cost yardsticks but with heating bills 85 percent lower than conventional. More recently, a social housing scheme of 43 units in Luton achieved savings of 15 percent on Housing Corporation cost limits, and predicted heating bills for a 4-bedroom, end-of-terrace house of £81 per annum [17].

A survey of the Sustainable Homes Eco-database shows that where extra capital costs do occur, they are usually in the order of 3-10 percent. The Housing Corporation, which funds RSLs, has made environmental sustainability a priority in its National Investment Strategy [18], and has set a target of fifty percent of its new-build Approved Development Programme (ADP) funded schemes to achieve a BRE EcoHomes Rating of 'Good'. They are willing to meet 2.5 percent of the total cost of achieving this aim [19], which is often less than the additional build cost. As mentioned previously though, many RSLs view extra capital costs that deliver increased energy efficiency as a good future investment.

Information from private developers who have built and marketed 'eco-homes' suggests that extra costs can be recouped in the selling price (see 'Millennium Green' case study).

3.3.2 Carbon Taxes

The Climate Change Levy (CCL) was introduced in April 2001, and is a single stage sales tax on the supply of electricity, mains gas, liquid petroleum gas (LPG), coal and other solid fuels, for industrial and commercial uses. Its introduction is part of the Government's Climate Change Programme, to enable the fulfilment of its national and international obligations on CO₂ reduction.

Following strong complaints from industry about the impact of higher fuel prices on international competitiveness, the Treasury offered lower rates of taxation in return for energy saving commitments. There are now 41 different industrial sectors paying just 20 percent of the new levy, and overall the Government was prepared to forego £1,000 million in tax revenue in 2002, as a result of these and similar arrangements. The main carbon emissions producers, which include many construction related industries, have negotiated the 80 percent tax reduction in exchange for an 11 percent improvement in energy efficiency to 2010. Yet the Energy Technology Support Unit (ETSU), the Government's appointed agents to negotiate with industry, calculated that most sectors could cut energy consumption by at least 33 percent, and frequently by 50 percent.

According to Andrew Warren of the Association for the Conservation of Energy, these are not good deals either for the taxpayer, or the planet [20]. The original claims for carbon emission reductions as a result of the CCL have been scaled down from 4 million tonnes a year to 2.5 million tonnes.

Of the £1 billion raised by CCL, £150 million is allocated to the Carbon Trust, to promote low-carbon technology and innovation, which is where the construction industry can benefit from advice and financial support.

3.3.3 Benefits to Local Economies

Sustainable development places a high premium on the use of local materials and minimal transportation. Where suitable local materials are available and appropriate, there is a strong case for specifying their use in eco-buildings. These materials will vary from region to region, and will often reflect the local vernacular tradition.

There are sometimes savings to be made in avoiding excessive transportation and importation (though not as much as often assumed). The real economic benefits lie in providing more markets for local businesses and more opportunities for training and job creation. New (or rediscovered) materials and technologies create the need for new corresponding skills, such as plumbing and wiring for solar installations, traditional timber frame construction or lime rendering.

On a national scale, the increase in grant-aided energy efficiency work, with half a million homes a year to be targeted over the next 15 years, is bound to offer new work opportunities and business growth. In the preamble to the Warm Homes and Energy Conservation Act, it was estimated that 30,000 new jobs would be created by this and similar measures.

The BedZED (Beddington Zero Energy Development) housing development completed for the Peabody Trust made a deliberate decision to source materials from within a 35-mile radius of the site [21]. The trust managed to do this for 90 percent of the materials used. A local manufacturer was engaged to make the wind-driven cowls that form part of the natural ventilation system. These are a very visible and recognisable feature of the development, and have been repeated on subsequent developments by the architect, Bill Dunster.

3.4 The Egan Report

The publication in July 1998 of 'Rethinking Construction' [3], the report of the Construction Task Force chaired by Sir John Egan, is gradually changing the culture of the construction industry. The report defines client-focused improvement targets for the industry, relating to predictability, cost, time and quality. RSLs and local authorities with a responsibility for social housing provision have been identified as having a leading role to play in implementing the performance improvements required, such as value for money and 'leaner' construction. This is one way in which local authorities can demonstrate to government that

they are providing 'best value'. The Housing Corporation requires RSLs in receipt of its funds to demonstrate 100 percent 'Egan Compliance'.

The Movement for Innovation (M4i) was launched following the 'Rethinking Construction' conference in November 1998, to implement the Egan recommendations with a series of initiatives. Participating projects demonstrate innovations in 'Integrated Product Development' or 'Partnering the Supply Chain', for example, while working to meet a set of commonly agreed Key Performance Indicators (KPIs). There are more than 400 such projects, involving over 100 local authorities and other agencies, representing £5.6 billion in value, showing a 10 percent reduction in costs and a 40 percent improvement in safety. [22]

Following on from M4i, the Housing Forum was created to progress specific initiatives and in particular to commission and evaluate demonstration projects. The forum was established to implement the themes of 'Rethinking Construction' within the house building industry, and aims to bring together all parties involved in the house building supply chain to facilitate a 'movement for change and innovation'. The Forum has produced a series of reports and maintains a database that includes details on a range of innovative housing projects.

More information on M4i, KPIs and the Housing Forum can be found through 'Constructing Excellence', which 'aims to achieve a step change in construction productivity by tackling the market failures in the sector and selling the business case for continuous improvement' [23].

3.5 Impact of Climate Change on Design and Construction

While there is currently no legislation specifically aimed at mitigating the effects of climate change on the built environment, it seems likely that this issue will need to be addressed in the near future. There is concern within the insurance industry at the growing number and levels of claims resulting from damage to buildings caused by floods and high winds. In a recent report assessing the risks from natural catastrophes and man-made disasters, Swiss Re, one of the world's leading re-insurers, estimated that 92 percent of claims relating to 'natural causes' are due to storms and flood damage [24].

The consequent rise in insurance premiums will have the effect of engaging the population at large, together with the extreme disruption and even loss of livelihood affecting a growing number of people, as a result of the disruption of normal weather patterns.

1.7 million homes and 4 million people are classified as being at risk of severe flooding in England and Wales, due to a rise in winter rainfall of between 8 and 14 percent. Local authorities must now obtain a 'drainage impact assessment' for all new developments, as outlined in Planning Policy Guidance note (PPG) 25 [25].

Disrupted weather patterns will impact on the provision of new housing in the following ways:

- An increase in extreme weather events may lead to a rise in the occurrence of subsidence or structural failure. As a result, increased foundation works may become necessary, with corresponding financial and environmental cost.
- A possible need for more robust external systems, cladding and detailing, due to increased levels of precipitation and wind activity.
- Faster degradation of materials such as timber and concrete may lead to premature failure.
- An increased demand for cooling is predicted as a result of a rise in mean temperatures [26]. Mechanical cooling systems are energy intensive to operate, may rely on ozone depleting refrigerants, and can pose health risks (Legionnaires Disease).
- Restrictions on the siting of new developments may become necessary, in particular on flood plains, or below the 5-metre contour in coastal areas.

3.6 National and Regional Planning Policy and Guidance

3.6.1 Introduction

The aim of this section is to review planning guidance in the East Midlands and highlight those policies that have the potential to have a positive effect on the sustainability of the built housing form. The focus is on policies that are specific to housing, although the whole of the guidance needs to be taken into account, as it has the potential to affect the level of sustainability of *any* development.

Reviews are made on national planning policy guidance, and then the approach adopted in the East Midlands, where the Regional Planning Guidance (RPG) is being developed within the context of the Integrated Regional Strategy (IRS). The policies within the current regional guidance that are relevant to the sustainability of housing is discussed, as well as the proposed policies in the successor guidance, the Draft Revised RPG, which is due to come into effect late in 2004. Current local government policies and approaches are also examined. The responses from local planning authority officers, who took part in a brief telephone interview, are presented. These interviews focussed on the availability of additional guidance for developers, and the experiences and barriers to developing such guidance. A review of the guidance that was available and presented by the local authorities concludes this section.

Abbreviations and Acronyms

EMDA	East Midlands Development Agency
EMRA	East Midlands Regional Assembly
EMRLGA	East Midlands Regional Local Government Association
GOEM	Government Office for the East Midlands
HTG	Housing Task Group
IRS	Integrated Regional Strategy
LDD	Local Development Documents
LDF	Local Development Framework
LDS	Local Development Scheme
LPA	Local Planning Authority
PPG	Planning Policy Guidance
RPB	Regional Planning Body
RPG	Regional Planning Guidance
SPG	Supplementary Planning Guidance
UDP	Unitary Development Plan

3.6.2 National Planning Policy Guidance (PPG)

The planning system in England consists of three or four strategic levels, depending on the type of administrative body that is locally responsible for planning policy. National policy guidance is developed by the Secretary of State and is contained in 25 Planning Policy Guidance notes (PPGs), together with a series of Mineral Planning Guidance notes and additional circulars.

