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1.0 Introduction

1.1 This Supplementary Guidance was approved for consultation by South Lanarkshire Council at its meeting on 8th September 2015 and placed on public consultation for six weeks until 30 October 2015. Eighty five representations were received from eight contributing consultees.

Background

1.2 This Supplementary Guidance (SG) has been prepared under the provisions of Section 22 of the Planning etc. (Scotland) Act 2006 and Regulation 27 of the Town and Country Planning (Development Planning) (Scotland) Regulations 2006. It forms part of the Development Plan for South Lanarkshire which consists of the Glasgow and the Clyde Valley Strategic Development Plan 2012 (SDP), the Minerals Local Development Plan 2012 (MLDP) and the South Lanarkshire Local Development Plan 2015 (SLLDP).

1.3 This SG supports Policy 19 Renewable Energy in the SLLDP by providing more detailed policy and guidance for developers on the requirements for wind energy and other renewable energy development.

Assessments

1.4 A series of assessments informed the preparation of the SG. The technical studies are as follows:
Strategic Environmental Assessment

**1.5** In September 2015, in accordance with the Environmental Assessment (Scotland) Act, 2005, the Council submitted an Environmental Report to the Scottish Government’s SEA Gateway. This reported on the findings of the Strategic Environmental Assessment carried out on the Supplementary Guidance: Renewable Energy in accordance with the Environmental Assessment (Scotland) Act, 2005. This was consulted on at the same time as the public consultation of the proposed Supplementary Guidance: Renewable Energy. A final SEA Environment Report has been prepared which sets out how the advice and opinions of the statutory Consultation Authorities has been taken into account in the SEA process. As statutorily required, a Post Adoption Statement will be prepared to explain how the adopted Supplementary Guidance has been influenced by the SEA process. This will be submitted to the SEA Gateway in the spring of 2016.

Habitats Regulations Assessment

**1.6** A Habitats Regulations Appraisal (HRA) screening exercise for this SG was undertaken in compliance with the EC Habitats Directive (Council Directive 92/43/EEC), and the Conservation (Natural Habitats, &c.) Regulations 1994 as amended. This is included in the HRA Record for the SLLDP. Textual mitigation to the SG wording allowed a conclusion of no adverse effect on the integrity of any Natura site from its implementation to be reached.

Equalities Impact Assessment

**1.7** An Equalities Impact Assessment of the SLLDP Renewable Energy Policy and SG has been carried out. This concluded that there are no adverse impacts on any of the communities covered by equalities legislation or on community relations.

South Lanarkshire Local Landscape Character Assessment (LCA)

**1.8** This document was approved by South Lanarkshire Council in December 2010 and updates the 1999 Glasgow and the Clyde Valley Regional LCA. The South Lanarkshire LCA provides greater detail on the local landscape character. The LCA was used to inform the preparation of the document entitled ‘Validating Local Landscape Designations’.

Validating local landscape designations

**1.9** This draws on the South Lanarkshire LCA to review the extensive local landscape designations in the South Lanarkshire Local Plan 2009 as advocated by Scottish Natural Heritage and Historic Scotland in ‘Guidance on Local Landscape Designations (2005)’. The designations have been updated to focus on the areas of highest landscape quality and value in South Lanarkshire. The document identifies six Special Landscape Areas (SLAs) in South Lanarkshire. This document was approved by South Lanarkshire Council in December 2010 and these designations remain up-to-date and relevant.


**1.10** This technical report assesses the sensitivity and capacity of the South Lanarkshire landscape to accommodate increasing levels of wind energy development, and supports strategic wind energy guidance for South Lanarkshire.
2.0 Policy context

National, strategic and local policy

National policy

2.1 The Scottish Government has set various targets to achieve a low carbon economy, including deriving:

- 100% electricity demand equivalent from renewables by 2020.
- Interim target of 50% electricity demand equivalent from renewables by 2015.
- 11% heat demand from renewables by 2020.
- At least 30% overall energy demand from renewables by 2020.
- Five hundred MW community and locally-owned renewable energy by 2020.

2.2 Scottish Government planning policy on renewable energy is set out in the National Planning Framework 3 (NPF3) and Scottish Planning Policy (SPP), published in June 2014.

2.3 NPF3 sets out a long term vision for the development of Scotland and is the spatial expression of the Scottish Government’s Economic Strategy. This has a focus on supporting sustainable economic growth which respects the quality of the environment, place and life in Scotland and the transition to a low carbon economy. The framework sets out strategic outcomes aimed at supporting the vision – a successful, sustainable place, a low carbon place, a natural, resilient place and a connected place.
2.4  SPP states that development plans should seek to ensure an area's full potential for electricity and heat from renewable sources is achieved, in line with national climate change targets, giving due regard to relevant environmental, community and cumulative impact considerations. The Scottish Government does not specify the contribution to be made in each separate local authority area by each renewable energy source. This is reflected in the Scottish Government's 2020 Routemap for Renewable Energy in Scotland which notes the planning system must continue to balance environmental sensitivities with the need to make progress on renewables targets. The focus of the planning system is on providing guidance on the locations where particular renewables are most likely to be appropriate as well as shaping the criteria to be taken into account in the determination of applications.

2.5  SPP states that planning authorities should set out in the development plan:

- A spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms as a guide for developers and communities, following the approach set out in Table 1 (of SPP).
- Indicate the minimum scale of onshore wind development that their spatial framework is intended to apply to.
- The factors to be taken into account in considering proposals for renewable energy developments. These will depend on the scale of the proposal and its relationship to the surrounding area and are likely to include the considerations set out at paragraph 169 of SPP.

2.6  Wind farm developments with a capacity of below 50 megawatts (MW) are determined under planning legislation. Larger wind farms of 50 MW or greater are determined under Section 36 of the Electricity Act 1989, and the Council as planning authority is a statutory consultee. The guidance in this SG applies to both categories of development. Further information on the operation of the Section 36 process can be found at: Infrastructure Energy Consents

Strategic policy

2.7  The Glasgow and Clyde Valley SDP was approved in May 2012. It identifies broad areas of search (BAOS) for wind farms (diagram 16 in SDP) and advises that it will be for local development plans to take forward the refinement of these areas to establish their long term potential. However, this has been superseded by the publication of SPP in 2014 which requires a new approach to the preparation of spatial frameworks. The Main Issues Report for SDP2 (Clydeplan) was issued for consultation in January 2015. This sets out the preferred option to develop a spatial framework using the approach set out in SPP, update the existing SDP1 policy and take account of the Glasgow and the Clyde Valley landscape capacity study to ensure a consistent approach is taken across the city region. A landscape capacity assessment has been prepared for the Glasgow and Clyde Valley SDP area. This drew on the findings of the 2010 South Lanarkshire assessment and will inform the preparation of SDP2.

Local policy - Local Development Plan

2.8  The SLLDP sets out the land use planning framework for South Lanarkshire over the next five years. The plan contains 19 policies which identify opportunities for new development and sets out requirements to protect the environment and safeguard local communities. Policy 19 sets out the Council's overall policy for renewable energy developments. This policy was significantly modified following the LDP Examination to accord with SPP 2014 and was extended to cover all forms of renewable energy.
Policy Context

Policy 19 Renewable energy

Applications for renewable energy infrastructure developments will be supported subject to an assessment against the principles set out in the 2014 SPP, in particular, the considerations set out at paragraph 169 and additionally, for onshore wind developments, the terms of Table 1: Spatial Frameworks.

The Council will produce statutory supplementary guidance which accords with the 2014 SPP, and which contains the spatial framework for onshore wind energy, and sets policy considerations against which all proposals for renewable energy infrastructure developments will be assessed. Development proposals must also accord with other relevant policies and proposals in the development plan and with supplementary guidance.

Community benefits

2.10 SPP states that where a proposal is acceptable in land use terms, and consent is being granted, local authorities may wish to engage in negotiations to secure community benefit in line with the Scottish Government's Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments (November 2013). South Lanarkshire Council has developed an approach for assessing the level of community benefits for renewable energy developments in South Lanarkshire and the collection, administration and management of these funds. Information on this is contained in Appendix 3. The Council will encourage operators of wind turbines/wind farms and other renewable energy infrastructure developments within South Lanarkshire to contribute to the Council's REF or another similar mechanism as appropriate.

How to use this document

2.11 The SG is structured as follows:

- Chapter 2 Policy Context - sets out the policy context for renewable energy developments.
- Chapter 3 Wind Energy Context - provides information on current wind energy developments and proposals in South Lanarkshire, and sets out the overall approach to assessing wind energy developments.
- Chapter 4 Spatial Framework for Wind Energy - sets out the spatial framework for wind energy and defines the areas of significant protection in South Lanarkshire. This applies to turbines of 15m and higher.
- Chapter 5 Renewable Energy Developments – provides information on other renewable energy technologies.
- Chapter 6 Development Management Considerations - sets out the considerations to be used in the assessment of all scales and types
of renewable energy proposals. It includes the matters listed in paragraph 169 of SPP and other relevant considerations.

