

Review of SG LSD11: Carbon Neutrality

1. Introduction

- 1.1 This paper will review the Aberdeenshire Local Development Plan SG LSD11: Carbon Neutrality and assess whether any changes are required in light of amendments to national/regional policy and changes in the local context. It will also assess whether the guidance forms a sound basis for making planning decisions in relation to CO² reduction and the installation of low and zero carbon generating technologies (LZCGT's) in Aberdeenshire.
- 1.2 LSD11 sets out the minimum CO² reductions needed to meet the Structure Plan's target for all new buildings to be carbon neutral in 2016. LSD11 aims to meet Section 72 of the Climate Change (Scotland) Act 2009 by requiring all new buildings to achieve a Bronze Active sustainability label.

2. Policy Approach

- 2.1 We will approve new development intended for human occupation if it is demonstrated that it will achieve at least a Bronze Active rating under Section 7 of the building standards Technical Handbook, subject to the following exemptions:
- the alteration or extension of an existing building, OR
 - the change of use or conversion of an existing building, OR
 - an ancillary building that is stand-alone having an area of less than 50 square metres, OR
 - a building, which will not be heated or cooled, other than by heating solely for the purpose of frost protection, OR
 - a limited life building, which has an intended life of less than 2 years.

3. Background

3.1 National context

- 3.2 The Climate Change (Scotland) Act was adopted in 2009. Part 1 of the Act creates the statutory framework for the reduction of greenhouse gas emissions in Scotland. It sets a target for an 80% reduction in emissions by 2050, with an interim target of 42% by 2020.
- 3.3 Part 3 of the Act, specifically section 44, places climate change duties on all public bodies, including a requirement to "*act in the way best calculated to contribute to delivery of the Act's emissions reduction targets*". The public body duties came into force on 1 January 2011.
- 3.4 Section 72 of the Act inserted a new requirement (Section 3F) into the Town and Country Planning (Scotland) Act 1997. This states that a local development plan "*must include policies requiring all developments... to be designed so as to ensure that all new buildings avoid a specified and rising proportion of the projected greenhouse gas emissions from their use, calculated on the basis of the approved design and plans for the specific development, through the installation and operation of low and zero-carbon generating technologies.*"
- 3.5 The requirement to significantly reduce CO² emissions and promote LZCGT's is reflected in a number of Scottish Government policy documents. A Low Carbon Economic Strategy for Scotland (2010) sets out the economic benefits of a low

carbon economy. The strategy supports the need for LSD11, with one of the key objectives being to move “*towards a low carbon built environment by... reducing carbon emission, through all phases of the building process.*”

3.6 The 2011 Economic Strategy reinforced the above, stating that the transition to a low carbon economy is a ‘*strategic priority*’. The strategy also states that “*Scotland’s primary new economic opportunity lies in the development of a low carbon economy*”. The strategy includes a number of specific targets relating to energy generation and consumption, including the need:

- to meet the equivalent of 100% of Scotland’s electricity demand from renewable energy sources by 2020;
- to reduce end-use energy consumption by 12% by 2020; and
- to meet 11% of heat demand from renewable energy sources by 2020 (page 53)

3.7 Conserve and Save: The Energy Efficiency Action Plan for Scotland (2010) sets out the framework for the Scottish Government’s approach to energy efficiency and micro-generation. The Action Plan supports LSD11 by highlighting how energy efficiency and micro-generation can contribute to the achievement of energy use and carbon reduction targets and the promotion of a low carbon economy. Section B of the Plan provides a headline target for Scotland’s final energy consumption to be reduced by 12% by 2020.

3.8 Scotland’s Renewables Action Plan reflects section 72 of the Climate Change Act and directly supports the approach of LSD11 by stating that “*Improving energy efficiency is widely recognised as the most cost effective means of reducing carbon dioxide emissions, and needs to be pursued in parallel with measures to increase renewable energy use*”.