PPG 3 Housing [27] is the national policy guidance that deals specifically with housing. In it, the Government encourage Regional Planning Bodies (RPBs) to adopt a 'Plan, Monitor and Manage' approach to regional housing provision. This methodology requires:

- RPBs to take more responsibility for deciding regional housing provision based on the identified needs of their communities. To do this, they must take account of current trends in household types, projections of household growth, and ensure that adequate provision is made for those in need of affordable housing and/or those with special housing needs.

- RPBs to continuously monitor planned housing requirements and assess these against the rate of supply. They must take into account possible factors (such as job creation, job losses, etc) that may influence changes in housing need.
- RPBs to review the level of planned housing provision at least every five years, or sooner if monitoring identifies a need.

The guidance also sets out key national policy objectives, which need to be taken into account by local planning authorities. These potentially have a positive impact on the sustainability of new housing provision and include:

- The provision of wider housing opportunity and choice, including an improved variation in size, type and location of housing, which seeks to create mixed communities.
- The creation of more sustainable patterns of development, by building in a manner that exploits and delivers accessibility by public transport to jobs, education and health facilities, shopping, leisure and local services.
- The design of residential development layouts that reduce dependence on the car and encourage the use of more sustainable forms of transport, such as walking and cycling.
- The promotion of good quality design in order to create attractive environments in which people will want to live.

An entire section of the guidance is given over to 'Creating Sustainable Residential Environments', which elaborates on the objectives given above and offers further guidance on creating green spaces within residential developments, reducing parking standards, developing on the urban fringe and providing housing in rural areas. It also highlights the need to ensure that new settlements contain a mix of building use types, including residential, commercial and service use.

3.6.3 Regional Planning in National Context

Regional Planning Bodies (RPBs) are responsible for translating national policy into Regional Planning Guidance (RPG), taking into account a wide range of regional factors. These are then translated in county structure plans and district local plans by the county and district authorities, or Unitary Development Plans (UDPs) in the case of unitary authorities. The National Parks are considered by the RPB as a sub-region in their own right and distinct development plans are created for them, within the RPG, to protect their special status.

The East Midlands Regional Assembly (EMRA) became the Regional Planning Body for the East Midlands in April 2003. EMRA has responsibility for implementing, monitoring and reviewing the RPG in consultation with other regional bodies, including:

- The Government Office for the East Midlands (GOEM) that acts as the Secretary of State's representative in the region with regard to planning issues.
- The East Midlands Development Agency (EMDA) that is responsible for developing and implementing the economic strategy for the region.
- The East Midlands Regional Local Government Association (EMRLGA) that is the representative organisation for local government in the East Midlands and the former RPB for the region.

In addition, the RPB undertakes consultation exercises with other regional stakeholders from the business, environmental and voluntary communities as well as the public. In the East Midlands, the Regional Planning Guidance is developed as an intrinsic part of the Integrated Regional Strategy.

3.6.4 The Integrated Regional Strategy: 'Our Sustainable Development Framework'

The Integrated Regional Strategy (IRS) provides a framework to ensure the integration of the various strategies for the region, including the regional spatial strategy (the RPG) and the regional economic strategy developed by EMDA. EMRA is responsible for developing, monitoring and reviewing the IRS, in partnership with other regional stakeholders. EMRA is also responsible for developing the region's sustainable development framework, and took the decision to develop this as an intrinsic part of the IRS; thereby ensuring that all adopted regional strategies, including the economic and spatial strategies, would be tested for compatibility against the region's eighteen sustainable development objectives. This decision to embed the sustainable development framework into the IRS was unique to the East Midlands, and has won EMRA praise from the likes of Jonathon Porritt, Chairman of the Sustainable Development Commission and Hilary Armstrong, the then Minister for the Regions.

The IRS is based upon four themes - economic, social, environmental and spatial - that are inter-connected (see Figure 2). The four themes provide a method of breaking down the overall vision for the region into areas within which policies can be developed, while the interconnections maintain cohesion between the themes. The development of the IRS has been achieved through consultation with many regional bodies, and has been steered by the Regional Assembly's Integrated Regional Strategy Policy forum. The Housing, Transport, Social Inclusion and Environment Task Groups inform the work of the Assembly through the production of 'Viewpoints' statements. These highlight the major challenges and issues facing the region with respect to their focus areas. The IRS aims to draw together the key policies and strategies for the region, and guide it towards more sustainable lifestyles by addressing these issues and developing the appropriate policy responses.

3.6.5 Viewpoints on Housing: The East Midlands Regional Housing Statement

'Viewpoints on Housing' [28] is produced by the Housing Task Group (HTG) of EMRA. This document forms the East Midlands Regional Housing Statement, and updates are published annually by the HTG. It is the ambition of EMRA and the HTG that this document will eventually evolve to form the housing strategy for the region, directly informing the housing policies of the RPG by providing a forum for discussing the progress and problems encountered across the region. It will provide a means of disseminating good practice and effective strategies.

The East Midlands Regional Housing statement published in 2002 identified the following strategic priorities for housing in the region:

- To ensure that housing provision complements economic development, transport, health, education and other services.
- To ensure that housing provision is sustainable and works against the social exclusion of individuals and communities.
- To facilitate housing issues being addressed on the basis of appropriate housing market areas, irrespective of local authority boundaries.
- To ensure that the existing housing stock is brought up to acceptable standards and that all social housing meets the Government's 'Decent Home' targets.
- In association with land use planning and economic strategies, to ensure a sustainable balance between supply and demand for land and housing.

- To provide robust forecasts of the need for additional social housing, avoiding oversupply in any one area.
- To ensure that sufficient attention is paid to rural areas, including the need for sensitive intervention to ensure that communities remain sustainable.
- To ensure that mechanisms are in place so that all those with special housing needs, including Black and Minority Ethnic groups (BMEs), can be identified and that suitable provision can be made to suit those needs.

The statement also contains the following policies that have relevance to the sustainability of housing developments:

Scale of housing provision

In order to achieve the Government's target for a decent home for all people, the statement asserts that housing provision should be sufficient to meet the needs of the whole community, including those who are unable to afford market-priced housing. It follows government guidance in setting out annual rates for housing provision within each structure plan area, based on predicted need. This will provide a benchmark that can be reviewed every five years, or sooner if monitoring identifies a need (the 'Plan, Monitor and Manage' approach outlined in PPG3).

Land reuse

The statement aims to ensure the optimum reuse of previously developed land and existing buildings. The Sequential Approach outlined in PPG3 is endorsed, and the statement asserts that housing development in urban areas should be focused on brownfield sites where they exist, and then by development around existing settlements, with preference given to those with existing, or potential for, good public transport provision. The national government target of 60 percent of all new housing provision taking place on previously developed sites, or through the reuse existing buildings, is restated. The statement makes it clear however that this is a *regional* target, and recognises that the ability to meet it will vary from district to district.

Affordability

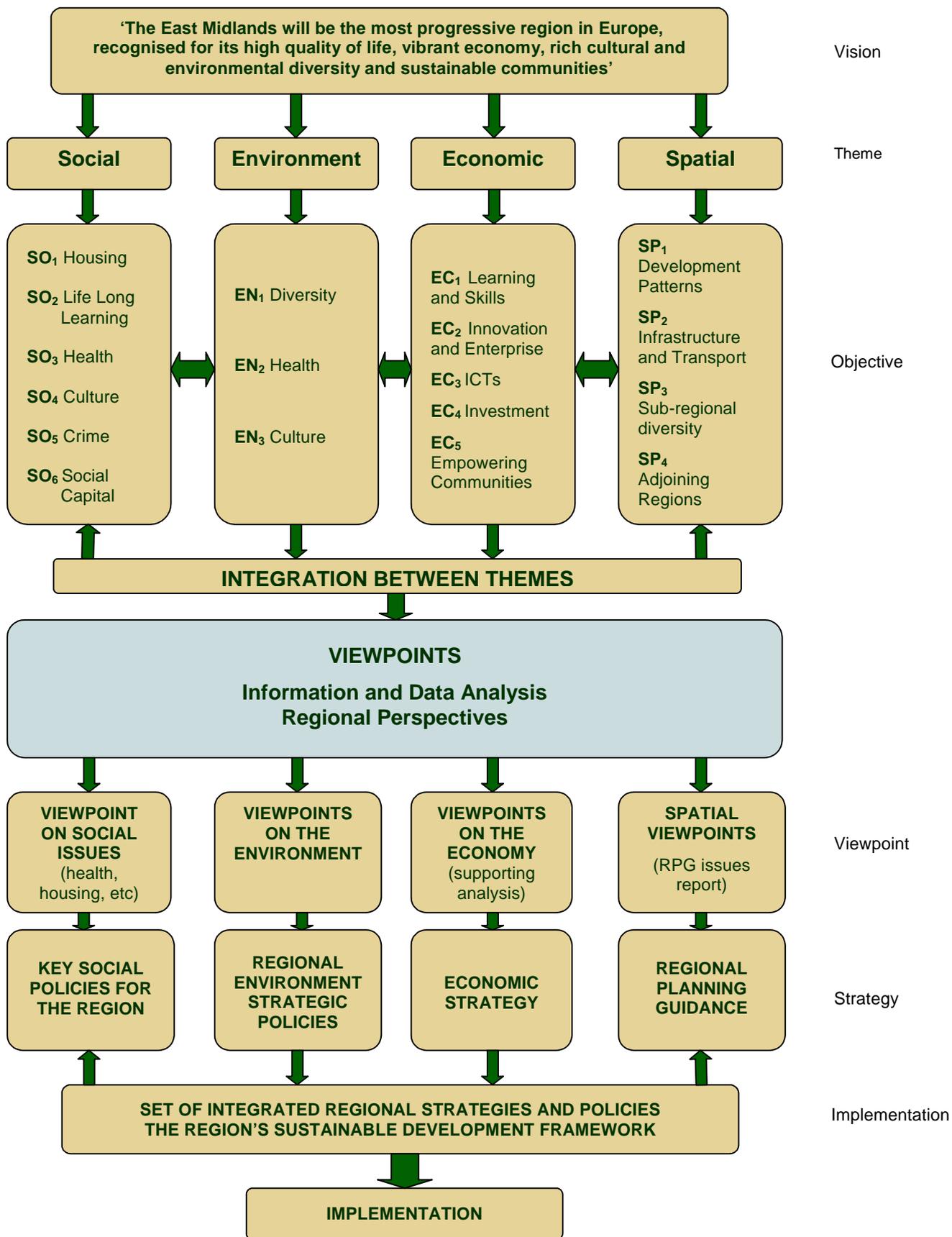
The statement sets the indicator for monitoring the progress towards achieving the adequate provision of affordable housing across the region at 3,400 dwellings per year. The statement also recommends that, even though local plans cannot express policies in terms of particular tenures, they should define what is affordable in relation to local income levels.