- Chapter 7 Assessment Checklist for Renewable Energy Proposals - sets out the Council’s Assessment Checklist for renewable energy proposals. It is recommended that applicants read the Checklist first, as this will direct them to the relevant sections in the SG.
- Mapping – the SG is accompanied by Map 1 which shows the Spatial Framework Group 2 areas of significant protection (SG section 4) and Map 2 which shows the development management considerations for renewable energy developments (SG section 6).
- Key statements throughout the SG are highlighted in text boxes.
- Figure 2.1 sets out the process for assessing renewable energy developments.

The SG makes various references to policy and guidance from the Scottish Government and other statutory agencies. As this may change during the lifetime of the SG, developers are advised that they must comply with the version that is current at the time of their application.
3.0 Wind energy

Wind farms of four or more turbines

3.1 South Lanarkshire has proved to be an attractive location for wind energy developments with ten operational wind farms, five wind farms under construction plus a further seven consented schemes, which in total could deliver an output of over 1,300 MW (as at October 2015). In addition, there are a number of undetermined applications within the area with a further potential output of just under 200MW. Table 3.1 gives details of these schemes as at October 2015. Updated information can be obtained from Planning and Building Standards (see contact details in Appendix 5). The operating and consented schemes alone could potentially meet the electricity needs of around 400,000 homes, approximately three times the number of households in South Lanarkshire. There are also a number of other proposals at the pre-application or scoping stage, indicating the continued interest in South Lanarkshire as a location for onshore wind developments.

3.2 The existing and emerging pattern of medium to large scale wind farm development reflects the attraction of upland locations. The wind farm clusters in South Lanarkshire largely correspond with the potential areas of search identified in earlier development plans and with the areas of greatest underlying landscape capacity identified in the landscape capacity study. However, the study recognised that gaps and spacing between large clusters is required to prevent coalescence of wind farm developments impacting adversely on the landscape.
### Table 3.1 South Lanarkshire wind farm developments (October 2015)

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Status</th>
<th>Number of turbines in South Lanarkshire</th>
<th>Output in MW (South Lanarkshire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hagshaw Hill</td>
<td>West of Douglas</td>
<td>Operating</td>
<td>26</td>
<td>16</td>
</tr>
<tr>
<td>Hagshaw Extension</td>
<td>West of Douglas</td>
<td>Operating</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>Black Law</td>
<td>West of Forth</td>
<td>Operating</td>
<td>48</td>
<td>111</td>
</tr>
<tr>
<td>Whitelee</td>
<td>West of Strathaven</td>
<td>Operating</td>
<td>42</td>
<td>97</td>
</tr>
<tr>
<td>Muirhall/Muirhall extension</td>
<td>Auchengray/Tarbrax</td>
<td>Operating</td>
<td>11</td>
<td>34.4</td>
</tr>
<tr>
<td>Clyde</td>
<td>South East of Abington</td>
<td>Operating</td>
<td>152</td>
<td>350</td>
</tr>
<tr>
<td>Dungavel</td>
<td>South West of Strathaven</td>
<td>Under construction</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>Bankend Rig</td>
<td>South West of Strathaven</td>
<td>Operating</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Nutberry</td>
<td>West of Coalburn</td>
<td>Operating</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Calder Water</td>
<td>West of Strathaven</td>
<td>Operating</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>West Browncastle</td>
<td>West of Strathaven</td>
<td>Operating</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>Andershaw</td>
<td>South of Douglas</td>
<td>Under construction</td>
<td>14</td>
<td>42</td>
</tr>
<tr>
<td>Galawhistle</td>
<td>West of Douglas</td>
<td>Under construction</td>
<td>20</td>
<td>55</td>
</tr>
<tr>
<td>Penbreck</td>
<td>South West of Douglas</td>
<td>Consented subject to legal agreement</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Kype Muir</td>
<td>South of Strathaven</td>
<td>Section 36 application - consented subject to legal agreement</td>
<td>26</td>
<td>88</td>
</tr>
<tr>
<td>Clyde Extension</td>
<td>North East of Clyde wind farm</td>
<td>Under construction</td>
<td>51</td>
<td>162</td>
</tr>
<tr>
<td>Crookedstane</td>
<td>Near Elvanfoot</td>
<td>Consented subject to legal agreement</td>
<td>4</td>
<td>11.5</td>
</tr>
<tr>
<td>Auchrobert</td>
<td>West of Lesmahagow</td>
<td>Under construction</td>
<td>12</td>
<td>48</td>
</tr>
<tr>
<td>Middle Muir</td>
<td>South of Douglas</td>
<td>Section 36 application consented subject to legal agreement</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td>Dalquandy</td>
<td>Near Coalburn, North East of Douglas</td>
<td>Consented subject to legal agreement</td>
<td>15</td>
<td>45</td>
</tr>
</tbody>
</table>
Chapter 3
Wind energy context

3.3 Following the introduction of the Feed in Tariffs (FiT) scheme in April 2010 South Lanarkshire has become increasingly attractive as a location for single and small scale wind turbine developments. This includes proposals related to domestic, farm and industrial premises and using turbines ranging in size from 15m to over 100m in height to tip. Table 3.2 indicates the number of turbines 15m and higher currently consented and proposed in South Lanarkshire at October 2015. It is important to note that when referring to small scale wind energy development, it is in relation to turbine numbers (3 or less) rather than their height which can be a range from small to large turbines (for example 15m turbines to turbines over 120m).

Table 3.2
Single and small scale/FiT wind energy developments (turbines 15m and higher) October 2015

<table>
<thead>
<tr>
<th>Location</th>
<th>Status</th>
<th>No of Turbines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating/consented</td>
<td>279</td>
<td></td>
</tr>
<tr>
<td>Undetermined</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

3.4 The single and small scale wind turbine applications tend to be concentrated in three main areas:

- The M74 Corridor Larkhall to Douglas.
- The Avon Valley area south west of Strathaven.
- North east of Lanark/Forth.
3.5 The height of these operating or consented turbines is shown in Table 3.3.

Table 3.3

<table>
<thead>
<tr>
<th>Height to blade tip</th>
<th>No of Turbines</th>
</tr>
</thead>
<tbody>
<tr>
<td>15m - &lt; 30m</td>
<td>106</td>
</tr>
<tr>
<td>30m - &lt;50m</td>
<td>83</td>
</tr>
<tr>
<td>50m - &lt;80m</td>
<td>63</td>
</tr>
<tr>
<td>80m - &gt;120m</td>
<td>27</td>
</tr>
<tr>
<td>120m or more</td>
<td>0</td>
</tr>
</tbody>
</table>

Context for wind energy developments

3.6 The Scottish Planning Policy published in February 2010 set out the Scottish Government’s policy on renewable energy at that time and local authorities were required to set out a spatial approach for considering wind farm proposals. Subsequently South Lanarkshire prepared Supplementary Planning Guidance (SPG) Renewable Energy 2010 which set out policies and other advice to assist in positive planning for renewable energy developments in South Lanarkshire.

3.7 A series of technical studies were prepared to inform the SPG and these documents underwent consultation. The landscape capacity study was updated in 2013 with consultation taking place in May/June 2013. In June 2014 a revised SPP was published by the Scottish Government which changed the policy context for the preparation of spatial frameworks for onshore wind. This required the Council to update the LDP policy and prepare new SG for renewable energy developments. In support of this a further updated Landscape Capacity for Wind Energy Study was prepared in 2015. This baseline information informs the development of Council policy. The approach directs large scale wind energy developments to upland locations where the turbines can operate efficiently, which are away from settlements and residential properties, and where the landscape can accommodate the scale of development and any significant issues have the potential to be mitigated. Also the approach taken is based on clusters and gaps and includes setting out guidance on the capacity of different components of the South Lanarkshire landscape to accommodate wind turbine developments.

3.8 There are a high number of turbine developments within South Lanarkshire and it is recognised through this guidance and the associated landscape capacity study that there are areas where likely cumulative impacts may limit the capacity for further wind turbine development. Due to the number of large scale wind farm developments in South Lanarkshire which are operational, under construction and consented, the interest from developers is turning to extensions of the existing/consented developments, repowering of existing wind farms and also to small turbine developments adjacent to these existing/consented schemes. Furthermore, the high number of single and small scale turbine developments contributes to the cumulative landscape and visual picture in South Lanarkshire. Cumulative impacts of all aspects of a proposed wind energy development require to be fully assessed and further guidance on cumulative impacts can be found in Section 6.