3.9 The Low Carbon Building Standards Strategy for Scotland (2007), commonly known as the Sullivan Report, recommended a wide range of measures for improving the energy performance of houses and buildings in Scotland through the Building Regulations (BR’s). The Strategy directly supports the timetable set out in LSD11 by aiming, where practical, to achieve net zero-carbon buildings (in relation to emissions for space and water heating, lighting and ventilation) by 2016. The strategy recommends staged improvements in energy efficiency beyond the 2007 Building Standards, with specific improvements for domestic and non domestic buildings. For all domestic buildings, a 30% increase on the 2007 standard was required in 2010, rising to 60% in 2013, with carbon neutrality expected in 2016. With regard to non domestic buildings, a 50% increase on the 2007 standard was required in 2010, rising to 75% in 2013, with carbon neutral buildings expected in 2016. It should be noted that these increases in energy efficiency deliver equivalent reductions in CO² emissions. While the 2010 improvements have been implemented, the Scottish Government has recommended that the increases expected in 2013 are reduced slightly, with implementation delayed until Oct 2015. The Scottish Government have also reconvened the Sullivan panel, with a brief to review all their recommendations, as set out in their 2007 report.

3.10 The Sustainability Labelling Scheme, which was added to the Building Regulations Technical Handbooks in 2010 (Section 7), requires all new buildings submitted for building warrant to achieve a sustainability label. The entry level label, Bronze, requires compliance with the mandatory 2010 building standards. The scheme includes a further five optional labels with rising sustainability requirements; Bronze Active, Silver Active, Gold and Platinum. With regard to domestic buildings, the silver label requires applicants to meet increased

standards in 8 aspects, including carbon emission reduction, energy for space heating and water efficiency etc, with the gold label requiring higher standards to be met in each of the 8 aspects. The platinum level refers to carbon emission reduction only, requiring buildings to meet a net zero carbon standard. The 'active' levels are achieved when a building meets all the requirements for the bronze or silver label 'and' includes the use of a low and zero carbon generating technology (LZCGT). With regard to non-domestic buildings, the 'silver' and 'gold' levels require applicants to meet standards for carbon emissions only. It should be noted that the sustainability labels only apply to new buildings. The sustainability labelling scheme aims to encourage more demanding sustainability standards and enable consistency between planning authorities that use supplementary guidance, such as LSD11, to promote higher levels of sustainability in their areas. For example, by making reference to the sustainability labels, local CO² reduction targets can be met through clear national standards and assessment methodologies.

- 3.11 The Planning Act etc. 2006 places a duty on planning authorities to contribute to sustainable development and therefore directly supports LSD11, as climate change mitigation is a key part of sustainable development.
- 3.12 Scottish Planning Policy (2010) directly supports the need for LSD11 by stating that *"the design of new development should address the causes of climate change by minimising carbon"*. SPP also supports LSD11's requirement for, and approach to, the installation of LZCGT's. For example, it requires development plans to meet Section 72 by aligning with building standard methodologies while also *"setting out the approach to existing buildings which are being altered or extended.. and.. to applications where developers are able to demonstrate that there are significant technical constraints to using on-site low and zero carbon generating technologies"*. SPP points out that carbon reduction can be achieved through LZCGT's and increased energy efficiency measures, i.e. the location, orientation and siting of buildings and the materials used. LSD11 contributes to a number of SPP's wider objectives. For example, promoting LZCGT's contributes to economic development.
- 3.13 The National Planning Framework² (NPF2) supports the need for LSD11 by stating that *"Development plans should include policies designed to promote sustainable development and contribute to the mitigation of climate change"*.
- 3.14 Planning Advice Note 84 (2008) Reducing Carbon Emissions in new development, provides a summary of the processes to be used in calculating the CO² reductions achieved by a development, including the percentage from LZCGT's.

3.15 Strategic/Regional Context

- 3.16 The proposed Aberdeen City and Shire Strategic Development Plan (SDP) directly supports LSD11 by requiring increased energy efficiency in new buildings. The proposed SDP also requires all new buildings to be carbon neutral by 2010.
- 3.17 Aberdeenshire Council's Scrutiny and Audit Committee Report: The Bigger Issue (2007), detailed the impacts of Climate Change in Aberdeenshire, in the present, medium and long term. The report states that *"in future, Aberdeenshire is likely to have warmer and drier summers; warmer and wetter autumns and winters; and more powerful storms, more often. The impacts of such changes could include increased pressure on fresh-water supplies, increased risk of flooding, a rise in sea level and increased weather damage to infrastructure and buildings"*. The report supports the need LSD11 by recommending that Aberdeenshire should *"be carbon neutral in the medium to long term, i.e. 2030"*.