Design quality

The statement calls for the need to achieve high quality design in housing, with densities of 30 to 50 dwelling per hectare and that meet the need of more sustainable modes of transport, with the recommendation of reduced parking provision.

In addition, the statement also gives details of the Housing Task Group's position on various other strategies, often echoing national government policy, including policies or references for empty homes strategies, achieving affordable warmth, private sector renewal and homelessness.

Figure 2: The approach taken by EMRA to develop the East Midlands' Integrated Regional Strategy [29]



3.6.6 Regional Planning Guidance for the East Midlands (RPG 8)

RPG 8 outlines the spatial strategy for the East Midlands. It was developed by the former RPB and published by the Secretary of State in January 2002 [30]. Shortly after publication, the Panel for Public Examination of the RPG identified the need for an early review of the guidance to make its content more concise, more regionally specific, more focussed on developing a delivery strategy and to provide cross-references to national strategy rather than repetition of it. Draft terms of reference were developed for the revised guidance by EMRLGA and GOEM and were published in April 2002. The review for the Draft Revised RPG8 was launched in April 2003 [31], and at the same time the mantle of RPB was transferred to EMRA, which is now responsible for seeing the draft through to its publication, which is due in early 2005 [32].

The current RPG for the East Midlands

Policies 1 and 2 of the RPG set out the over-arching principles of the document, encouraging local planning authorities to use the 'sequential approach' when selecting land for development (policy 1), and setting this in the context of a more sustainable form of regional development (policy 2). The sequential approach aims to make the best use of land and optimise the reuse of suitable previously developed land for development. This is presented in the RPG as an order of priority by which land should be released for development, and consists of:

1. The release of suitable previously developed sites and buildings within urban areas that are, or have the potential to be, well served by public transport.
2. Other suitable locations, within urban areas, that have not been identified as land that is to be protected for amenity purposes.
3. Suitable sites in areas adjoining existing urban areas that are, or have the potential to be, well served by public transport and that involve the reuse of previously developed land.
4. Suitable sites outside (that is NOT adjoining) existing urban areas that are, or have the potential to be, well served by public transport and that involve the use of previously developed land.

In order to assess the suitability of land for development, policy 2 states that the nature of the development and its locational requirements need to be taken into account, along with the following criteria:

- The availability and location of previously developed land and existing vacant or under-used buildings.
- The accessibility of the site by non-car modes and the potential to improve the accessibility by non-car modes to town centres, employment, shops and services.
- The capacity of the existing infrastructure, such as roads, public transport facilities and social infrastructure to absorb further development.
- Awareness of the physical constraints of the site, such as the level of ground contamination from previous uses, stability, flood risk, etc.
- The impact that the development will have on the region's natural resources, environmental and cultural assets and the health of the public.
- The likelihood that the site can be viably developed, taking into account the resources of the public and private sector.
- The suitability of the site for mixed uses and the contribution that the site might make to strengthening local communities.

Although the RPG needs to be considered as a whole, the main section of interest for this discussion is ‘Chapter 4: Built Development’, which specifically addresses the development of housing in the region. Policies that have the potential to have a positive impact on the sustainability of housing in the region include:

- **Policy 20: Housing Provision**

The rate of regional housing provision is set for each structure plan area, and aims to ensure a sustainable level of housing supply in response to the predicted need of the community (see Table 4).

Table 4: Regional annual housing provision 2001-2021 [21]

Structure Plan Area	Annual rate of new housing provision
Derby and Derbyshire	2,550
Leicestershire, Leicester and Rutland	3,150
Lincolnshire	2,750
Northamptonshire	2,750
Nottingham and Nottinghamshire	2,450
Peak District National Park	50
Total	13,700

- **Policy 21: Sustainable Locations for Housing**

This policy reiterates the need for housing sites in development plans to reflect the sequential approach and take account of the sustainability criteria set out in policy 2. It calls for local planning authorities to carry out urban capacity studies, and to focus new housing development in urban areas, especially to assist in areas undergoing regeneration.

- **Policy 22: Managing the Release of Land**

This policy states that development plans should include policies that ensure that suitable previously developed sites and existing buildings in sustainable locations are developed as a first priority.

- **Policy 23: A Target for Reusing Previously Developed Land**

This policy sets a target for the number of new dwellings that must be built on previously developed land, or converted from existing buildings, at 60 percent across the region.

- **Policy 24: Design and Housing Layouts**

This policy requires local planning authorities, developers and other agencies to encourage innovation in the design of housing and of housing layouts. The development should be required to make provision for more sustainable forms of transport, make more efficient use of land, energy and materials, and take into account the environmental impact of the construction process. It calls for the creation of a high quality living environment, which should be achieved by reducing car parking provision and developing more flexible highways standards. The policy also calls for the preparation of

design briefs and master plans for larger developments and for the use of high dwelling densities. The need to ensure that new developments maintain local distinctiveness and enhance biodiversity as well as provide good access to green spaces is also highlighted.

The policy states that a range of different dwelling types should be provided to cater for different sections of the community, including disabled persons, single person households and larger families. The policy also states the need to take into account the relationship between the development and other settlements in terms of access to public transport, and its potential effect on shopping, education, cultural and health facilities. Crime prevention considerations are also called for to be taken into account.

- **Policy 25: Better Use of Existing Housing Stock**

This policy states that local development plans should be informed by urban capacity studies, and that they should seek opportunities for reducing the need to build dwellings on greenfield sites. It calls for the region's housing stock to be improved through the encouragement of renewal, particularly in locations that are sustainable. It also calls on local agencies to develop new initiatives that will improve both private and public sector housing, and raise their levels of occupancy.

- **Policy 26: Affordable Housing**

The indicator of 3,400 affordable dwellings per year across the region is set. The policy states that the level of affordable housing in each plan area should be established through a study of local need. It also states that such housing should be provided in areas that have good access to public transport that provide links to employment opportunities, cultural facilities, leisure, education and health care services.

- **Policy 27: Meeting Rural Housing Needs**

This policy aims to ensure that there is sufficient provision of affordable housing aimed at local people in rural areas. It emphasises the need to restrict mixed housing developments in rural areas to market towns, thus making the best use of existing rural resources.

Chapter 5 of the RPG, 'Natural and Cultural Resources', also contains policies regarding the energy and water infrastructures that support housing and may have a positive effect on its sustainability:

- **Policy 55: Waste Recycling and Reduction**

This policy sets the targets for the level of domestic waste that should be recycled for the years 2005 (25 percent), 2010 (30 percent) and 2015 (33 percent). The policy calls on local authorities to take an integrated approach to waste management by considering the best type and location for waste disposal facilities, adopting effective strategies to increase recycling and reduce waste, avoiding excessive provision of landfill sites and auditing the waste output of major and other specified developments.

- **Policy 57: Energy Efficiency and Renewable Energy**

This policy requires development plans to take into account possibilities for siting new developments in locations that relate well to renewable energy developments. It also states that developments should use siting, orientation, density and layout to minimise energy need. Developments should also maximise connection to existing energy infrastructure, seek opportunities for utilising waste heat from local generation schemes and explore the possibility of incorporating renewable energy.