3.9 The drive for renewable energy from the Scottish Government continues. This is demonstrated through recent guidance in SPP 2014 and the support given to shared ownership projects and community energy. The current Scottish target is 500 MW generated by community and locally-owned renewable energy projects by 2020. In September 2015, the Scottish Government published its Community Energy Policy
Statement. This sets out the Government’s commitment to helping local communities to benefit from renewable energy, and provides details of the existing support schemes available. Shared ownership projects, where the community is involved as a partner of the development rather than a passive recipient of community benefit funds, can result in mutual benefits for both communities and developers. The Scottish Government’s ‘Good Practice Principles for Shared Ownership of Onshore Renewable Energy Developments’ was published in March 2015. This advice encourages developers as good practice to make an offer of shared ownership on all renewable energy projects. In the current climate there is uncertainty over the financing mechanisms for renewable energy developments. These include Renewables Obligation (RO), Contract for Difference (CfD) and Feed in Tariff (FiT).

3.10 In terms of wind energy developments, South Lanarkshire accommodates a substantial number of wind energy developments and is making a significant contribution to meeting Scottish Government targets. This has resulted in the area’s remaining capacity for wind energy developments reducing significantly. The Council recognises that opportunities for other renewable energy technologies may come to the forefront in the coming years.

3.11 Repowering of existing wind farms is likely to become more significant as developments near the end of their operational lives and technology continues to evolve. In general applicants will seek to install larger turbines when repowering an existing site. Repowering can offers opportunities to improve the pattern and design of a wind farm however in some instances repositioning and installing larger turbines may have additional environmental impacts. The guidance and requirements in this SG therefore apply equally to repowering proposals.
4.0 Spatial framework for wind energy

4.1 SPP requires that planning authorities should set out in the development plan a spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms as a guide for developers and communities. Due to the timing of the preparation of the LDP and the publication of the SPP, the detail of the spatial framework for wind energy for South Lanarkshire is contained in SG rather than in the LDP itself. Policy 19 of the LDP sets out the basis for this approach, stating ‘The Council will produce statutory supplementary guidance which accords with the 2014 SPP, and which contains the spatial framework for onshore wind energy, and sets policy considerations against which all proposals for renewable energy infrastructure developments will be assessed’.

4.2 This section of the SG therefore sets out the spatial framework for onshore wind energy developments and section 6 of the SG sets out the policy considerations for all renewable energy developments.

4.3 SPP states that development plans should indicate the minimum scale of onshore wind development that their spatial framework will apply to. For South Lanarkshire, it is considered that it should be for all turbine developments 15m or greater in height.

4.4 The scale of development is a major factor in assessing its impact and although all turbines developments 15m or greater in height are to accord with the spatial framework, the varying scales of turbines and size of developments is taken into consideration. Further detail is provided in the following sections and the assessment checklist for renewable energy proposals. Table 7.1 sets out the criteria for different forms of development.
Spatial framework for wind energy

Table 4.1 Spatial frameworks

<table>
<thead>
<tr>
<th>Group 1: Areas where wind farms will not be acceptable:</th>
<th>National Parks and National Scenic Areas.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Group 2: Areas of significant protection:</th>
<th>Recognising the need for significant protection, in these areas wind farms may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.</th>
</tr>
</thead>
</table>
| National and international designations: | - World Heritage Sites.  
- Natura 2000 and Ramsar sites.  
- Sites of Special Scientific Interest.  
- National Nature Reserves.  
- Sites identified in the Inventory of Gardens and Designed Landscapes.  
- Sites identified in the Inventory of Historic Battlefields. |

| Other nationally important mapped environmental interests: | - Areas of wild land as shown on the 2014 Scottish Natural Heritage (SNH) map of wild land areas.  
- Carbon rich soils, deep peat and priority peatland habitat. |

| Community separation for consideration of visual impact: | - An area not exceeding 2km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge. The extent of the area will be determined by the planning authority based on landform and other features which restrict views out from the settlement. |

| Group 3: Areas with potential for wind farm development: | Beyond groups 1 and 2, wind farms are likely to be acceptable, subject to detailed consideration against identified policy criteria. |

4.5 Table 4.1 is based on table 1 in SPP (see Section 2) and sets out three groupings in relation to wind energy development. These are as follows:

- Group 1: Areas where wind farms will not be acceptable
- Group 2: Areas of significant protection
- Group 3: Areas with potential for wind farm development

4.6 This group comprises National Parks and National Scenic Areas (NSA). The closest National Park to South Lanarkshire is Loch Lomond and the Trossachs, located approximately 30 miles to the north west. The western edge of Upper Tweeddale NSA in the Scottish Borders is within 5km of the eastern boundary of South Lanarkshire.

4.7 There are no locations within South Lanarkshire covered by these designations.

4.8 SPP recognises the need for significant protection of particular areas which include:

- National and international designations.
- Other nationally important mapped environmental interests.
- Community separation for consideration of visual impact.

4.9 In these areas wind farms may be appropriate in some circumstances. Proposals will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.
overcome by siting, design or other mitigation. There are a number of designations and areas of protection that fall into Group 2. These are considered in more detail below and shown on SG map 1.

National and international designations:
- World Heritage Sites.
- Natura 2000 and Ramsar sites.
- Sites of Special Scientific Interest.
- National Nature Reserves.
- Sites identified in the Inventory of Gardens and Designed Landscapes.
- Sites identified in the Inventory of Historic Battlefields.

4.10 Further information and detailed policy guidance for these designations is contained in Supplementary Guidance 9: Natural and Historic Environment. Full consideration of the effects the development may have on these designations is required. Developers are required to assess possible effects and demonstrate that any significant effects on the qualities of these national and international designations can be substantially overcome by siting, design or other mitigation. Where there may be effects on a Natura site, an appropriate assessment must demonstrate that there is no adverse effect on site integrity for consent to be granted.

4.11 Criterion 1 in the SG Assessment Checklist relates to international and national environmental designations.

Other nationally important mapped environmental interests:
- Areas of wild land as shown on the 2014 SNH map of wild land areas.
- Carbon rich soils, deep peat and priority peatland habitat.

4.12 There are no areas of designated wild land within South Lanarkshire. The nearest area of wild land is located approximately 5km to the south east within Scottish Borders.

4.13 Scottish Natural Heritage (SNH) has prepared a consolidated spatial dataset of carbon-rich soil, deep peat and priority peatland habitats in Scotland derived from existing soil and vegetation data. This defines five classes of carbon rich soils/peatland as shown in Table 4.2.

4.14 In summary, areas with a higher rank require the most careful consideration because their combined soil and habitat characteristics indicate a strong likelihood of deep peat and priority peatland habitats. Carbon and Peatland classes 1 and 2 correspond to the 'carbon-rich soils, deep peat and priority peatland habitat' identified in Table 1 of SPP.

4.15 This technical report and mapping has not yet been finalised. Developers should consult SNH website to ensure they are using the most up to date version.

4.16 There is a limited amount of Class 1 and 2 carbon rich soils, deep peat and priority peatland habitat (CPP) in South Lanarkshire mainly in the west and south west of the area. Wind energy developments in class 1 and 2 CPP areas may still be possible. However, effects on carbon rich soils/peatland must be assessed and clearly demonstrated that all significant effects on the qualities of these areas can be substantially overcome through siting, design or other mitigation.

4.17 Further consideration of developments affecting peatland and soils is covered in section 6 of this SG (paragraphs 6.77 to 6.82)
## Table 4.2 Carbon and Peatland classes and importance of environmental interests

<table>
<thead>
<tr>
<th>Class</th>
<th>Importance of environmental interests</th>
<th>Summary description of the carbon and peatland classes</th>
</tr>
</thead>
</table>
| Class 1 | - Nationally important carbon-rich soils, deep peat and priority peatland habitats  
- Areas likely to be of high conservation value | - All vegetation cover indicates priority peatland habitats  
- All soils are carbon-rich soils and deep peat |
| Class 2 | - Nationally important carbon-rich soils, deep peat and priority peatland habitats  
- Areas of potentially high conservation value and restoration potential | - Most of the vegetation cover indicates priority peatland habitats  
- All soils are carbon-rich soil and deep peat |
| Class 3 | - Other soil conservation and management interests may apply  
- Vegetation cover does not indicate priority peatland habitat, but is associated with wet and acidic soil types  
- Most soils are carbon-rich soils, with some areas of deep peat | |
| Class 4 | - Not peatland or carbon-rich soil, but other soil conservation and management interests issues may apply  
- Area unlikely to be associated with peatland habitats or wet and acidic soils  
- Area unlikely to include carbon-rich soils | |
| Class X | - Area not currently supporting peatland habitats, but where the presence of deep peat may be indicative of restoration potential  
- Vegetation cover does not indicate peatland habitat  
- All soils are carbon-rich soil and deep peat | |

**4.18** Criterion 2 in the Assessment Checklist relates to priority peatland habitats and criterion 11 relates to impact on carbon rich soils and peatlands.

