

Appendix 1

Supplementary Planning Guidance: Carbon Neutrality in New Developments

Implementation Date 1 January 2009

Introduction

This Guidance sets requirements for the minimum reduction of carbon dioxide emissions in new developments beyond the 2007 building regulations carbon dioxide emissions standard.

Following a report on climate change titled, 'The Bigger Issue', produced by the Council's Scrutiny and Audit Committee, Aberdeenshire Council has committed itself to working towards being a carbon neutral organisation in the short to medium term.

As part of this and the Council's wider commitment to sustainable development throughout the community, the Council is committed to assessing the environmental impacts of building and construction projects and to taking appropriate action to reduce or minimise impacts. Reducing the carbon dioxide emissions of development will have a positive environmental impact and contribute to the Council's commitments on climate change.

This Supplementary Planning Guidance (SPG) takes forward the provisions of;

- Scottish Planning Policy 6, Renewable Energy which sets targets for on site low carbon and renewable sources of energy in new developments
- The Structure Plan (NEST) aim to minimise the use of non-renewable resources and to use renewable resources, and
- Policy Gen\1 of the Aberdeenshire Local Plan (ALP), which seeks to ensure that new development, "makes full use of design and technology to maximise the efficient use of energy and resources".

The energy required for buildings and how it is provided plays an important role in delivering a sustainable economy. Burning fossil fuels for either heat or electricity generation is an important consideration because the products of combustion cause local and global air pollution and climate change. Renewable sources of energy such as sun, wind, waterpower and geothermal energy can offer diversity and security of supply and can reduce harmful emissions to the environment. Energy requirement is determined at the design stage and there is significant potential to minimise energy demand through adopting good practice in the design and construction phases.

Geographical Area of the Supplementary Planning Guidance

This SPG affects all areas of Aberdeenshire excluding the Cairngorms National Park.

Status of the Supplementary Planning Guidance

Although this guidance is not itself part of the statutory plan, it provides the interpretation of Policy Gen\1 in the statutory Aberdeenshire Local Plan, (ALP), in the light of the national guidance issued by the Scottish Government in Scottish Planning Policy 6 (SPP6). The interpretation has also been formulated following wide consultation and engagement with the industry, stakeholders and the general public. In the light of this, planning applications will normally only be approved if they meet the requirements set out in this guidance.

Supplementary Planning Guidance

Required Standard for new developments

1. All new developments intended for human occupation must reduce the predicted carbon dioxide emissions by 15% beyond the 2007 building regulations carbon dioxide emissions standard.

2. The carbon dioxide reduction rates listed in 1) above will increase to 30%, 60%, 90% and 100% respectively in 2010, 2012, 2014 and 2016.

Exceptions:

- (a) alterations and extensions to buildings;
- (b) change of use or conversions of buildings;
- (c) ancillary buildings that are stand-alone having an area less than 50 square metres;
- (d) buildings, which will not be heated or cooled, other than by heating provided solely for the purpose of frost protection; or
- (e) limited life buildings which have an intended life of less than 2 years.

Use of Energy Statements

Applicants should consider how to meet the requirements of this guidance at an early stage of planning. An energy statement should be submitted at the planning application stage to demonstrate how the proposed development will satisfy the requirements of this Supplementary Planning Guidance. Specifically, the energy statement should:

- I. Demonstrate improved design through the promotion of environment-friendly layouts, energy-efficient design and thermally efficient buildings.
- II. Demonstrate how the use of non-renewable resources within the development has been minimised.
- III. Demonstrate how the developer intends to incorporate the use of renewable resources in the development.
- IV. Demonstrate how the development incorporates renewable energy facilities while providing protection for the built, natural and historic environment.

In carrying out the Energy Statement, developers may wish to refer to the advice contained in Table 1.

Table 1 – Measures which may be considered in Energy Statements

Passive Energy Efficiency Measures	Operational Energy Efficiency Measures	Renewable Technologies	Emerging Technological Measures
Orientation Day lighting Natural ventilation Air tightness Avoidance of wind chill	Heating system Insulation Lighting and appliances Glazing (Micro) Combined heat & power Heat recovery in mechanical ventilation systems	Photovoltaic Solar water heating Micro wind Biomass Micro-hydro Ground and air source heat pumps	Hydrogen fuel Cells Gas from anaerobic digestion Solar air collectors

Use of Conditions in Planning Permissions

In order to avoid any unnecessary delays in processing planning applications a suspensive condition may be used to allow developers to submit a detailed energy saving or renewables scheme at the time of submissions for Building Warrant. Such a condition may be specific to the individual development, but will generally comply with the following model condition.

No development shall take place unless there has been submitted to and approved in writing by the planning authority

- details of the proposed energy efficiency measures or renewable technologies to be incorporated into the development
- calculations using the SAP or SBEM methods which demonstrate that the reduction in carbon dioxide emissions rates for the development enable it to comply with the Council’s Supplementary Planning Guidance on Carbon Neutrality in New Developments

The development shall be carried out in accordance with the approved details.

Reason - To ensure this development complies with the on-site carbon reductions in SPP6 and SPG, Carbon Neutrality in New Developments.