The Revised Draft RPG 8 for the East Midlands

A public consultation was held in Grantham on the 8th April 2002 to discuss and agree the terms of reference for the Review of RPG 8. The aim of the review was to make the revised RPG shorter, clearer, more regionally specific and more strategic, as well as containing fewer policies and a greater sub-area focus. As a result of the revision process, the Revised RPG has been substantially restructured, with the number of policies reduced from 89 to 55. Greater emphasis has been placed on articulating regional priorities, and not just repeating national guidance. The Revised RPG is split into three main sections: the Core Strategy, the Spatial Strategy and Topic Based Priorities. Although, once again, the document needs to be seen as a whole, the areas of specific importance to this discussion are elements of the Core Strategy and the 'Housing' and 'Natural and Cultural Resources' sections. The Revised Draft RPG is due to be sanctioned by the Secretary of State in early 2005.

The Core Strategy

The Core Strategy refers to the objectives of the European Spatial Development Perspective, the UK Government's definition of Sustainable Development, and the regional Vision Statement of the East Midlands Integrated Regional Strategy. Policies 1 and 2, which outline the sequential approach to development form, remain unchanged. A new policy, policy 3, has been added. Policy 3 focuses on improving design and replaces Policy 24 in the current (2002) RPG, which has been deleted. The design principles outlined in this policy now apply to all forms of development, rather than just housing, and call for the cooperative working between local authorities, regional bodies, utility providers and developers to ensure that standards of design and construction are constantly improved. The policy states that this objective should be achieved by promoting:

- The use of 'design led' approaches that take into account the local nature and historic character of the development's surroundings.
- The use of construction techniques that minimise the use of energy, improve water efficiency and drainage, and that consider building orientation at an early stage in the design process.
- Architectural design that is functional but also sympathetic to the local natural and built environment.
- Increased densities in housing developments in line with national guidance.
- Access between new developments and local facilities by foot, cycle or public transport.
- Highway and parking designs that increase both safety and the quality of public space.
- Design that helps to reduce crime, support community safety and vitality, and that benefits the quality of life for local people.

Topic Based Priorities: Regional Priorities for Housing

This section has been reduced to a group of four policies: Housing Provision (now Policy 17), Affordable Housing policy (Policy 18), Managing the Release of Land (Policy 19) and Reusing Previously Developed Land and Buildings (Policy 20). The substance of these policies has not changed from the current (2002) RPG 8. Other policies have either been merged or deleted, as they added little to national policy (PPG 3).

Topic Based Priorities: Natural and Cultural Resources

This section has been substantially restructured to give it a more regional focus. Some policies have been deleted or merged to make the section more concise, and new targets have been established in some of the areas that the policies in this section effect. A new policy, Policy 27, sets out the over-arching principles of the section in the context of

sustainable development. This outlines a hierarchy of four principles to be considered in regard to development plans: the need to promote the avoidance of damage to natural and cultural assets, the need for minimisation of damage through the process of mitigation where damage is unavoidable, the need for 'compensation' where mitigation is not possible, and the overall aim that there should be no net loss of natural or cultural assets across the region, with the ultimate aim that there should be a net gain.

- **Policy 33: A Regional Approach to the Water Environment**

Of specific interest to housing is the aim to 'manage supply and demand, require sustainable drainage where practicable and promote the efficient use of water.'

- **Policy 38: Regional Priorities for Waste Management**

The commercial and domestic targets set in the 2002 RPG are replaced with a minimum of 50 percent for the recycling and composting of Municipal Solid Waste by 2015.

- **Policy 39: Regional Priorities for Energy Reduction and Efficiency**

This policy states that local authorities, energy generators and other agencies should promote the 'Energy hierarchy', which translates to reducing the need for energy, using energy more efficiently, using renewable energy and any remaining use of fossil fuels needs to be clean and efficient for heating and co-generation. It also sets a regional target for the development of Combined Heat and Power (CHP) and district heating infrastructure to achieve 511 megawatts of electrical energy (MWe) by 2010 and 1120 MWe by 2020. The policy recommends that district and unitary authorities should develop SPGs, where appropriate, to explain how this policy could be achieved.

- **Policy 40: Regional Priorities for Renewable Energy**

This states that development plans should include policies that facilitate the delivery of the regional renewable energy targets, set out in the Regional Energy Strategy. Indicative targets are proposed for each sub-regional area and for each technology type. The policy sets a proposed regional minimum target of 2495 GWh per annum by 2010, which represents 10.6 percent of the current electricity demand for the region. A suggested minimum target of 5,000 GWh per annum by 2020 is also given.

The reform of the planning system

At the time of writing (June 2003), the UK government was in the process of reforming the land planning system through the enactment of the Planning and Compulsory Purchase Bill. This Bill only applies to England and Wales, and was introduced to the House of Commons in December 2002. The Government states that the main purpose of the Bill is to speed up the planning system and increase the predictability of planning decisions [33].

Under the Bill's proposals, RPGs will be replaced by statutory Regional Spatial Strategies (RSS), which will set out the Secretary of State's policies in relation to development and the use of land within the region. The policies in the RSS may not relate purely to the granting or refusal of planning permission, but may also include policies on other issues such as, for example, congestion charging. Revisions to the RSS will be more focused than current RPG, and will contain sub-regional sections. These are already incorporated into the East Midlands's RPG in anticipation of the proposed reforms contained in the Bill. As with the Draft Revised RPG, the RSS will have to be developed within the regional Sustainable Development Framework, which, in the East Midlands, is the IRS.

County structure plans are to be abolished, and Local and Unitary Development Plans are to be replaced by Local Development Frameworks (LDFs). Each Local Planning Authority

(LPA) will be required to produce a Local Development Scheme (LDS). The scheme must specify the Local Development Documents (LDDs), and each of these must contain information on the subject matter and the geographical area to which it relates. Some of these documents will have the status of development plans, in conjunction with the RSS. Others will have the status of what are currently known as SPGs. All LDDs must have close conformity to the RSS, and be prepared in accordance with the regulations set by the Secretary of State. It will be the responsibility of the LPAs to monitor the effectiveness of the LDDs in achieving their objectives, and to make revisions in response to changes in national and/or regional policy.

The county councils in the East Midlands will be required to prepare Minerals and Waste Development Schemes that will specify the LDDs that they propose to produce on minerals and waste issues. It is also envisaged, under the proposals of the Bill, that the county council will retain responsibility for developing local transport plans.

The major change that the RSS will have with respect to the spatial strategy for housing will be the inclusion of housing provision figures at a district level within the development plan, instead of the figures being provided only at a county or unitary level as they are now.

The proposed transitional arrangements are to take place over several years. Subject to the parliamentary process, the development plan reform elements of the Bill could come into effect by autumn 2004. It is proposed that whatever constitutes the development plan for the area at the time that the Bill comes into force, will retain development plan status (be 'saved') for a period of three years. During this time, the LPAs will bring forward new LDDs that will replace the policies in the 'saved' plan in accordance with their local or minerals and waste development scheme.

3.7 District Level Policies for Sustainable Housing

The aim of this section is to review the planning policies, Supplementary Planning Guidance (SPG) or other guidance offered by the individual county, district and unitary authorities in the East Midlands.

Those documents that have the potential to make a positive impact on the sustainability of housing, and that are in addition to the policies contained in the national PPGs or the regional RPG are reviewed in two parts:

1. A brief telephone interview was conducted with a member of each of the region's 44 local government planning departments, usually the planning policy officer in each authority. This was to ascertain whether any additional guidance was being offered to developers in order to encourage them to develop sites in a more sustainable manner. The following questions were asked:

- Do you have any additional guidance that attempts to encourage developers to develop housing sites in a more sustainable manner?
- If not, do you think such a policy would be useful?
- What do you perceive to be the main barriers to developing such a policy?

2. Those planning authorities that did have policies, SPGs or additional guidance in place were asked to submit copies for review.

Supplementary Planning Guidance

The aim of SPGs is to amplify specific policies contained within the Local Plan, and to provide further information and instruction about the reason for the policy and how its objectives can be met.

SPGs must be formally adopted by the council, and are not 'stand-alone' documents, but must refer to specifically adopted policies within the local plan, and expand upon them.

3.7.1 Responses to Questions

Of the 44 local government planning departments contacted, 42 took part in the telephone interview, the results of which are given below. A full list of those authorities that agreed to take part in the interview is given in appendix (???).

Availability of policies and/or additional guidance to improve the sustainability of housing in the region

- **Structure plans**

The region's structure plans generally reiterate the policies in the RPG, particularly with respect to the provision of new housing, the need to develop housing primarily on brownfield sites and the need to provide an adequate amount of affordable housing. Beyond this, most respondents felt that the role of the county councils was to define the 'over-arching' principles for development, and not get 'bogged down' in the detail of the specific methodologies of development. The county councils generally felt that their contribution to more sustainable forms of development would come through their roles as regional transport planners, waste and mineral strategy planners, etc. Most respondents were waiting to assess the outcome of the planning reform Bill, which proposes the abolition of the structure plan, before they decide on the direction of any new policies.