### Community separation for consideration of visual impact

**4.19** This is defined by SPP as 'an area not exceeding 2km around cities, towns and villages identified on the local development plan with an identified settlement envelope or edge. The extent of the area will be determined by the planning authority based on landform and other features which restrict views out from the settlement'.

**4.20** South Lanarkshire covers an area of 1,772 km², from Rutherglen and Cambuslang, on the boundary with Glasgow, to the Southern Uplands at Leadhills, east to Forth and Dolphinton and west to Thorntonhall and Drumclog. It is an extensive and diverse local authority with a mix of urban and rural areas. The LDP contains 93 settlements ranging in size from major towns such as East Kilbride and Hamilton to rural hamlets in the Clydesdale area (see Appendix 4). These settlements sit within a wide range of landscape character types and landforms which have differing sensitivity to and capacity for new development.

**4.21** As already noted, the Spatial Framework for South Lanarkshire applies to all turbine developments of 15 metres and greater. This covers single turbines of 15m in height up to large wind farms with multiple turbines of heights reaching approximately 150m.

**4.22** There are many variations of proposed wind energy developments that could be submitted within the 2km area around each of the 93 settlements in South Lanarkshire. In addition in much of South Lanarkshire the close proximity of settlements gives rise to considerable overlap between the 2km areas between settlements. It is, therefore,
considered impractical to undertake a visual impact analysis to cover the multiple scenarios that could arise and apply a 'one size fits all' approach to turbine developments around each of these settlements.

4.23 The 2km buffer zone around settlements has therefore been identified as an indicative area in which potential developers will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation. The separation is not a ban on wind energy development in the identified area. The character of some settlements can in part be defined through their relationship with their surroundings. In some settlements this relationship is more important than in others. The separation distance allows for the important vistas out from a settlement that could be harmed by an insensitively sited or designed wind energy development to be identified. It is likely that larger wind farms and taller turbines will have greater impact than fewer and smaller turbine proposals. However, it is noted that there may be instances when a single turbine can have an unacceptable visual impact. The Council will, therefore, assess proposals on a case by case basis and will be guided by the following principles for consideration:

- local topography
- landscape character of settlement as defined by its surroundings – (refer to section 6 of the SLC Landscape Capacity Assessment 2015)
- layout and built form of settlements
- key views.

4.24 The areas most likely to be seen from settlements are located in the north western part of South Lanarkshire including the Glasgow conurbation, East Kilbride and Hamilton and around the Middle and Lower Clyde Valley.

4.25 Criterion 3 in the Assessment Checklist relates to community separation for consideration of visual impact.

Group 3: Areas with potential for wind farm development

4.26 SPP states that beyond Groups 1 and 2, wind farms are likely to be acceptable, subject to detailed consideration against identified policy criteria. Section 169 of the SPP sets out a series of considerations which should be taken into account in the assessment of renewable energy proposals. These criteria are covered in detail in section 6 of this SG.

Spatial framework

4.27 Figure 4.1 shows the Spatial Framework for South Lanarkshire. This shows spatial framework Group 2 areas of significant protection in blue. As noted above these comprise:

- National and international designations.
- Other nationally important mapped environmental interests.
- Community separation for consideration of visual impact.

4.28 More details on each of the individual designations within Group 2, areas of significant protection category are shown on SG Map 1. The remainder of South Lanarkshire falls within the group 3: areas with potential for wind farm development category and is shown in green on figure 4.1.

4.29 In accordance with SPP, the South Lanarkshire Spatial Framework has been prepared to identify areas that are likely to be most appropriate for onshore wind farm as a guide for developers and communities. As set out above the Spatial Framework will apply to any wind energy development with a height to tip of 15m or over and the following policy will apply.
Policy RE1 Spatial framework for wind energy

Applications for onshore wind turbine developments of a height to blade tip of 15m or over must accord with the Spatial Framework and meet the relevant criteria set out in:

- Section 6 Development Management considerations for the assessment of renewable energy proposal.
- Table 7.1 Assessment Checklist for Renewable Energy Proposals.
5.0 Renewable energy developments

5.1 To date, onshore wind has been the focus for renewable energy development in South Lanarkshire with a small number of proposals for other types of renewable development. This section describes the main types of renewable energy development other than onshore wind, which may be developed in South Lanarkshire and outlines the planning considerations which will apply to these types of developments.

5.2 SPP sets out a number of considerations which should be taken into account when assessing renewable energy proposals. These are discussed in detail in Section 6 of this SG and relevant assessment criteria are set out in Section 7. Not all considerations and criteria will be relevant to different technologies, therefore Table 7.1 Assessment Checklist in section 7 highlights the criteria that are likely to be relevant for each technology. However applicants are recommended to work through the whole assessment checklist to ensure all relevant matters are addressed in their submissions. Technologies may have specific criteria that are unique to that technology and require to be addressed in the assessment of a proposal. Further guidance on these matters is set out below.

Solar

5.3 There is an operational solar farm in South Lanarkshire located at the Loch Coulter Water Treatment Works. It is owned by Scottish Water and contributes to them reducing their carbon emissions and reducing energy imported from the grid.

5.4 There are a number of Environmental Impact Assessment (EIA) screening requests and pre-application discussions regarding proposed solar farms with an output of five MW in South Lanarkshire. To date one proposal has progressed to planning application stage.
Chapter 5

Renewable energy developments

5.5 The guidance within this SG is for free-standing solar photovoltaic (PV) systems falling outside permitted development rights. It is noted that Scottish Government undertook consultation in summer 2015 on proposals for expanding the range of situations in which non-domestic solar panels can be installed without first requiring planning permission to be applied for. Developers are advised to check with the Planning Authority to ascertain the current position regarding the permitted development right for non-domestic solar panels.

5.6 Solar PV arrays are normally installed in rows, with spaces between rows of at least twice the height of the panels to avoid them over-shading each other. The arrays are typically mounted on frames or ‘tables’ that are anchored to the ground. The optimum angle of the panels for electricity generation is dependent upon the orientation of the array. Solar PV tracking systems are available. These allow arrays to be mounted on a framework, which moves to maintain optimum alignment towards the sun. These systems are more expensive to install, but allow increased power to be generated over a reduced area of land.

5.7 Where possible solar PV arrays should be located on previously developed and/or contaminated and industrial land in urban and rural areas and preference is given to solar PV arrays mounted on top of existing roofs, or integrated into new roofs and buildings. Where development is proposed in the countryside and rural areas it should avoid using prime agricultural land and allow where possible for continued agricultural use and/or encourage biodiversity and landscape enhancement around the arrays. The landscape and visual impact of proposals will require careful consideration particularly in undulating landscapes. Glint and glare from the arrays could have impacts on residential properties, road traffic and aviation. The infrastructure associated with solar farms such as high security fencing could also raise amenity, landscape and visual impact issues.

5.8 The development management considerations set out in Section 6 of this SG of particular relevance to solar arrays are:

- Impacts on communities and individual dwellings, including visual impact, residential amenity, glint and glare (SG paragraphs 6.60 - 6.67 and criterion 10 in Assessment Checklist).
- Landscape and visual impacts; (SG paragraph 6.27 - 6.45 and criterion 8 in Assessment Checklist).
- Effects on the natural heritage, including birds; (SG paragraph 6.7 - 6.26 and criterion 7 in Assessment Checklist).
- Impacts on the historic environment, including scheduled monuments, listed buildings and their settings; (SG paragraph 6.87 - 6.91 and criterion 13 in Assessment Checklist).
- Effects on hydrology, the water environment and flood risk. (SG paragraph 6.114 - 6.123 and criterion 18 in Assessment Checklist).
- Impacts on aviation and defence interests (SG paragraphs 6.95 - 6.104 and criterion 15 in Assessment Checklist).
- Impacts on road traffic (SG paragraphs 6.109 - 6.113 and criterion 17 in Assessment Checklist).

5.9 Other development management requirements specific to solar farms will include:

- Panel details: The scale and specification of the PV panels will be required. The extent of the array and its angle of repose should be specified, along with a maximum height and the parameters of any ‘tracking’ element, including its range of height variation. The potential for PV panels, frames and supports to have a combined reflective quality should be evaluated through a glint and glare assessment. This assessment needs to consider the likely reflective capacity of all of the materials used in the construction of the solar
farm, with particular reference to the face of the PV panel, and the likely lines of reflection relative to the sun's trajectory.

- Ground works and anchoring: Site levelling and ground works should be kept to a minimum. Any site levelling works necessary to facilitate the development of a solar PV array should be discussed at the pre-application stage, and detailed within any planning application. Frames should be pile driven or screw anchored and not concrete-based, and capable of easy removal, allowing the ground to be fully restored. Solar PV facilities that are developed on agricultural ground should be 'reversible', allowing the site to be easily restored to agriculture. Hence intrusive groundworks, such as trenching and foundations, should be minimised and the use of concrete avoided. In windy areas the stability of the installation will need to be considered. A structural survey may be required.