Demonstrating compliance with the Supplementary Planning Guidance

In order to demonstrate that the requirements of the SPG are being met, and discharge any suspensive planning conditions, the following information must be submitted at the building warrant stage:

For Dwellings

The Government's Standard Assessment Procedure for Energy Rating (SAP 2005) should be undertaken. BRE approved SAP 2005 software is available to the public¹ and it incorporates a function which automatically generates the target carbon dioxide emissions level (TER) when the fuel type is selected and the 'notional dwelling' dimensions and living area fraction have been fed into the program. The information submitted should demonstrate that the Dwellings Emissions Rate (DER) is at least an extra 15%² reduction on the Target Emission Rating (TER) i.e. the developer has demonstrated that the dwelling has met the Building Standard and has improved on this by 15%.

For All Other Developments

The Simplified Building Energy Model (SBEM) should be undertaken³. The Target Emissions Rate (TER) should be calculated by inputting a) the size and shape data into the calculation methodology, b) the Scottish standard package of construction and building services performance measures and c) the formula that reflects the type of heating and cooling system for the building. The Building Emission Rate (BER) is calculated by inputting the data for the proposed building design. These calculations are required to be submitted and must show that the resulting BER indicates at least an extra 15%² reduction on the TER.

Off site Contributions

It is understood that it may be difficult to achieve the required carbon dioxide reduction target when developing within natural and historic designations, for example within a Conservation Area. If there are technical constraints to achieving the emissions reduction imposed by any such constraint, the provision of carbon dioxide savings elsewhere in the area could be acceptable. However, all possible energy saving measures and low and zero carbon technologies must be considered on site first and discounted before 'carbon dioxide savings elsewhere' is considered. These savings should be secured by a Legal Agreement and will involve the installation of equipment off site. In such cases the amount of carbon dioxide emissions to be saved, combining both on site and off site contributions, will be 15% of the 2007 building regulations carbon dioxide emissions standard (the Target Emissions Rate) for the application site. The percentage of carbon dioxide savings will increase to: 30%, 60%, 90% and 100% respectfully in 2010, 2012, 2014 and 2016.

Future Targets

The target percentage reduction in carbon dioxide emissions beyond building regulations carbon dioxide emissions standard will be increased as set out in Table 2 below. Each step change is expected to be accommodated by the falling cost of the technologies and rising capacity of the industry. The year, for the purpose of

¹ Information on software and guidance can be obtained from www.bre.co.uk/sap2005

² Or x% depending on the year in which the application was submitted, according to the figures in Table2.

³ A version of SBEM is freely available at www.ncm.bre.co.uk/index.jsp

calculations, is the calendar year the building warrant application is submitted and runs from the 1 January to 31 December.

Table 2

Year	% Target
2009	15 or more
2010	30 or more
2012	60 or more
2014	90 or more
2016	100

Note: The above percentages relate to the 2007 building regulations carbon emissions standard and not to any later standards which may come into operation.

SPG Appendix 1

Policy Context

A number of policies and plans set the context for this guidance, these are:

The Provisions of National Policy:

National policy regarding renewable energy is dictated by SPP6. Paragraph 36 of SPP6 sets a target for the provision of on-site low carbon and renewable sources of energy in new developments. The target is at least an extra 15% reduction in carbon dioxide emissions beyond the 2007 Building Standards' carbon dioxide emissions standard and this standard is to apply to all future applications proposing development with a total cumulative floorspace of 500 sq metres or more.

The Provisions of the Development Plan

The Development Plan consists of the Aberdeen and Aberdeenshire Structure Plan "North East Scotland together" (NEST) and the Aberdeenshire Local Plan (ALP).

NEST

This guidance fits with Aim 1 of NEST, "Minimise the use of non-renewable resources and use renewable resources within their carrying capacity, minimising waste."

NEST Policy 5 identifies that any proposals for renewable energy facilities shall be favourably considered, subject to satisfying various criteria.

NEST Policy 21 promotes improved design. Of particular relevance to this guidance is the promotion of environmentally friendly layouts, energy efficient design and thermally efficient buildings.

ALP

Policy Inf\8 encourages the sensitive development of renewable energy facilities.

Policy Gen\1 requires all developments to be assessed against sustainability criteria. Of particular relevance is criterion g), any proposal should make full use of design and technology to maximise the efficient use of energy and resources.

Policies Env\1, Env\2, Env\3, Env\4, Env\5A, Env\5B, Env\6, Env\17, Env\18, Env\19 and Supplementary Planning Guidance on Micro-Renewable Energy Developments provide protection for the built, natural and historic environment and any on-site low and zero carbon technologies will need to meet the requirements of these policies.

SPG Appendix 2

References and Further Reading

Planning: Policy

- SPP6, Renewable Energy:
<http://www.scotland.gov.uk/Publications/2007/03/22084213/0>
- PAN84, Reducing Carbon Emissions in New Development:
<http://www.scotland.gov.uk/Resource/Doc/214728/0057273.pdf>
- Supplementary Planning Guidance – Use of Micro-renewable Energy in Aberdeenshire:

Planning: Designing for Reduced Energy Demand

- Designing Places: <http://www.scotland.gov.uk/library3/planning/dpps-00.asp>
- PAN45, Renewable Energy Technologies:
<http://www.scotland.gov.uk/Publications/2002/02/pan45/pan-45>
- PAN45 Annexe, Planning for Micro-Renewables: Guidance on the Siting and Design of Micro-Renewables:
<http://www.scotland.gov.uk/Publications/2006/10/03093936/0>

Building Standards System

- SBSA: www.sbsa.gov.uk
- Domestic & Non-Domestic Technical Handbooks
<http://www.sbsa.gov.uk/sullivanreport.html>
- Technical Handbooks Guide for Practitioners 6: Conversion of Traditional Buildings: http://www.sbsa.gov.uk/tech_handbooks/traditional_Buildings.htm