- **District and unitary plans**

From the 42 district, borough, city and unitary authorities that responded, information was gathered regarding the availability of additional guidance around the issues of sustainable housing, and this is summarised in Table 5:

Table 5: Summary of additional planning guidance available within the East Midlands region

Subject of guidance	Number of authorities with guidance in place	Number of authorities developing guidance
Sustainable housing	0	1
Affordable housing	5	1
Layout and design	4	3
Sustainable development	2	4
Energy efficiency or renewable energy	2	3
Sustainable Urban Drainage Systems	2	0
Total (out of 42)	15	12

- **Sustainable housing**

Only one local authority (Oadby & Wigston) was planning to develop an SPG that related specifically to sustainable housing.

- **Affordable housing**

The most common SPG available to developers regarding housing was concerned with the development of 'affordable housing'. Five local authorities (Bassetlaw, Blaby, Bolsover, Leicester and North West Leicestershire) already had such an SPG in place, with another (High Peak) in the process of developing one.

- **Layout and design guides**

Development / residential 'Layout and Design Guides' have been developed by four local authorities (Bolsover, Boston, Lincoln and Lincolnshire, which is referred to by many other Lincolnshire authorities), and three more local authorities (Broxtowe, Derby and East Northamptonshire) are in the process of developing their own versions of these. The focus of these documents tends to be on the 'quality' of design and the built environment; with issues such as vernacular detail, density, quality of open space and security dominating. The link between dwelling orientation and energy efficiency is touched on briefly in several of the documents, and one promotes the use of local plant species and low water use planting in its guidance on landscaping. One unitary authority (Leicester) is in the process of developing the 'Leicester Standard', which is designed to be a helpful code of practice aimed at developers, architects and others involved in the construction industry in Leicester. Sustainable construction materials are touched on in two of the documents, and one local authority has very actively promoted this issue within its local plan. One SPG, Lincoln's 'Green Design in Planning', goes much further and will be reviewed later in this section.

- **Sustainable development**

Two local authorities (Mansfield and Wellingborough) provide additional guidance to developers on 'Sustainability', and at least four other local authorities (Ashfield, Corby, Kettering and North Lincolnshire) are currently developing a 'Sustainable Development' guidance document.

- **Energy efficiency and renewable energy**

One unitary authority (Leicester) has produced an SPG covering energy efficiency and renewable energy and one district authority (Newark & Sherwood) has produced an SPG on 'Wind energy'. One other authority (South Northamptonshire) is currently preparing an SPG on energy efficiency, and two local authorities (Hinckley & Bosworth and Oadby & Wigston) are developing additional guidance on renewable energy.

- **Sustainable Urban Drainage Systems (SUDS)**

Two local authorities (Chesterfield and North Kesteven) have policies in their local plans that promote the use of SUDS within developments.

Do they think that additional guidance that promotes the issues of sustainable housing to developers would be a good thing?

Out of the 42 local authorities questioned, 16 said that they would be interested, or very interested, in developing an SPG that could potentially lead to more sustainable forms of housing development. Four of these authorities (Amber Valley, Daventry, Derby City and North West Leicestershire) that were positive about the development of a sustainable housing SPG, felt that the guidance needed to be site specific in order to take into account any special features that the site may contain. This approach may be complementary to the proposed reform of the national planning system, which will lead to the creation of Local Development Documents within which existing SPGs will potentially be subsumed.

The general consensus amongst this group of 16 local authorities is that they would like a template, or 'bare bones', guidance document that they could then 'flesh out' and personalise for their own needs. This process would give members of the authority a greater sense of ownership over the document and increase the level of commitment that the authority would have to the document's principles. One planning officer claimed that the process of 're-inventing the wheel' was quite good for the authority's elected members, as it presented them with the opportunity to engage with the issues in a far more effective manner than by just simply 'adopting' someone else's work.

Three local authorities stated that they preferred to use media such as guidance leaflets or the Internet to promote issues of sustainability. One local authority (Broxtowe) is currently developing a series of design guidance leaflets that will cover issues such as sustainable construction materials and passive solar design. Another (Daventry) hopes to develop the use of Section 106 agreements to achieve more sustainable forms of construction.

Altogether, 6 local authorities stated that they had no interest in developing additional guidance for developers with regard to sustainable development. Some felt that the guidance offered in the national PPGs was adequate, and others had produced a 'statement on sustainability' within their local plans that they felt was adequate. The reasons given by some of the other 42 authorities for not developing additional guidance are covered next.

The main barriers to the development of sustainable housing SPGs

- **Time and resources**

The greatest barriers to the development of additional guidance for sustainable housing, identified by the local authorities, were constraints on time and resources. In all, ten local authority officers (24 percent of all local authorities interviewed and 63 percent of local authorities that would like to have a additional guidance for sustainable housing) cited this as the main barrier. Some of the comments received on this are given below:

'We would love to have an SPG that gave guidance to developers on more sustainable forms of housing development, but someone would have to write it for us, as we don't have the time.'

'We, ourselves, do not have the staff to develop such an SPG...we would consider it a luxury.'

'We have attempted to produce various SPGs in the past, but have found it difficult to establish the right level of detail in the document, i.e. finding the balance between providing enough detail whilst not making it confusing. We have never had the resources available to produce a document of the required quality to satisfy "the powers that be".'

'We have a long list of SPGs that we would want in an ideal world, but don't have the time to develop them.'

- **The need for legislation**

Four of the local authorities interviewed felt that it should be the role of national legislation to improve the sustainability of housing developments, and actively want to see this occur. One felt that this should be achieved through an upgrade in the national Building Regulations. Another felt that the required uplift in standards should be achieved through the embodiment of tougher sustainability principles within the PPGs.

Several other local authorities commented that they did not feel that an SPG on sustainable housing would have the legislative weight necessary to justify the time spent developing it. Comments received included:

'We would like to see a devolvement of planning powers into local areas, to give legal clout to local SPGs.'

'We cannot, do not have the legal powers, to insist that developers meet sustainability standards that are not already part of the national PPGs.'

'We do feel that our policies have 'teeth', but I admit that we probably wouldn't have the stomach to refuse permission to applications that do meet the national regulation but don't meet our desires. We would like to see more sustainability principles to be included in the PPGs'

One respondent replied that:

'The best way forward would be to incorporate sustainability principles into the emerging Local Development Framework so that an SPG can then be produced to guide developers down a more sustainable route.'

Another felt that the use of Section 106 agreements would be more effective and stated:

'We are hoping to increase the sustainability of future developments through the use of Section 106s, developer contributions, being amplified by the new planning regime.'

Section 106 Agreements

Section 106 (S106) agreements are legally binding agreements made between local authorities and developers or landowners under Section 106 of the Town and Country Planning Act 1990. They are used to regulate developments where a planning condition would not be appropriate, for example, where highways work is needed, but is not on the site covered by the application. The granting of planning permission is made subject to the developer (or landowner) first **voluntarily** entering into the 106 agreement.

- **The new planning regime**

Two of the county councils said that they were waiting to assess the outcomes of the central government's reforms of the planning system before they would consider making any further alterations to existing policies, or adopting new ones.

3.7.2 Review of Additional Guidance made Available to Developers by Local Planning Authorities

This section examines a sample of the documents that are supplied by local authority planning departments to developers to provide them with additional guidance on how they can meet specific policy objectives set out by the local authority in their local development plan (the local plan).

The examples were chosen from the 15 documents submitted (see Table 5) by different local authorities for the following reasons:

- Five of the documents pertained specifically to 'Affordable Housing' and therefore contained details of local targets, definitions of affordable housing and guidelines for developer financial contributions. Although affordable housing is a condition for housing to be socially and economically sustainable to residents, affordable housing will not necessarily have any effect on the environmental sustainability of the housing. These documents have therefore been excluded from this research.
- Four of the documents submitted comprised of design and layout guidelines for developers. Only two of these went into any real detail regarding the environmental

impacts of housing construction / use of housing, and these have been selected for review. The main focus of the other two design and layout guides was on issues such as vernacular details, secure by design, etc. and did not include any great detail on the environmental impacts of housing construction and use.

- Two regional SPGs of relevance to sustainable housing are Leicester City's 'Ashton Green' SPG and the Borough Council of Wellingborough's 'Wellingborough East Urban Extension' SPG which are discussed as part of the 'Large Schemes' part of the case studies section of this document and are therefore not reviewed here.

The six remaining documents comprise of:

- Two design guides: Leicester City's proposed 'Better Buildings' SPG and the City of Lincoln's 'Green design in Planning' SPG.
- Two sustainable development guides: the Borough Council of Wellingborough's 'Building Better Places: A Guide to Sustainable Development' SPG and Mansfield District Council's 'Sustainability: A Designers Guide' information booklet.
- Two SPGs focussed on the sustainable use of energy: Leicester City's 'Energy Efficiency and Renewable Energy in New Developments' SPG and Newark & Sherwood District Council's 'Wind Energy' SPG.