- Security and fencing: Fencing may be a requirement of solar array proposals, primarily to enable the developer to secure the site. Fencing must not obstruct public rights of way, nor protected species' migration routes. Applicants are advised, wherever possible, to minimise the use and height of security fencing and 'standard' security fencing solutions should be avoided. Fencing that has minimal visual impact in terms of colouration and 'see-through' capacity should be utilised, whilst existing features such as copses, hedges and other natural landscape features, should be retained to screen security fencing, and be supplemented by additional native planting where gaps occur. Details of security lighting should be provided and consideration given to glare and light pollution. Planning applications should contain full details and specifications of all security and lighting installations in order to allow an accurate landscape/visual assessment of the proposal to be made.

5.10  Other sources of guidance for developers include: Scottish Government online guidance for large photovoltaic arrays.

Hydro

5.11  There is a small hydro electric scheme on the Clyde at Lanark dating from the 1920's. This consists of two power stations, Stonebyres 3km west of Lanark and Bonnington, 1km south of New Lanark, which together generate 16 MW of power. A smaller scheme at Blantyre created in 1995 has an output of 0.57 MW. There have been a small number of recent applications for micro hydro schemes. These include two schemes by Scottish Water at Camps Reservoir and Udston Service Reservoir and private schemes at Coulter, near Biggar and Waterfoot near East Kilbride. The total output of these proposals is around 230 KW.

5.12  The majority of hydro schemes in South Lanarkshire are likely to be 'run-of-the river' where water is taken from a river from behind a low weir, with no facilities for water storage and returned to the same water course after passing through the turbine. These would be primarily for domestic/individual landowner use with an output of under 100kW.

5.13  Such developments will require to be located in areas where there is a suitable watercourse. This specific locational need will be taken in account in the consideration of proposals. However it will be balanced against the need to protect the environment and communities from adverse effects.

5.14  The main environmental effects associated with hydro developments will be on the water environment, including disruption of water flows, flood risk, and disturbance of aquatic species, in particular migratory fish. There could also be impacts on riparian habitats. The construction of hydro schemes could also result in adverse landscape and visual impacts particularly on steeply sloping sites.
Chapter 5

Renewable energy developments

5.15 The development management considerations set out in Section 6 of this SG of particular relevance to hydro schemes will be:

- Landscape and visual impacts; (SG paragraph 6.27 - 6.45 and criterion 8 in Assessment Checklist).
- Effects on the natural heritage, including birds; (SG paragraph 6.7 - 6.26 and criterion 7 in Assessment Checklist).
- Effects on hydrology, the water environment and flood risk. (SG paragraph 6.114 - 6.123 and criterion 18 in Assessment Checklist).

5.16 Other sources of guidance for developers include: SNH – Hydroelectric schemes and the natural heritage SEPA – Guidance Note 18 Planning guidance on hydropower developments and Scottish Government online guidance for hydro developments.

Biomass

5.17 Biomass is the general term for natural or organic fuel source. Biomass is produced from organic materials derived from recently living plant organisms or from metabolic by-products such as organic or food waste products. Biomass installations can range in size from very small boilers of a few kilowatts for heating domestic properties to large scale commercial operations.

5.18 Biomass developments in South Lanarkshire to date have mainly involved small scale installation of boilers to provide a heating source for domestic residences and public and commercial buildings.

5.19 As part of the South Lanarkshire Schools Modernisation Programme, 47 schools had biomass boilers fitted between 2009 and 2015. A sheltered housing complex also had a biomass boiler installed. In total, the biomass boilers installed by the Council have an operating capacity of six point seven MW.

5.20 The Council’s policy approach to biomass developments is set out in section 8 of Supplementary Guidance 1: Sustainable Development and Climate Change (SDCC). Development proposals shall be assessed against Policy SDCC7 and any other relevant policies in the SLLDP and other SG.

Anaerobic digestion

5.21 Anaerobic digestion (AD) is a natural process in which micro-organisms break down the organic matter found in wet biomass waste (such as sewage sludge, animal manure and slurry and waste food) in the absence of oxygen, to produce biogas (mainly a mixture of around 60% methane and 40% carbon dioxide) and digestate (a nitrogen rich fertiliser).

5.22 The biogas can be burned directly in a gas boiler to produce heat or it can be burned in a combined heat and power (CHP) unit to produce heat and electricity. Alternatively, the biogas can be cleaned to remove the carbon dioxide and other substances, to produce biomethane. This can be injected into the national gas grid to be used in the same way as natural gas or used as a vehicle fuel.

5.23 Anaerobic digestion is referred to in Scottish Government guidance as a method of waste treatment. The plant associated with such developments is industrial in nature and the planning considerations will be similar to those for other energy from waste facilities. Proposals for anaerobic digestion developments will therefore be assessed against policy 18 in SLLDP and Policies SDCC11 and SDCC12 in the Sustainable Development and Climate Change SG, and any other relevant policies in the SLLDP and other SG.
Energy from waste

5.24 Energy from waste developments primarily involve the use of thermal processes to convert municipal and commercial waste streams to energy and heat. These types of development come under the Council’s planning policies for waste management.

5.25 Proposals for energy from waste developments will be assessed against policy 18 in SLLDP and Policies SDCC11 and SDCC12 in Supplementary Guidance 1: Sustainable Development and Climate Change, and any other relevant policies in the SLLDP and other SG.


Geothermal

5.27 Geothermal energy is the energy stored in the form of heat beneath the earth’s surface.

5.28 Geothermal energy is a carbon free, renewable, sustainable form of energy that provides a continuous, uninterrupted supply of heat that can be used to heat homes and commercial buildings and to generate electricity.

5.29 The main types of geothermal energy development are Deep Geothermal and Heat Pumps and, each are discussed in turn below:

Deep geothermal

5.30 Deep geothermal is defined by the Scottish Government as any geothermal source below 100m in depth. This is distinct from ground source heat which provides low temperature heat found at relatively shallow depths within the Earth’s crust, derived from solar warming.

5.31 Deep geothermal operations involve tapping into a heat source stored naturally beneath the Earth’s surface. This can involve recovering hot water from former mine workings or from water enclosed within permeable rocks known as hot sedimentary aquifers. There are also enhanced or engineered geothermal systems which involve injecting water into particular types of rock known as ‘hot rocks’ where it is heated to produce renewable heat or to drive turbines.

5.32 Deep geothermal is more likely to be relevant to large scale development proposals. There is also likely to be interest in feasibility testing to determine suitable locations before any detailed development projects come forward. The greatest potential for deep geothermal in South Lanarkshire is likely to be related to the recovery of heat from former mining areas. At present however there has been little commercial interest in this technology in the South Lanarkshire area.

5.33 Should any proposals come forward the following development management considerations set out in Section 6 of this SG are of particular relevance:

- impacts on communities and individual dwellings, including visual impact, residential amenity, noise (SG paragraphs 6.60 - 6.75 and criterion 10 in Assessment Checklist)
- landscape and visual impacts; ( SG paragraph 6.27 - 6.45 and criterion 8 in Assessment Checklist)
- effects on the natural heritage, including birds; (SG paragraph 6.7 - 6.26 and criterion 7 in Assessment Checklist)
- impacts on the historic environment, including scheduled monuments, listed buildings and their settings; ( SG paragraph 6.87 - 6.91 and criterion 13 in Assessment Checklist)
Renewable energy developments

- effects on hydrology, the water environment and flood risk. (SG paragraph 6.114 - 6.123 and criterion 18 in Assessment Checklist)
- due to the scale and nature of deep geothermal developments they are likely to require EIA (criterion 29 in Assessment Checklist).

Heat pumps

5.34 There are three main types of heat pump technologies:
- Ground source
- Air source
- Water source.

5.35 These technologies utilise heat that is stored in the ground, air or water and transfer this heat for use in buildings.

5.36 Ground source heat pumps normally require the excavation of a trench in which a length of pipe is laid, or the drilling of a relatively shallow borehole. Air source heat pumps do not require excavations and lengths of piping but do require installation of a heat exchange unit.

5.37 Some domestic scale heat pump systems may be classed as permitted development (PD) but this will depend on the technology and design involved and the characteristics of the building which is the subject of the application. Applicants are advised to check with the relevant SLC planning area office as detailed in appendix V. Developments with an output of greater than 45 kilowatts thermal are not classed as PD and a planning application will be required.

