

# Sustainable design and construction:

## Guidance for planners on preparing development plan policies at the regional and local levels

A TCPA Sustainable Housing Forum guide

There is a wide-ranging scientific consensus that our climate is changing and that these changes will intensify with potentially catastrophic implications for global ecosystems. While the science is well understood and the actual climate changes well documented, there is a significant gap in the perception of the general public and policy-makers as to the urgency required to address this crisis. Action is required now, and on an unprecedented scale, to deal with the climate change challenge.

Housing currently contributes around 27 per cent of UK CO<sub>2</sub> emissions, with buildings as a whole bringing this figure to nearly 50 per cent. Therefore, in order to have a hope of reaching legally binding emission reduction targets and achieving more sustainable forms of development planning, design and construction processes for buildings must be made more sustainable.

Spatial planning in particular has a major and positive contribution to make in meeting this challenge through promoting policies, in Regional Spatial Strategies (RSS) and Local Development Framework (LDF), documents that will reduce the threat of climate change by:

- Promoting the highest standards of resource and energy efficiency in new developments so as to reduce carbon dioxide (CO<sub>2</sub>) emissions arising from construction and use;
- Requiring land-use patterns that reduce the need and the propensity to travel by car;
- Vigorously promoting small- and large-scale renewable energy projects;
- Reformatting or restricting development which would otherwise have a major negative impact on CO<sub>2</sub> emissions; and



Living Villages

- Adapting to the harmful impacts of climate change.

In October 2003 the Forum published 'Building Sustainably: how to plan and construct new housing for the 21st century'. The report set out the changes needed to the planning system and building regulations to bring sustainable housing into the mainstream.

Since then, there have been major changes to the planning system, brought about by the 2004 Planning and Compulsory Purchase Act, and greater potential for building regulations to address sustainable development through the 2004 Sustainable and Secure Buildings Act. The forthcoming Code for Sustainable Homes may also play an important part in raising environmental standards.

This guide seeks to assist planners at regional and local levels develop policies that promote sustainable design and construction.

### How to use this guide

This guide sets out the importance of developing policies relating to sustainable design and construction and the issues that planners, at regional and local levels, should be aware of when preparing policies in Regional Spatial Strategies (RSS) and Local Development Documents.

The guide provides an introduction only and should be used together with the Sustainable Housing Forum web pages:

[www.tcpa.org.uk/shf.htm](http://www.tcpa.org.uk/shf.htm)

The guide is split into advice for planners at regional and local levels and contains a summary of key issues for consideration. Further information, links to supporting documents and case studies of their use in practice are included in the website and relate to these specific issues. [www.tcpa.org.uk/shf.htm](http://www.tcpa.org.uk/shf.htm)

## Advice for planning at regional level

To support progress on sustainable housing, sustainable development needs to be defined in planning terms in RSS. While PPS1 defines sustainable development, the Government's Sustainable Development Strategy offers a more advanced definition, which should also be considered. This definition requires:

- Living within environmental limits
- Ensuring a strong, healthy and just society
- Achieving a sustainable economy
- Using sound science responsibly
- Promoting good governance

Regional Assemblies should use all five elements of this definition to develop appropriate policies within their RSS.

Sustainable design and construction will cover a broad range of measures relating to both the buildings themselves and the surrounding neighbourhood. The table below prioritises the most important issues that Regional Assemblies should consider when developing policies relating to housing, construction, and sustainable development. This represents a generic set of policy issues and therefore should be refined to take into consideration regional differences. Further information and case studies are available at: [www.tcpa.org.uk/shf/regional.htm](http://www.tcpa.org.uk/shf/regional.htm)

### Policy Process Issues (e.g. in a management plan)

- R1. Community development and involvement - schemes should encourage and enable the active involvement of local people and increase their understanding and influence over issues which affect their lives
- R2. Applications for strategic developments should include a statement showing how sustainability principles will be met in terms of demolition, construction and long-term management
- R3. Where appropriate, the same sustainability principles should be used to assess planning applications
- R4. Sustainable on-site construction processes, dealing with issues such as waste management

### Policy Content Issues

- R5. Climate change - policies must ensure that while proper measures are taken to deal with adaptation, the first priority is the reduction and avoidance of climate change by making carbon-neutral decisions
- R6. Appropriate re-use of land and buildings and consideration of densities - higher densities are commonly held to be environmentally beneficial, however this may not necessarily be the case. Decisions on densities and whether or not to re-use land or buildings should be taken on a case-by-case basis
- R7. Energy - zero energy or net export of energy should be the goal through energy efficiency, embedded renewable energy generation, and energy efficient supply systems
- R8. Conserve materials and other resources and promote use of locally sourced, recycled or sustainably managed resources.
- R9. Conserve water both internally and externally
- R10. Reduce the impacts of noise, pollution, flooding and micro-climatic effects
- R11. Ensure designs conserve and make the most of existing natural systems, particularly in relation to biodiversity, both within and around the building, and to create new habitats where appropriate
- R12. Promote sustainable waste behaviour in new and existing developments. Applications for strategic developments should include a statement showing how sustainability principles will be met in terms of demolition, construction and long-term management
- R13. Facilitating more sustainable behaviour through policies promoting sustainable energy, waste and transport infrastructure
- R14. Ensure appropriate development form in relation to the characteristics of the existing site and surrounding area; access, proximity to amenities, and permeability to promote walking, use of public transport, useful open space, and security

## Advice for planning at local level

The following objectives need to be considered by local planning authorities in developing strong and comprehensive Core Strategy and Development Plan Document (DPD) policies:

- In order to ensure development meets the highest standards of sustainability LPAs should work closely with departments dealing with Building Regulations, where these are managed by the local authority.
- The most effective way of raising the environmental standard for new buildings is to develop specific design and construction policies in DPDs.