- 3.18 LSD11 aligns with the national/regional objectives and approach outlined above in the following ways. The first paragraph of the policy aligns with SPP's requirement for policies on LZCGT's to accord with the Building Standards.
- 3.19 The exemptions outlined in criteria 1, 2 and 3 of the policy accord with Section 72, which relates to new buildings only.
- 3.20 Criteria 4 and 5 align with the exemptions set out in the Building Regulations.
- 3.21 Paragraph 2 and 3 of the justification text align with the approach to energy efficiency and renewable energy generation, as outlined in SPP.
- 3.22 Paragraph 2 also partly addresses the requirements of Section 72.
- 3.23 Paragraph 3 of the justification text accords with the Structure Plan target of carbon neutrality by 2016.
- 3.24 Paragraph 5 and Appendices 1 and 2 provide a means of demonstrating compliance with the requirements of Section 72 and SPP.
- 3.25 The last paragraph of Appendix 2, 'Off-site Contributions', addresses the SPP requirement for technical constraints to be taken into account.

4. Drivers of Change

- 4.1 The proposed SDP states that "*joint supplementary guidance may be prepared to require new development to meet specific carbon-dioxide levels*". The development of joint supplementary guidance has significant merit, as it would enable both Council's to adopt a consistent and fair approach to the reduction of CO² emissions and the installation of LZCGT's. Following initial discussions, Aberdeen City have agreed, in principle, to develop joint targets and a timetable for their delivery. It is expected that this review will contribute to the future development of joint supplementary guidance.
- 4.2 There is a need to amend LSD11's CO² reduction targets and the timetable for their implementation, as development management have highlighted that there are significant challenges in meeting these targets, which are significantly higher than the Building Standards (BS's) requirements, i.e. 50% higher in 2013. In addition, the proposed SDP, which requires all buildings to be carbon neutral by 2020, provides scope for the current targets to be reduced and phased in over a longer time period.
- 4.3 Following on from the above, it may be possible for the Council to meet the SDP target for carbon neutrality through the mandatory Building Standards (BS). However, while future increases were expected to be in line with the Sullivan Report's (2007) recommendation for carbon neutrality by 2016, the Sullivan panel has been reconvened to review their recommendations and are not expected to report back until the end of 2013. While the Sullivan panel may still recommend a path for the mandatory BS's to achieve carbon neutrality by 2020, there is no guarantee this will happen, particularly as the Scottish Government has announced that the increase in the building standard for CO₂ reduction, which was expected in 2013, will not be implemented until Oct 2015. In light of the above, if the Council were to align with the mandatory building standards, there is no guarantee that this approach would meet the proposed SDP target for all new buildings to achieve carbon neutrality by 2020.
- 4.4 The proposed SDP states that supplementary guidance may require new development to meet CO² reduction targets "*through the sustainability labelling mechanism*". For example, applicants could be required to meet the 'gold' standard in 2016 (60% reduction over the 2007 standard for domestic) and

'platinum' in 2020 (100% carbon neutrality). While there is still a risk that the CO² reduction targets set out in the sustainability labels could be amended as part of a Building Standards review, the risk is significantly reduced, as the sustainability labelling scheme is 'optional' and is therefore less likely to be viewed as a burden on development and subject to lobbying. This approach is preferred as it would enable LSD11 to meet the SDP target through a nationally recognised standard. Aberdeen City have also indicated that this is their preferred option.