5.38 For those developments which do not fall within permitted development the following development management considerations set out in Section 7 of this SG are of particular relevance:

- impacts on communities and individual dwellings, including visual impact and residential amenity (SG paragraphs 6.60 - 6.67 and criterion 10 in Assessment Checklist)
- landscape and visual impacts; (SG paragraph 6.27 - 6.45 and criterion 8 in Assessment Checklist)
- effects on the natural heritage, including birds; (SG paragraph 6.7 - 6.26 and criterion 7 in Assessment Checklist)
- impacts on the historic environment, including scheduled monuments, listed buildings and their settings; (SG paragraph 6.87 - 6.91 and criterion 13 in Assessment Checklist)
- effects on hydrology, the water environment and flood risk. (SG paragraph 6.114 - 6.123 and criterion 18 in Assessment Checklist.

Micro-renewables

5.39 Micro-renewables are generally defined as installations of less than 50kW (electrical) or less than 45kW (thermal). In some cases micro renewable developments fall into the category of permitted development. However it is recommended that this should be confirmed with the relevant SLC planning area office as detailed in appendix 5. For applications which affect historic buildings, monuments and sites, reference should be made to Historic Scotland guidance on micro-renewables.

5.40 Most micro-renewable schemes are unlikely to have significant impacts on nature and landscapes, especially where they are located in urban areas. In some places, however, the installation of micro-renewable devices could have an impact on protected areas and some species which are protected by law. Applicants are advised to refer to SNH publication Micro renewables and the natural heritage (2009)
For any micro-renewable technologies not addressed elsewhere in this SG, developments will primarily be assessed against the Development Management policy in the LDP (Policy 4) and any relevant SG.
6.0 Development management considerations

6.1 SPP states that development plans should set out the factors to be taken into account in considering proposals for energy developments. The factors will depend on the scale of the proposal and its relationship to the surrounding area. It is likely to include the considerations set out at paragraph 169 of SPP. These factors are listed in Table 6.1 and require to be taken into account in the assessment of renewable energy developments. Each factor is discussed in more detail in this section and cross referenced to the appropriate criterion in Table 7.1 Renewable Energy Assessment Checklist where relevant (Section 7). It should be noted that some of these factors may only be relevant to specific types of renewable energy development. The Council shall seek to ensure that a balanced approach is undertaken when considering these factors in the assessment of applications.
## Development management considerations

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<th>Development Management Consideration</th>
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<td>The scale of contribution to renewable energy generation targets.</td>
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<td>from all of the considerations below, recognising that in some areas the cumulative impact of existing</td>
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<td>and consented energy development may limit the capacity for further development.</td>
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<td>Impacts on communities and individual dwellings, including visual impact, residential amenity, noise</td>
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<td>Effects on hydrology, the water environment and flood risk.</td>
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<td>The need for conditions relating to the decommissioning of developments, including ancillary</td>
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<td>The need for a robust planning obligation to ensure that operators achieve site restoration.</td>
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</table>
Net economic impact

6.2 The Council requires all renewable energy applications other than for micro-renewables to provide a statement, proportionate to the scale of the development, of the socio-economic benefits for the surrounding communities and the wider South Lanarkshire area that will arise from the project, including the overall number of jobs and economic activity associated with the procurement, construction, operation of the development and decommissioning. Potential effects require to be assessed and if required, mitigation measures recommended. Investment in the Scottish economy, local investment, employment generated and community benefits should be presented in a socio-economic impact assessment. This should also include an assessment of cumulative effects both negative and positive. The effects may include:

- effects on businesses (local and national)
- direct and indirect employment
- other direct and indirect investment in the local economy.

6.3 Proposals will be assessed on their individual merits taking into consideration the relevant environmental, economic and social effects of each project. It is noted that the Scottish Government is in the process of developing further guidance on assessing net economic benefit as part of the planning process. When this guidance becomes available it shall be taken into account by the Council when considering development proposals.

Contribution to renewable energy generation targets

6.4 SPP requires the planning system to support the country’s transformation to a low carbon economy and contribute to the Government’s targets for meeting electricity and heat demand from renewable sources. The Scottish Government’s target is at least 30% of overall energy demand from renewables by 2020 including generating the equivalent of at least 100% of gross electricity consumption from renewables. A development’s contribution towards the targets is a material consideration and should be explored in the context of the range of relevant development management considerations to reach a balanced view on the acceptability of a proposal.

Effect on greenhouse gas emissions

6.5 Renewable energy development applications should contain a statement:

- setting out the potential output from the renewable energy development (megawatts/kilowatts)
- the potential contribution of the proposal to renewable energy targets
- the number of households on an annual basis which could be powered by the electricity generated by the proposed scheme.

6.6 Renewable energy developments can contribute towards the reduction of greenhouse gas emissions entering into the Earth’s atmosphere. The ‘2020 Routemap for Renewable Energy in Scotland’ published by the Scottish Government reflects the challenge of the target to meet an equivalent of 100% demand for electricity from renewable energy by 2020. The Scottish Government set an interim target of 50% of Scotland’s electricity to be sourced from renewable sources by 2015. Updates on the Routemap are provided to report on progress on developments across the renewable sector and towards the targets and to propose further actions needed to unlock Scotland’s renewable energy potential. Applications should contain a statement setting out how the proposal contributes to reducing greenhouse gas emissions.
**Development management considerations**

**Effects on the natural heritage, including birds**

**International and national designations**

6.7 International and national designations fall into Group 2; areas of significant protection in the Spatial Framework for wind energy (see Section 4). All types of renewable energy development must accord with the specific policies for international and national designations set out in Supplementary Guidance 9: Natural and Historic Environment.

6.8 Impacts on internationally and nationally designated sites can, in some cases, originate from proposals located outside of them in Group 3 areas. For example, part of the wintering pink-footed goose population that is a qualifying interest of the Westwater Special Protection Area (SPA) feed in areas of South Lanarkshire. While the SPA itself is located approximately 15 km from the South Lanarkshire boundary, impacts on these feeding areas, or on the geese as they fly between them and the SPA, could undermine the SPA's Conservation Objectives and result in an adverse effect on the integrity of the site. The effects of proposals which are within Group 3 areas but which have connectivity to the interests protected within internationally or nationally designated sites must be fully identified and assessed. Guidance on how to assess connectivity with Natura sites is available in SNH's Assessing the impact of small-scale wind energy proposals on the natural heritage (June 2014), Assessing Connectivity with Special Protection Areas (SPAs) (July 2013), Geese and wind farms in Scotland: new information (May 2013) and Assessing impacts to pink-footed and greylag geese from small-scale wind farms in Scotland (February 2014). These documents are available on SNH website Planning and renewable energy guidance.

6.9 Development likely to have a significant effect on a Natura site will be subject to an appropriate assessment. The appropriate assessment must demonstrate that there is no adverse effect on site integrity for consent to be granted.

**South Lanarkshire Local Biodiversity Strategy and Action Plan**

6.10 A Local Biodiversity Strategy and Action Plan (LBAP) for South Lanarkshire was published in 2010. It takes an ecosystem based approach which aims to protect individual species and habitats by conserving the whole of the environment in which they are found. Four ecosystems are identified:

- Upland
- Freshwater and Wetland
- Woodland
- Lowland.

6.11 Developers are encouraged to take account of the aims and objectives for South Lanarkshire's ecosystems set out in the Biodiversity Strategy when designing and developing projects. Relevant policies are contained in the Natural and Historic Environment SG. Further guidance and policy on biodiversity and development is contained in section 6 of the Natural and Historic Environment SG.

**Habitat management plans**

6.12 For larger wind farm proposals, and any other wind energy schemes where specific species/habitats are affected, applicants will be required to submit a Habitat Management Plan (HMP) setting out the means of land management that will secure biodiversity enhancement. HMPs should provide a focus for landscape scale restoration of large...
networks of bogs, scrub and/or woodland, heath and other key habitats, benefiting biodiversity and maximising the carbon storage potential of degraded habitats.

6.13 There is spatial correlation in South Lanarkshire between peatlands, forestry and upland areas with good wind resource. The Scottish Government aims to deliver action to reduce climate change through the use of renewable energy, forestry planting and management and peatland restoration, all of which have a role in the wider climate change agenda. However there are challenges when the three areas come together on wind farm proposals. Applicants are required to address these conflicts in their proposal and identify appropriate mitigation measures (on or off site) which can be implemented and delivered over the lifetime of the wind farm development.

6.14 Larger wind farm applications, including extensions and repowering schemes, will be required to include a Habitat Management Plan (HMP) setting out details of measures proposed to:

- mitigate or compensate for the impacts caused by the development
- enhance the natural heritage interest of the area.

6.15 For small-scale wind energy developments and other renewable energy proposals, the need for an HMP will be determined on a case by case basis.

6.16 Early engagement with the Council's Countryside and Greenspace Service should be sought to ensure HMP proposals are acceptable (see Appendix 5 for contact details). The views of SEPA should also be sought. It should be noted that SNH shall only become involved in the development of an HMP where it is required to mitigate significant adverse impacts on designated sites or protected species.