- Once policies are in place, detailed guidance, information on good practice, and details of how these design and sustainable construction policies can be best integrated should be included in Supplementary Planning Documents (SPD).

Every location is different and so model policies are difficult to produce, however, the table below describes the issues that are likely to need consideration when developing development plan policies and SPDs. Some will form distinct policies in their own right, others will contribute to part of more general policies. Further information and case studies are available at:

[www.tcpa.org.uk/shf/local.htm](http://www.tcpa.org.uk/shf/local.htm)

- L1. Community development and involvement - schemes should encourage and enable the active involvement of local people and increase their understanding and influence over issues which affect their lives
- L2. Applications for strategic developments should include a statement showing how sustainability principles will be met in terms of demolition, construction and long-term management
- L3. Where appropriate, the same sustainability principles should be used to assess planning applications
- L4. Sustainable on-site construction processes, dealing with issues such as waste management
- L5. Climate change - policies should aim to ensure developments that have a positive, or at least neutral impact on climate change. They should also seek to limit vulnerability to the effects of climate change over time e.g. flooding, higher temperatures or storms
- L6. Appropriate re-use of land and buildings and densities - LPAs should consider in sustainability terms the most appropriate option for a particular development. If buildings are to be demolished then their replacement must be built to the highest environmental standards, e.g. EcoHomes 'Excellent', using the forthcoming Code for Sustainable Homes or using a sustainability checklist
- L7. Energy - zero energy or net export of energy should be the goal: significant savings in energy used by buildings can be made by policies requiring the highest environmental standards of construction and site layout (e.g. EcoHomes - 'Excellent'). Once all practical energy efficiency measures are in place renewable energy or efficient supply systems should be required. PPS22 allows local authorities to develop policies requiring a proportion of a development's predicted energy requirement to be provided by on-site renewables
- L8. Conserve materials and other resources and promote use of locally sourced, recycled or sustainably managed resources
- L9. Conserve water both internally and externally - policies should seek to minimise the amount of water used in developments by for example requiring: rainwater harvesting (e.g. through green roofs) and water recycling. Policies should also seek to reduce the impact a development has off-site (i.e. flood risk) by requiring Sustainable Drainage Systems (SUDS)
- L10. Increasing densities and mixing uses means that careful consideration needs to be given to noise and pollution. Quality urban design can help to minimise problems and complement Building Regulations
- L11. Policies should draw on quality urban design principles to ensure that external natural systems are used to maximise comfort in and around buildings. This could include consideration of passive solar design and ventilation, shading, and longer term changing climatic conditions. The natural environment should be enhanced, particularly in relation to biodiversity
- L12. Promote sustainable waste behaviour in new and existing developments, including support for local integrated recycling schemes, carbon-neutral CHP schemes and other treatment options. The waste hierarchy (Reduce-Reuse-Recycle-Recover-Dispose) should be applied to all stages of development, design, construction and final operation
- L13. Facilitating more sustainable behaviour through more sustainable energy, waste and transport infrastructure could include considering car clubs, embedded energy or waste systems
- L14. Ensure appropriate development form (building and neighbourhood scale) in relation to the characteristics of the existing site and surrounding area; access, proximity to amenities, and permeability to promote walking, use of public transport, useful open space, and security

## TCPA 2006

The Town and Country Planning Association (TCPA) is an independent charity working to improve the art and science of town and country planning. The TCPA puts social justice and the environment at the heart of policy debate and inspires government, industry and campaigners to take a fresh perspective on major issues, including planning policy, housing, regeneration and climate change. Our objectives are to:

- Secure a decent, well designed home for everyone, in a human-scale environment combining the best features of town and country
- Empower people and communities to influence decisions that affect them
- Improve the planning system in accordance with the principles of sustainable development

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The TCPA Sustainable Housing Forum has the following objectives:

- To raise the environmental standards of new housing so as to make a contribution to sustainable development targets and the reduction of emissions that contribute to climate change;
- To establish what practical steps could be taken to achieve these higher standards by drawing together the experience from the growing number of innovative housing projects and assessing how much of current best practice could be applied as the norm throughout the house building industry;
- To make recommendations to government and the house building industry for the specific changes to the design and regulatory systems having the best potential for achieving higher standards by 2010;
- To use the drive for higher standards in new housing in order to raise public and political awareness of the practical possibilities for making new construction generally more sustainable, and the long-term benefits, both financial and in relation to quality of life.

The following organisations have contributed to the preparation of this guidance:

Building Research Establishment  
Global to Local Ltd.  
Queen's University Belfast  
Somerset Trust for Sustainable Development  
Town & Country Planning Association  
WWF-UK