- 4.5 LSD11 does not fully comply with the requirements of Section 72, as a 'specified and rising proportion of expected CO² reduction from LZCGT's' is not provided. For example, LSD11 requires new buildings to achieve a Bronze 'Active' sustainability label, which only demonstrates that some LZCGT's have been used. Currently there is no scope within the sustainability labelling scheme to demonstrate that a percentage of CO² reduction is achieved through the installation of LZCGT's. In light of this, LSD11 should require developments to achieve the relevant 'active' sustainability label, while also specifying a rising percentage of CO² emissions to be reduced through LZCGT's. While the Scottish Government recommends that Council's begin with a percentage, i.e. 2-3% of the mandatory Building Standards CO² reduction target, Aberdeen City currently require 50% of the mandatory BS. However, the Aberdeen City have advised that they would be willing to reduce this percentage, if this is more suitable for Aberdeenshire. A review of recent LDP's, including Stirling and Orkney, shows that a 15% requirement from 2016 is relatively common practice. Further consideration should be given to the percentage of CO² emissions to be achieved through the installation of LZCGT's.
- 4.6 Development management have highlighted a number of issues with regard to how compliance with LSD11 is demonstrated. The energy statement, which is required to assess the suitability of energy efficiency measures and LZCGT's in layout, siting and design terms, is often not supplied at the planning application stage. The energy statement is also not required as part of the suspensive condition outlined in paragraph 7 of the justification text. This problem could be overcome by using LSD2, specifically criteria 2ai) and cii) to require the information to be submitted as part of the Design Statement. This would ensure that the information is required under the appropriate SG, while also supporting applicants to meet criteria 2ai) and cii) of LSD2. In light of this, the requirement for an energy statement should be removed from LSD11. The justification text of LSD2 should be amended to require it as part of the Design Statement.
- 4.7 Development management have also advised that applicants are reluctant to submit the detailed information needed to demonstrate compliance with LSD11 (i.e. Standard Assessment Procedure SAP calculations etc) at the planning application stage, preferring instead to provide it at the building warrant stage. In addition, when this information is provided it can be difficult for DM planners to assess and verify compliance, as the complex data and calculations are not easily understood. In light of this, there is a need to significantly reduce the amount of detailed information submitted to, and assessed by, the planning authority. This can be achieved by amending the suspensive condition outlined in paragraph 7 to require that, 'before the development can be occupied, applicants must submit a copy of the appropriate sustainability label to the planning authority along with the notification of completion of development'. While detailed information is no longer submitted to the planning authority, the Council can have confidence that the development meets the appropriate sustainability label standard, as the Building Regulations require applicants to submit the 'self certified' label with the building warrant. The condition should also require applicants to submit a 'certificate of conformity', which confirms that the

development delivers the required percentage of LZCGT's, in accordance with the processes recommended in PAN 84 (to included in a new Appendix 1). The Council can confirm whether the condition has been discharged when the notification of completion of development is submitted. Overall, this condition should provide a straightforward and auditable way for applicants to demonstrate, and the Council to confirm, compliance with LSD11.

4.8 PAN 84 provides examples of technical constraints that may limit the application of LZCGT's. In light of this, the paragraph titled 'Off-site contributions' should provide applicants with examples of the technical constraints which will be considered. This paragraph should also make specific reference to carbon reduction targets and the percentage to be achieved from LZCGT's. Finally, the paragraph should require applicants to provide sufficient information, at the planning application stage, to demonstrate why the requirements of LSD11 cannot be met on-site and how these requirements will be met off-site.

4.9 While Section 72 refers to greenhouse gas reductions, the Scottish Government have confirmed that CO² emissions can be used as a proxy.

5. Recommendations

- This policy should be grouped with other supplementary guidance under the new Policy "Climate change adaptation and Mitigation"
- Joint targets and a timetable for their delivery should be developed with Aberdeen City. Further discussions with the City are required to align targets and approaches.
- The carbon reduction targets in LSD11 should be reduced and phased in over a longer time period, with the Sustainability Labelling Scheme used to achieve carbon neutrality by 2020.
- The first paragraph of the policy should be amended to read 'We will approve new development intended for human occupation, subject to the other policies, if it is demonstrated that it will achieve at least a 'Gold' rating in the carbon emission 'aspect' under Section 7 of the building standards technical handbook, with 20% (i.e.) of the mandatory Building Standard CO² reduction achieved through the installation of low and zero carbon generating technologies. Development will be required to meet the phased increases in CO² emissions and LZCGT's targets, as set out in the reasoned justification'.
- Further consideration is required to confirm the rising percentage of CO² reduction to be achieved through the installation of LZCGT's.
- The requirement for an energy statement should be removed from LSD11. The justification text of LSD2 should be amended to require it as part of the Design Statement, under criteria 2ai) and cii). Appendix 1 of LSD11 should also be removed and included in LSD2.
- Paragraph 1 of the justification text should be amended to read 'This policy sets out the minimum CO² reductions required to meet the SDP's target for all new buildings to be carbon neutral in 2020. The policy also meets the requirements of Section 72 of the Climate Change (Scotland) Act by requiring all new buildings to meet a specified and rising proportion of CO² emissions through the installation of low and zero carbon generating technologies'.
- Paragraph 2 of the justification text should be amended to read 'Incorporating energy efficiency into the initial design of developments and individual buildings can significantly reduce energy demand/use and associated CO² emissions. For