### Local nature conservation designations

6.17 Local nature conservation designations which should be considered in the assessment of renewable energy development proposals include local nature reserves, ancient semi natural woodlands and other long established woodlands of high conservation value. Policy guidance on these designations is contained in Supplementary Guidance 9: Natural and Historic Environment. There are other local nature conservation resources, such as Local Nature Conservation Sites (LNCS) but at present these are not comprehensively mapped across South Lanarkshire. Conserving biodiversity assets is being promoted in the Biodiversity Strategy with the strongest emphasis being placed on habitats such as peatland, ancient woodland and freshwater. Due to the small scale and dispersed nature of local nature conservation resources it is anticipated that any impact on these shall be addressed at the project stage. Where schemes are small-scale and formal EIA is not required, applicants are encouraged to provide information to support their applications in line with that recommended in SNH guidance 'Assessing the impact of small-scale wind energy proposals on the natural heritage' (2014). Much of the advice in this document is also relevant to other types of renewable energy development. Local Nature Conservation designations are shown on Map 2. Further advice and data on resources such as peatland and woodland is available from the Council's Countryside and Greenspace Service. (see Appendix 5 for contact details).

### Bird sensitivity

6.18 The RSPB produce bird sensitivity mapping. This, however, provides only a broad indication of sensitivity and there may be local variations within each category of sensitivity which will only become apparent after detailed surveys have been undertaken. For proposals not affecting internationally or nationally designated sites, SNH's Assessing
Significance of Impacts from Onshore Windfarms on Birds Outwith Designated Areas (July 2006) provides guidance on the species that are priorities for assessment.

6.19 Individual applications will continue to be assessed on their merits in relation to bird issues and applicants should be guided by SNH in respect of the requirements for ornithological surveys. The Planning Renewable Guidance on SNH website contains a number of relevant guidance documents on wind farm impact on birds.

Protected species including bats

6.20 All types of renewable energy development must accord with the specific policy guidance for protected species set out in Supplementary Guidance 9: Natural and Historic Environment.

6.21 Evidence suggests that the siting and operation of wind turbines can have an adverse impact on bat populations. Several bat species are found in South Lanarkshire, including Leisler’s bats and noctule bats. These two species are identified as being at high risk of impacts from wind farms at both an individual and population level.

6.22 The Council will require applicants to assess the need for a bat survey and carry out any subsequent survey work in accordance with the Bat Conservation Trust’s ‘Bat Surveys: Good Practice Guidelines’, subject to any amendments agreed at the scoping stage. Wind energy developers are encouraged to refer to SNH publication Bats and Wind Turbines (2012).

Cumulative impact on natural heritage

6.23 Where applicants identify, or are advised, that there may be significant cumulative impacts on ecological and/or ornithological interests, a cumulative impact assessment will be required. This should include consideration of all operating and consented schemes and those that are the subject of valid but undetermined applications. For proposals affecting Natura sites, the cumulative assessment must include all plans and projects likely to have a significant effect on the site, not just renewable energy developments. Where connectivity between proposed development sites and any Natura site is identified, applicants should agree the scope of any cumulative impact assessment with the Planning Authority and SNH at the pre-application stage.

6.24 In particular, during the lifetime of this SG cumulative impacts on the qualifying interests of the Muirkirk and North Lowther Uplands SPA may limit the capacity for further wind energy development in areas with connectivity to the SPA qualifying interests.

Terrestrial habitat surveys

6.25 For larger wind farms, SNH, in their on line guidance for onshore wind farms, advise that the whole area likely to be affected by the development and an appropriate buffer (e.g. to allow for redesign and micro-siting) should be surveyed to Phase 1 standard. Where habitats consistent with those on Annex 1 of the EC Habitats Directive together with UKBAP Priority Habitats are present, they should be mapped to NVC standard and accompanied by supporting quadrat information. For small scale development, an initial assessment of the habitats present should be provided to the planning authority at the pre-application stage to determine whether a more detailed survey would be needed to support the application.

Deer Management

6.26 The potential impacts on deer welfare, habitats, neighbouring and other interests, such as access, recreation and road safety, require to be assessed if wild deer are present on or are likely to use the...
development site. Where there are significant impacts, a draft deer management statement will be required to address these. Applicants should refer to SNH guidance on deer assessment and management for advice on the level of detail that is required to be provided.

Landscape and visual Impacts

Landscape capacity

6.27 South Lanarkshire Council considers that landscape character and capacity are key considerations in considering the impact of wind farm and wind turbine proposals. The landscape technical studies (see paragraph 1.8 and 1.9) provide a comprehensive baseline for the assessment of renewable proposals in South Lanarkshire and underpin the Landscape Capacity for Wind Energy study 2015 (LCS) that informs this SG. The guidance for specific landscape character types contained in the LCS 2015 shall be taken into account and shall form the basis for the assessment of wind energy proposals of 15m in height and greater.

Section 6 and Table 6.1 of the Landscape Capacity Study for Wind Turbines 2015 (LCS) assesses each landscape character type in relation to its sensitivity to change and capacity for development and provides guidance on the scale and type of wind energy development, if any, that may be appropriate. The guidance in Table 6.1 should be followed in the consideration of proposals for all scales of wind energy developments. Where proposals are located in areas of significant cumulative development, the guidance in table 6.2 of the LCS is also relevant.

6.28 Certain landscape types have been assessed as being of lesser sensitivity to the change which would result from wind energy development. It is recognised, however, that existing development within the most suitable landscape types for accommodating wind farm developments (plateau moorland and rolling moorland) will limit their capacity for future development.

6.29 Currently the majority of operational wind turbines in and adjacent to South Lanarkshire are located in the moorland areas, including the two very large scale clusters of developments around Whitelee and Black Law and the cluster of developments around Hagshaw Hill/Galawhistle. With the approval of several other wind farms, further concentrations are appearing between Whitelee and Hagshaw Hill and south of Hagshaw Hill. Taking into account operational and consented turbines, much of the moorlands are therefore characterised by wind turbines. The strategic objective for the moorlands is to ensure that further extension of the Wind Turbine Landscape type is limited and that further developments in the Rolling Moorlands landscape character area are sufficiently separated for the type not to exceed a Landscape with Wind Turbines.

The design and location of wind energy developments relative to wind farms requires careful consideration so as not to lead to an extension of cumulative effects, blurring landscape character boundaries and leading to areas of Wind Turbine Landscape extending beyond the landscape character type.

Landscape designations

6.30 SPP (paragraph 197) supports the designation of local landscape areas in development plans to:
Development management considerations

- safeguard and enhance the character and quality of landscapes which are important or particularly valued locally or regionally, or
- promote understanding and awareness of the distinctive character and special qualities of local landscapes, or
- safeguard and promote important local settings for outdoor recreation and tourism locally.

6.31 The Validating Local Landscape Designations Report 2010 identifies those areas of South Lanarkshire covered by local landscape designations. These are shown on Figure 6.1 and in more detail on SG Map 2. It is important to note that wind farm and wind turbine development may be compatible with local landscape designations. Some of the SLAs contain landscape character types with capacity to accommodate wind farms. However it should be recognised at the design stage that the area is more sensitive to wind energy developments and the qualities for which the SLA is designated require be taken into account.

6.32 Any applications for wind energy development within the SLAs would be judged on their merits, in accordance with the LDP and any relevant SGs, with particular consideration given to landscape, visual and cumulative impacts. In addition the impact of proposals located outwith SLAs should also be considered, where these may affect SLA qualities.

Any applications for wind energy development within or around SLAs should not have a significant adverse effect on the landscape character, scenic interest and special qualities and features for which the area has been recognised as described in Validating Local Landscape Designations report (2010).
Although there is no designated wild land within South Lanarkshire, the Talla-Hart Fell Wild Land Area (WLA) lies within 5km of the council border. Development proposals within South Lanarkshire should therefore consider impacts on the setting of this WLA in terms of views towards and from within the WLA.

Forestry and Woodland

The landscape value of trees and woodland is recognised in paragraph 216 of SPP. The Scottish Government's Control of Woodland policy includes a presumption in favour of protecting woodland, as noted in paragraph 218 of SPP. It is therefore important for renewable energy proposals to address the impact on forestry and woodland. Further guidance on the Council's requirements is contained in paragraphs 6.132 to 6.135 of this SG.

Siting and design of wind energy developments

Turbine Height

Turbine height is an important factor when considering the landscape and visual impacts of wind energy developments. This is particularly true for single and small scale turbines in lowland landscapes which are closer to settlements and residential properties. The height categories of wind turbines reflect those used in the LUC Strategic Landscape Capacity study for Glasgow and the Clyde Valley:

- Under 15m
- 15m - <30m
- 30m - <50m
- 50m - <80m
- 80m - <120m
- Over 120m

In view of the comparatively limited scale, prominence and visibility of turbines less than 15m to blade tip they are not considered to have the wider cumulative impacts of larger turbines with a blade tip higher than 15m.