3.7.2a The Design and Layout Guides

Document Name:	'Leicester's Better Buildings.' (LBB)
Document Type:	Proposed Supplementary Planning Guidance, ultimately to be web based
Document Status:	Under Development June 2003, anticipated completion and adoption in early 2004
Local Authority:	Leicester City Council
Contact:	Diane Chapman: (0116) 252 6034

Leicester's Better Buildings (LBB) project [34] is an initiative of the City Council, and is designed to be a helpful code of practice aimed at developers, architects and those involved with the construction process in Leicester. It aims to encourage and support the highest quality of development, to make Leicester a more sustainable place to live, work and invest. It will primarily be a web-based resource, setting out and providing links to a wide array of web-based information that will inform and assist developers to produce more sustainable buildings.

The first phase developed 11 key themes against which planning applications could be assessed for sustainability. The themes are drawn from Leicester's Community Plan [35], the Leicester Environment Strategy and the Leicester Sustainability Checklist. The eleven themes are: Energy and Natural Resource Use, Pollution, Transport, Waste, Wildlife, Community Safety, Culture and Diversity, Health, Jobs and Regeneration, Access - Use and Enjoyment, and Environmental Awareness. The next phase is to develop a scoring system, similar to the BREEAM rating system but much easier to administer, that the developers can use to self-assess their own performance.

LBB will be promoted through an annual award scheme that will raise the profile of the best developments within the city, promoting them as current best practice and giving kudos to their developers. The aim is to apply the standards of LBB, initially, to the five large regeneration schemes that are planned for the city, and the Leicester Regeneration Company has so far been positive about the potential benefits of the LBB. A consultation exercise was carried out by the City Council in April 2003, which was well attended by members of the construction industry. Several of the larger developers have expressed an interest in being involved with the project as they wish to become long-term partners in the City's regeneration projects. Independent consultants will be engaged to develop the website and documentation for the standard, and to organise further consultation events with local stakeholders. The aim is for the guidance to become operational in April 2004.

LBB will hopefully fill some of the gaps that are apparent in 'Energy Efficiency and Renewable Energy in New Developments' SPG (see 'The guides focussed on Sustainable Energy Use' section below) and, being Internet based, will be easier to keep up to date. The notion of an 'aspirational' building standard which is voluntary and in excess of the Building Regulations has been raised by many groups and individuals concerned by the poor thermal performance of the UK's housing stock, and the development of this standard in consultation with the construction industry is definitely a move in the right direction.

Document Name:	Green Design in Planning [36]
Document Type:	City wide Supplementary Planning Guidance
Document Status:	Adopted 4 th July 2000
Local Authority:	City of Lincoln Council
Contact:	Mark Harrison: 01522 873 550

The aim of this document is to provide additional guidance on 'green' design for buildings and the wider built environment. It focuses on the conservation and efficient use of water, energy, construction materials and land, and expands on policies and objectives for a greener built environment set out in the City of Lincoln Local Plan. The document is divided into seven sections, with the first two sections providing a basic introduction to the background of the document and its planning context. The other five sections provide guidance on the following issues:

- 'Site layout' including information on providing good quality access to a development and actively promoting alternatives to the car. A hierarchy of transport priority is outlined with pedestrians, cyclists and public transport taking precedence over private motor vehicles. Advice is also given on different types of 'Car-Free' development, along with details of the locations where the Council may be supportive of this type of development proposal. Density and Site Coverage guidance is given, with the benefits that dense developments bring in terms of potential land and energy savings outlined. The guidance does however point out that there may be compromises between density and issues such as solar access, space for recycling, etc. and calls for the right balance to be found for each site. The need for mixed-use developments is highlighted, and 'four organising principles' are given to assist developers with maximising the energy efficiency benefits that good layout design can bring. Advice is also given on creating energy and water autonomous developments.

- 'Promoting Green Lifestyles', which includes information on: 'Waste Management', such as the need to provide adequate space for recycling and composting facilities; 'Local Food Production' and the environmental benefits of providing residents with a space to grow some of their own food; 'Shared Facilities in Residential Development', which introduces the concept of co-housing, and cites it as a way of developing sustainable social structures and sharing a development's facilities.
- 'Greenspace and Wildlife' promotes the vision that the green space within and around a development should be seen as an integrated part of a truly green design. The use of green space to provide microclimate, a potential source of food and fuel, a means of treating waste in some cases, a way of providing recreational opportunity and also of increasing local biodiversity. The concept of permaculture is also briefly introduced and promoted, with further sources of information given. The need to maintain and enhance the level of biodiversity within the city, using species native to the area, is stated along with the need to maximise the opportunities for environmental education. Developers undertaking major developments within the city are required to explore the opportunities to use, and locally produce, bio-fuels as an alternative to conventional fuels.
- 'Water Resources' provides guidance to developers on protecting existing water features, reducing the use of supplied water and sustainable methods of water and sewerage treatment. It recommends the reduction of consumption of water of drinking quality, offsetting it through the use of grey water recycling and rainwater collection. It also promotes the onsite / local treatment of foul water, and the use of soakaways to absorb surface water. It states that hard landscaping should be kept to a minimum, and that hard surfaces should be porous. The use of sustainable urban drainage systems (SUDS) is promoted, and the need to design these in a way that maximises their potential positive contribution to the creation of wildlife habitats is emphasised.
- The section on 'Building Design' seeks to promote the use of sustainable buildings materials, building design that maximises energy efficiency and raise awareness about a range of sustainable building issues. Information about embodied energy is offered, which is backed up by a table giving examples of low, medium and high-embodied energy building materials. The concept of choosing materials based on life-cycle analysis is promoted, and the need to reduce energy use at every stage of the building's life is emphasised. A sub-section briefly touches on energy efficient building design issues, such as insulation, passive solar design and renewable energy, with sources of more detailed information given. Guidance is given concerning the internal layout of buildings, the placement of windows to maximise solar gains, the orientation of pitched roofs to maximise the opportunities of solar power, the use of conservatories and buffer zones, as well as basic information about heating, lighting and ventilation strategies. Different energy rating schemes, such as SAP, NHER and BREEAM are also described.

Permaculture

The Australian Bill Mollison originally coined the term 'permaculture' in the 1970s. The word can mean either 'permanent agriculture' or 'permanent culture' and its scope now covers design strategies for all aspects of how we live. The main guiding principles are modelled on the behaviour of natural eco-systems.

Further information can be obtained from the 'Permaculture Association' website:

www.permaculture.org.uk

The guide was developed in a partnership between the City of Lincoln Council, Sustainable Lincoln LA21 group, the government Office for the East Midlands (GOEM) and Midlands Renewable Energy Technology Transfer (MRETT). The publication is in full colour, with lots of photographs and good diagrams that help to explain the concepts outlined in the text. The guide goes much further than many other SPGs attempting to cover the same area, and is

written with a strong sense of commitment to ‘deeper green’ issues not normally contained in the publications of planning departments.

The City of Lincoln Council has not had the success with the publication that they had hoped for, but they are still glad that they went to the trouble of producing it. Some developers in the city have taken up issues from the guide, and this has had a positive impact on the design of the recent City and County Museum Project, where the developers became very conscientious about the building’s heating system and the effect on local transport. It is intended to re-launch the document as part of the new local plan launch in the summer 2003.

Although the council has no real powers to enforce the ideals of the SPG, they are working very hard to promote individual elements within it. At the time of writing, they are particularly focussed on the SUDS element and were in negotiation with the Highways Agency and the Environment Agency to see how they can bring forward this particular approach to land drainage. All developers submitting planning applications must also submit a ‘Green Design Statement’ and a ‘Written Explanation’ of how the proposed development has addressed green design issues. This has the effect of raising awareness of the issues of green design amongst developers. Another benefit of the development of the SPG is that the planning and building control departments within the council are now fully conversant with the issues contained in the SPG, thereby removing the barrier of ignorance regarding green design strategies that have been met by some of the region’s more innovative developers (see Section 5: *Barriers to Eco-developments*).

Sustainable Urban Drainage Systems (SUDS)

SUDS is a landscaped drainage methodology that encourages rainwater to percolate back into the ground surrounding a development, rather than it being channelled into a conventional storm water drainage system.

For further information see: www.ciria.org/suds

3.7.2b The Sustainable Development Guides

Document Name:	Sustainability: a developers guide [37]
Document Type:	Information Publication
Document Status:	District Wide Pre-application guidance
Local Authority:	Mansfield District Council
Contact:	Allan Whitelaw: 01623 463 195

Mansfield District Council provides this document to all developers in the district at the initial enquiry stage. It is not a formally adopted document, but rather seeks to promote the issues of sustainable development amongst developers, and to provide guidance as to the nature of the information that the Council wish to see included with all planning applications.