example, the location, siting, design, orientation, materials and insulation are important factors in creating energy efficient buildings. However, how energy is provided is also important in reducing CO² emissions. It is important to reduce the burning of fossil fuels for either heat or electricity generation, because these processes release significant amounts of CO² and lead to Climate Change. Renewable sources of energy such as wind, waterpower and geothermal energy can help to reduce carbon emissions, while also offering diversity and security of supply. New developments must meet the requirements of Section 72 of the Climate Change Act 2009 by installing i.e. 20% of their CO² reduction through the installation of LZCGT's, i.e. micro wind, solar power, biomass etc. After 2019, developments must achieve 25%, rising to 30% after 2026.

- Paragraph 4 should be amended to read 'After 2019 all new buildings must achieve a 'platinum' sustainability label under Section 7 of the Building Standards Technical Handbook.
- Paragraph 5 should be deleted.
- Paragraph 6 should be amended to read 'Applicants should consider how to meet the requirements of this guidance at an early stage of planning. Early engagement with planning authority is recommended, in order to identify and address any significant constraints at an early stage'.
- Paragraph 7 of the justification text should be amended to read ' A suspensive condition should be used to ensure compliance with the requirements of LSD11. Such a condition may be specific to the individual development, but will generally comply with the following model condition:

The development hereby approved will not be occupied or brought into use until the following documents have been submitted to and approved in writing by the Planning Authority:

- i) a copy of the appropriate sustainability label (i.e. silver active)
- ii) a Certificate of Conformity which confirms that 15%, of the required CO² emissions reduction is achieved through the installation of low and zero carbon generating technologies.

The above documents must be certified by an appropriately qualified practitioner and submitted along with the 'Notification of Completion of Development'.

- Appendix 1 and 2 should be deleted, with the last paragraph of Appendix 2 included in the main justification text. This paragraph should also be amended to provide applicants with examples of the technical constraints which will be considered, in line with PAN 84. The paragraph should make specific reference to the difficulties of achieving carbon reduction targets 'and' the percentage to be achieved from LZCGT's. The paragraph should also require applicants to provide sufficient information, at the planning application stage, to demonstrate why the requirements of LSD11 cannot be met on-site and how these requirements will be met off-site.
- The summary table of processes and calculations provided in PAN 84, along with an explanatory paragraph, should be included within a new Appendix 1.

6. Summary

6.1 National policy and legislation on carbon reduction requirements for new buildings is currently under review. In addition, the proposed SDP has extended the target date for carbon neutrality to 2020. In light of this, there is a need for LSD11 to be comprehensively revised. The current CO² reduction targets and timetable should

be revised, with the sustainability labelling scheme used to deliver staged increases in CO² reduction requirements. Further consideration is required to confirm the rising percentage of CO² reduction to be achieved through LZCGT's. The requirement for an Energy Statement should be removed from LSD11 and included in LSD2, while the process for demonstrating and verifying compliance with LSD11 should be simplified and achieved through suspensive condition. Finally, there is a need to align the targets and approaches of Aberdeenshire and Aberdeen City.

References

- Aberdeen City and Shire *Proposed Strategic Development Plan* (2013)
- Aberdeenshire Council (2012) *Aberdeenshire Local Development Plan 2012*
- Aberdeenshire Council (2007) *The Bigger Issue*
- Scottish Government (2009) *National Planning Framework for Scotland 2*
- Scottish Government (2010) *Scottish Planning Policy*
- Scottish Government (2008) *Planning Advice Note 84: Reducing Carbon Emissions in New Development*
- Scottish Government (2010) *A Low Carbon Economic Strategy for Scotland*
- Scottish Government (2010) *Conserve and Save: The Energy Efficiency Action Plan for Scotland*
- Scottish Government (2009) *Scotland's Renewables Action Plan*
- Scottish Government (2007) *Low Carbon Building Standards Strategy for Scotland*