The document starts by listing the economic benefits to developers that sustainable development can deliver. These focus on financial and risk management issues, and then the ‘softer’ social issues such as occupant health and wellbeing, the potential enhancement of the company’s image and improved community relationships. An example is given of the Mansfield ‘i-centre’, showing that major financial savings can be made in the initial capital costs of the building, as well as the energy running costs, which are 14 percent below the

best practice benchmark for a similar building type. SUDS are promoted as a demonstration of how revenue costs can be lowered by adopting a more sustainable approach to land drainage, although no figures are given to back-up this claim.

Legislation that concerns sustainable development is then outlined, including Building Regulation Approved Documents L1/L2, the Wildlife and Countryside Act 1981, The Hedgerows Regulations 1997, Tree Preservation Orders (TPOs) and the Environmental Impact Assessment Regulations 1999. References are given to both policies contained in the local plan and national PPGs that the council feels are of relevance to sustainable development and wishes developers to be aware of.

Guidance is provided on pre-application site appraisal, which it expects all developers to undertake and for the results to be submitted in the form of an annotated site plan supported by a short written plan. The document provides a list that sets out the minimum information required by development control at this stage of the application process. This includes the setting, character of the locality, adjacent land uses, views, vehicular access, access for other transport modes, existing buildings and their potential for reuse, etc.

The section on 'Landscaping and Biodiversity' provides guidance on these issues and raises awareness about the local Biodiversity Action Plan (BAP). SUDS are briefly introduced in their own sub-section and, equally briefly, an introduction is given to building assessment methodologies, including the Building Research Energy Conservation Support Unit's (BRECSU) publications and benchmarking techniques. This sub-section includes a statement that the Council would expect to see all new non-housing proposals to achieve at least the low energy standards outlined in these publications. The BREEAM methodology is also briefly discussed, and a list of potential information sheets that the Council envisages developing in the future are given, which include Renewable Energy, Grey Water Recycling, Environmental Purchasing and Waste Minimisation. A list of contacts for further information is given at the end of the document.

Many of the issues introduced in the document are covered too briefly to be of any real benefit to developers, and it is unlikely that the document will lead to any form of real enlightenment. A large proportion of the document, and the policies within the local plan that it refers to, are concerned with the protection of the landscape, while the references to statutory regulations, with the lack of reference to their source documents, would seem unnecessary. This is the only document of its type in the region however, that attempts to highlight the benefits to business (developers) that sustainable design can bring, and the reference to the Mansfield i-centre provides a good, local demonstration of the potential of novel design. The document is clearly laid out and easy to read, and the format (black and white, A4) should make it easy to update.

Document Name:	Building Better Places: A Guide to Sustainable Development [38]
Document Type:	Borough Wide Supplementary Planning Guidance
Document Status:	Adopted 22 nd April 2003
Local Authority:	Borough Council of Wellingborough
Contact:	Strategic Planning Team: 01933 231 921

This document includes a range of guidance that has the potential to deliver a more sustainable form of development. It includes guidance on the provision of the infrastructure that can promote sustainable forms of transport use, including a high quality environment for

pedestrians, the provision of cycle lanes and priority for cyclists at road junctions, as well as ensuring that adequate provision is made for access by public transport.

The guidance covers issues such as solar access, the use of landscaping to create a sheltered site and the promotion of the terraced form to reduce heat loss through the building's fabric. A section on 'Renewable Energy' identifies the most appropriate forms of renewable energy technology for the Borough, and even discusses specific locations where particular technologies may be most appropriate.

The section on the 'Water Environment' lists the problems with conventional approaches to drainage, and the effects of development on water systems. Sustainable Urban Drainage Systems are promoted as a viable and more sustainable option to conventional drainage, and the need to design in such a system at an early stage of the development's design is highlighted.

Sections on 'Landscape and Biodiversity', 'Cultural Heritage' and 'Planning Out Crime' give a range of guidance that promotes a more sustainable approach to these issues. In 'Waste Management', the concept of providing dry hygienic storage spaces for recyclable material and green (organic) waste is promoted for all housing developments. The guidance advises that these facilities should be street accessible, to provide easy access for kerb side collection schemes, and points out that these could be incorporated into porches and verandas. As an alternative, developers are given the option of providing space within the development, either for each dwelling or communally, for composting green waste.

A range of topics is discussed in the section on 'Building Construction and Design'. In a sub-section on building materials, 'life-cycle analysis' is recommended and the use of timber, locally grown and FSC certified, is promoted as the best option for a range of construction purposes. The section goes on to look at 'Energy and Insulation', which encourages developers to use the maximum amount of insulation that is practicable and to see the Building Regulations as a minimum standard. The need to reduce draughts is also highlighted. 'Solar Energy' is promoted within its own sub-section, and the differences between solar water heating and photovoltaics are discussed. The 'Central Heating' sub-section promotes the use of condensing boilers and attempts to break down the myths associated with this boiler type. The use of energy efficient appliances is promoted, and awareness is raised of the national 'Energy Efficiency' logo that is awarded by the Energy Saving Trust (EST) to those appliances that meet their criteria for low energy consumption when in use.

**Forestry Stewardship
Council (FSC)**

An internationally recognised certification scheme that asserts that timber meeting its standards is from a sustainably managed source.

For further information see:
<http://www.fscoax.org/>

The section ends with the promotion of the 'Lifetime Homes' standard, the voluntary standard developed by the Joseph Rowntree Foundation. The aim of the standard is to influence the design of homes to ensure that they are flexible and adaptable enough to meet the potentially changing needs of their residents throughout the resident's life.

The document ends with three appendices that provide a brief checklist for sustainable materials, a list of references for further reading and a contact list for sources of further information about the topics discussed in the document.

The document provides a relatively comprehensive source of information, covering many of the topics necessary for the creation of developments that are more sustainable than the norm. Good references are given to further information and the policies within the adopted local plan that the guidance is elaborating, and it makes a good attempt to raise awareness of the issues that these policies are attempting to tackle. The use of graphic information is minimal, which may have helped to explain some of the concepts in a easier to digest format

than has been achieved. In many instances, the document appears to be aimed at housing developers, or even homeowners (the section on central heating refers to ‘your home’ and ‘saving you money’), and in some cases the guidance given may be inappropriate for other forms of development.

3.7.2c The Sustainable Use of Energy Guides

Document Name:	Energy Efficiency and Renewable Energy in New Developments [39]
Document Type:	City wide Supplementary Planning Guidance
Document Status:	Adopted August 2002
Local Authority:	Leicester City Council
Contact:	Development Control Group: (0116) 252 7249

This document aims to provide a range of advice to developers working with the city, and to act as a signpost to further information. The document initially sets out its relevance to local policy by reiterating the local targets set out in the Leicester Energy Action Plan, and Energy Strategy 2, which set a city wide target for a 50 percent reduction in CO₂ levels from a 1990 baseline by 2025, and to source 20 percent of the city’s energy requirements from renewable sources by 2020. It also reiterates the energy hierarchy contained in RPG8.

It contains information on site location and layout, including orientation, access, over-shading and the use of landscaping to create positive microclimates around buildings. The section on ‘Building Design’ promotes the Council’s wish to see all new housing developments achieve at least a National Home Energy Rating score of 10. It also encourages the use of the BREEAM rating system and offers a brief explanation of the benefits of passive solar design. The section on ‘Insulation’ promotes the importance of high levels of insulation in reducing the energy needs of buildings, and recommends the use of the ‘terrace’ form as a way of reducing heat loss through the building’s envelope. Double glazing with a low emissivity coating, or triple glazing systems, are recommended along with mechanical heat recovery ventilation. The ‘Materials’ section promotes the Council’s preference for building materials that incorporate low amounts of embodied energy, and promotes tools for performing life cycle analysis. The use of local materials and recycled materials is also recommended. The section on ‘Appliances’ promotes the use of condensing boiler systems, coupled with good controls, along with low water- and energy-use white goods. The European Energy Labelling scheme is mentioned, and details of the availability of local demonstrations of products, and of further advice, are given. The document also promotes the encouragement of energy efficient behaviour, although this is focussed on businesses rather than housing residents.

The section on ‘Renewable Energy’ makes reference to further planning guidance documents associated with the integration of renewable energy systems into buildings. The section includes a brief introduction to solar water heating, photovoltaic cells, small-scale

The Building Research Establishment’s Environmental Assessment Method (BREEAM)

BREEAM is used to assess the environmental performance of commercial buildings.

Eco-homes is the domestic equivalent.

For further information see: www.bre.co.uk/ecohomes

wind turbines and energy from waste. A final section gives basic details concerning the appropriateness of Combined Heat and Power systems to the urban environment. Two appendices are included within the document. The first provides a little more detail on the renewable energy technologies mentioned above, and the second expands on the policy context of the document, providing references to further guidance documents. A 'Contact' section is given to signpost further sources of information.

The document is a reasonable attempt to provide additional guidance to developers and to provide them with signposts to sources of further information. Often the subjects that it touches upon are treated too briefly however, probably as an attempt at maintaining brevity, and some important sources of help are not emphasised enough, i.e. little mention is made of the Energy Efficiency Best Practice Programme, which would provide a great deal of additional assistance related to the low energy design of buildings. It would also have been more useful if built demonstration sites were referenced, preferably local ones, as this would allow developers the opportunity to explore the practicality of the issues raised in a less theoretical manner. No effort is made to draw attention to the need to pay attention to detail when designing and installing insulation systems, or the need to design-in good building fabric air-tightness as part of a good energy / ventilation strategy. The opportunity to promote energy efficiency awareness training to household residents is also missed, with this recommendation focussing purely on commercial buildings. For the document to remain effective it will need to be continuously updated in response to changes in good practice, potential demonstration sites and national regulations. The recommendations for glazing are already unnecessary given the changes to Part L1 of the Building Regulations, which have increased the nominal average U-values for windows to be equivalent to double-glazed low emissivity units, and had done so before the document was formally adopted by the Council. An out of date document will not provide evidence to a developer of the council's commitment to its subject matter, and will appear to demonstrate a lack of 'joined-up thinking'.

Document Name:	Wind Energy [40]
Document Type:	Supplementary Planning Guidance
Document Status:	Adopted July 1999
Local Authority:	Newark & Sherwood District Council
Contact:	The Planning Department: 01636 650 000

This SPG sets out the policies for consideration when proposals for the development of sites for wind turbines are presented to Newark & Sherwood District Council. It states, justifies and provides guidance on the three policies that are part of the adopted local plan that are specific to wind turbines. Maps are included that show the range of wind speeds within the district for turbine heights of 10m and 45m, which was compiled using data from the Department of Trade and Industry's (DTI) wind resource database. This shows that the most cost effective location for turbines is potentially in the west of the district. Issues such as the need for Environmental Impact Assessments (EIA) and other issues that need to be taken into account by potential developers are outlined.

The main aim of the Council is to ensure that the development of any site for wind turbines results in a net environmental gain within the district. Areas within the district that, for various reasons, would be considered inappropriate for the development of wind farms, are listed in order to protect them. Conflicts of interest due to land type designation (SSSIs, etc), or because of known bird migratory routes are outlined to create awareness amongst

developers of the Council's concern for the protection of these areas. Appendices set out the policy context of the SPG, give references to appropriate published material and list details of useful contacts.

This is the only document in the region that deals specifically with one particular type of renewable energy technology, and was developed in response to the planning application to erect a turbine at the Hockerton Housing Project (see case study). The Council found it difficult to deal with this proposal within the context of the policies in the local plan. By creating the SPG, the Council developed its own methodology for dealing with this type of application. The development process generated awareness amongst the officers and elected members about the real issues surrounding this type of technology, and of the kinds of potential impacts that need to be quantifiably assessed. Overall, the document is positive about the deployment of wind turbines within the district, and the SPG provides a good balance between the need to employ such forms of technology to combat issues such as climate change, and the need to protect rural features of cultural, economic and ecological significance. As a result of the SPG development, the Council now receives several enquiries a year regarding its content from both prospective developers and other interested bodies, and intends to develop more SPG documents covering other sustainability issues.

3.7.3 Conclusions

The review of the planning policies has demonstrated that the land use planning system does provide opportunities for sustainable housing design to be included as an aim. The planning system is based on balancing the needs and opportunities of all parties affected by development however, and in practice the real details of sustainable design are not given a high priority. The priorities of most planning documents still reflect traditional planning values, such as the protection of greenfield space, the effects of development on transport flows and the 'quality' of the built environment. The quality of the guidance available within the region also varies greatly between planning authorities, which reflects the unique perspectives of sustainability that each authority has, or even each department within an authority. This can send confusing messages to developers who work in different areas of the region, and does not demonstrate consistency or commitment to the ideals of sustainable development from the public sector.

Many local planning authorities have developed, are in the process of developing, or would like to develop an SPG that has the potential to have a positive impact on the sustainability of housing developments. Out of those who would like to have such an SPG, several feel that this should be developed on a site-specific basis. Several examples of this type of SPG already exist within the region (see case studies on Ashton Green and Wellingborough East) and these suggest that this approach can be successful, particularly when they are backed by the presence of well-informed and committed local authority staff. This approach may prove to be highly complementary to the proposed reforms of the planning system, where individual local development schemes are directed by a group of local development documents, some of which could perform the same role of SPG documents.

Those local authorities that have developed good quality SPGs with regard to sustainable design / development have also, through the process of developing and adopting the SPG, developed a high level of knowledge about the associated issues at both officer and elected member level. This allows them to enter into a dialogue with developers that is both informed and constructive. This is a very important and positive outcome of the SPG development process; not only does this create knowledgeable staff who can provide additional guidance to conventional developers, but also staff who can understand the designs and methodologies proposed in develop projects that incorporate a high level of sustainability within their design.

The primary barrier to the development of sustainability SPGs is the lack of resources (mostly time) experienced by most planning authorities. In addition, the lack of any recourse to legislation creates a disincentive for local authorities to spend scarce resources on developing thorough guidance that developers only see as voluntary and only adopt if there is a financial incentive to do so.

3.7.4 Recommendations

Two recommendations can be drawn from this research:

1. There is a strong feeling among many local authority planning policy officers that greater legislation is necessary to affect the ideals of sustainable development with regard to the built environment. Sustainable development needs to be more comprehensively defined and embedded into national Planning Policy Guidance, and supported through improvements to the approved documents of the Building Regulations. Local authority staff can then concentrate on checking compliance and providing guidance to local developers on how their schemes could meet the statutory requirements in a manner appropriate to the site. The proposed reforms of the planning process represent a missed opportunity for the ideals of sustainable development to become embedded into the most important spatial planning guidance documents, the PPGs.
2. Many local authority planning policy officers expressed a desire to have an additional SPG that provided guidance to developers on the issues surrounding sustainable housing. There is strong support for such a document and the opportunity should be taken to develop the idea more fully. The review of current additional guidance and information gathered from the interview process suggests that the document could employ the following features:
 - A general regional guidance template (a regional standard) could be developed to provide information on a large range of sustainable housing / building issues. The information should be concise, but of a high quality and containing clear images that reinforce the messages of the text. References should be given to good quality and detailed further sources of information, and also to local examples that demonstrate the implementation of sustainable solutions. This would prevent the need for authorities to develop such a document from scratch, thereby saving precious time and resources.
 - The regional standard should provide a clear set of aims and objectives for sustainable housing within the region. It should be used to both crystallise the meaning of sustainable development within the region and provide developers with a consistent set of aims and objectives. This would reduce the level of confusion that is experienced by developers when asked to work to different standards in each district or county.
 - The document must set out a clear methodology for how the planning applications will be assessed against the aims of the SPG in a quantifiable manner. A regional methodology should be developed, possibly similar to the BREEAM system (already being tried by both Mansfield and Leicester) but easier to administer so that developers can perform a self-assessment exercise on their proposed schemes. Final accreditation to prove that the standard has been met may be undertaken by an independent body, such as a local green charity, as this often adds objectivity and kudos, and removes local bias from such a process.
 - The general regional standard can be used by local authorities and personalised to be site specific. This will allow the various, potentially conflicting, issues that are unique to the site to be expressed in a clear manner, and it should include recommendations to resolve potential conflicts between planning ideals, i.e. between

development density, solar access and quality of space, etc. This will also allow the local authority to go through the policy development stage that is essential to develop the internal understanding of the issues. This site specific SPG should be formally adopted by the council so that elected members are made aware of the solutions that the document is attempting to promote.

- A commitment must be made to keep the regional standard up to date with local, regional and national policy and best practice. The format of the document must therefore be easily updateable. Glossy publications, such as the City of Lincoln SPG, are expensive to print and therefore difficult to update due to funding limitations. A web-based product, similar to that suggested by Leicester City Council for their standard, will be a far more cost effective approach.
- Local authority officers must be kept up to date with developments in the field of sustainable construction and design, so that they can provide effective guidance to developers on how to meet the targets and ambitions set out in the guidance. This could take the form of continuing professional development (CPD) offered by the same independent body that administers the schemes accreditation.
- Consultation and capacity building between other regional government bodies, i.e. the Highways Agency and the Environment Agency, must be undertaken to ensure that the content of the SPG / Standard are in agreement with the working practices and policies of these organisations. This will ensure that the developer does not receive 'mixed messages' from different agencies. The aims of the guidance should not always be directed by these other agencies policies, but rather a dialogue should be established where the Best Practice Environmental Option is achieved for each site, and a commitment towards continuous review and improvement of each stakeholder's respective policies is made.
- The standard should follow the lead of Mansfield Council and demonstrate, using real data, the potential benefits to developers of adopting a more sustainable approach to development. They will need to understand, in business terms, what's in it for them.

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