Smaller size turbines are most able to be accommodated in smaller scale landscapes with more complex patterns and smaller scale reference features. Larger turbines are generally restricted to larger scale landscapes with simpler landforms and fewer small scale references. Smaller turbine sizes may also be accommodated in such landscape types although their proximity to any larger size turbines would need to be carefully controlled and large groups of such turbines would not be appropriate. Further guidance on the landscapes' capability to accommodate turbines based on the height categories above is provided in Landscape Capacity Study for Wind Turbines 2015 – Section 6.2 and Appendix 4.

The following guidance should be taken into account in situations where height reduction may be used to achieve particular benefits to a proposed development as follows:

- mitigating significant landscape or visual impacts on a highly valued or sensitive receptor
- avoiding an adverse scale relationship with a landform or other key landscape element or feature
- allowing an intervening landform and/or forest to screen views of turbines from certain receptors
- achieving a significant reduction in overall visibility by virtue of their relationship to surrounding landform and trees.
Development management considerations

Design iteration process

6.38 All wind farm applications for four or more turbines require to document the design iteration process which sets out the design objectives. A design statement is a useful way for developers to explain why a proposal has a particular layout. Section 6.2 and Appendix 4 of the Landscape Capacity Study for Wind Turbines 2015 provides guidance with regard to design principles and turbine layout, and this is also addressed in SNH publications (see below and Appendix 1).

SNH landscape guidance

6.39 The guidance in SNH publications requires to be take into account in any proposal. The documents include guidance on visual representations and assessing small scale energy proposals. A full list and links to SNH guidance can be found in Appendix 1 of this SG. The Council will expect developers to follow this guidance in respect to the level of landscape appraisal required for different scales of development.

Borrow pits

6.40 Borrow pits which are proposed within the application site for wind farm developments are an important consideration in relation to their environmental and visual impacts in comparison to the environmental impacts of importing material on to site. Borrow pit locations should consider proximity to residential properties, the visual, noise, and dust impacts and the potential impacts on hydro-morphological and hydrological processes.

6.41 Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries; they are time-limited; tied to a particular project and appropriate reclamation measures are in place (see SPP paragraph 243).

6.42 Borrow pits associated with wind farm development, which are located outwith the application site, will require a separate application and will be assessed against the LDP and South Lanarkshire Minerals Local Development Plan 2012.

Landscape and visual impact - other renewable energy developments

6.43 Most other (non wind) renewable energy technologies could potentially have landscape and visual impacts. Depending on the scale and location of the proposal a landscape and visual impact appraisal may be required.

6.44 For solar farms the following guidance should be taken into account (see also paragraphs 5.7 - 5.10). To avoid adverse visual impact, solar panel arrays should be sited on relatively level ground and avoid sloping hillside locations, to reduce their visual profile. Sites should be screened from view where possible, either by the existing landscape or by planting hedges or vegetation. The visual impact on residential properties requires to be assessed. Proposals which can be viewed from sensitive public vantage points, including views from footpaths and locations where the array would be seen as a dominant element within the local landscape and where the impact cannot be mitigated may not be supported by the Council.

Landscape and Visual Impact Assessments (LVIA)

6.45 The content of LVIA should meet the requirements set out below.
Requirements for Landscape and Visual Impact Assessments

Groups of four or more turbines and all turbines over 50m in height (including extensions and repowering):

- Applications of four or more turbines must contain a full landscape and visual impact assessment, demonstrating potential impact to a radius of 35km unless otherwise agreed with the Council, using a range of techniques including Zones of Visual Influence, wire line diagrams and photo montages where appropriate. A Design Statement must be provided which sets out the design objectives and the design process of the development.
- For wind turbine developments LVIA should take into account turbines, apparatus associated with the development and borrow pits.
- Guidance is available in SNH publications 'Siting and designing wind farms in the landscape' (V2 2014) and 'Visual representation of windfarms' (2014) or any updated versions of this guidance.

Up to three turbines (up to 50m in height):

- The Council will require applicants to follow guidance 'Assessing the impact of small-scale wind energy proposals on the natural heritage' (2014) and 'Siting and Design of Small Scale Wind Turbines of between 15 and 50 metres in height' (2012) or any updated versions of this guidance. This sets out appropriate levels of landscape and visual impact appraisal for small scale projects.

Solar Energy Developments:

- Planning applications for solar panel arrays should be accompanied by a landscape and visual impact assessment, to be consistent with the current guidelines issued by the Landscape Institute and the Institute of Environmental Management and Assessment.
- The assessment should include the solar array, and all associated infrastructure, security fencing and lighting.
- The application should include an assessment of the potential for the solar PV panels, frames and supports to cause glint and glare.

Other renewable energy developments

- Requirement for LVIA to be agreed with planning authority.

Cumulative Impacts

6.46 SPP states that planning authorities should be clear about likely cumulative impacts arising from all of the considerations in paragraph 169, recognising that in some areas the cumulative impact of existing and consented energy development may limit the capacity for further development. Key cumulative impacts of wind energy developments include:

- landscape and visual.
- the natural heritage including species and habitats. (See 6.23 - 6.24)
- noise. (see paragraph 6.74)
6.47 South Lanarkshire has become a focus for wind energy investment, (see Table 3.1), with many of the wind farm developments located within the potential areas of search identified in previous development plans. These areas also coincide with the areas of highest underlying capacity for wind farms identified in the Council’s landscape capacity study. In addition there have been an increasing number of single and small scale turbine proposals in the lowland areas of South Lanarkshire and these have tended to concentrate in specific areas. The Council’s Landscape Capacity Study for Wind Energy (2015) considers cumulative impact in relation to landscape capacity for all scales of turbine development. The Capacity Study notes that ‘critical to the current assessment is the fact that South Lanarkshire already has a large number of operating and consented wind energy developments including several large commercial wind farms and a considerable number of smaller, mainly non commercial developments. This has created extensive areas of cumulative wind turbine development’.

6.48 The Landscape Capacity Study 2015 considers the existing and consented pattern of turbine developments in South Lanarkshire in relation to the local landscape character and sensitivity to change. In line with the guidance contained in SPP, this has enabled the identification in this SG of areas where the cumulative impact of existing and consented energy development may limit the capacity for further development.

6.49 SNH guidance ‘Spatial Planning for Onshore Wind Turbines – natural heritage considerations’ June 2015 sets out the main natural heritage considerations that should be taken into account when planning for onshore wind turbines as required by SPP. Taking account of the SNH guidance, this SG sets out two categories of where the cumulative impact of existing and consented energy development may limit the capacity for further development and each is considered in turn:

i. Areas where there are already multiple existing and consented wind farm and wind turbine developments and are reaching the underlying landscape capacity

6.50 The Landscape Capacity Study identifies ‘areas of significant cumulative development’ which are areas where there is a significant level of operational or consented development relative to the underlying landscape capacity to accommodate turbine development. The cumulative areas overlap with landscapes with varied underlying capacity for development. The eight areas of significant cumulative development are listed below and shown in Figure 6.2:

1. Plateau Moorland and Plateau Farmland of Whitelee Moor.
3. Plateau Moorland and Plateau Farmland between Carluke and the Pentland Hills on the northeast border with North Lanarkshire and West Lothian.
4. Plateau Farmland and Rolling Farmland (together with small fragments of Plateau Moorland) surrounding Carstairs and Carmwath.
5. Plateau Farmland north of Biggar, between Black Mount and Biggar Common.
6. Area south of the Avon Valley and either side of the M74 between Larkhall and Rigside.
8. Southern Uplands and Upland Glens east of the Clyde and Daer and adjacent to Scottish Borders.
6.51 The areas of significant cumulative development vary in landscape character and underlying capacity for development and have different factors influencing their extent. Further details are contained in section 6 of the Capacity Study 2015. There may be limited opportunities for wind energy developments in these areas but only if it can be demonstrated that they will not significantly affect the landscape objectives set out in Table 6.2. This table describes the areas and the key criteria for identifying locations for further potential developments and assessing cumulative effects. The areas of significant cumulative development are shown on SG Map 2. It should be noted that the boundaries are indicative. Tables 6.1 and 6.2 of the LCS are complementary. Table 6.2 follows the guidance in table 6.1 in order to determine what level of development should be accommodated in particular landscape areas before capacity issues arise.

6.52 These areas differ in extent from the cumulative impact areas identified in previous Council guidance on renewable energy. The change takes account of SPP 2014 and this SG reflects the updated policy. The change in area also reflects the evolving pattern of wind turbine development in South Lanarkshire since the publication of the Council’s previous advice.

ii. Areas which prevent coalescence between existing clusters of wind farms and wind turbine developments

6.53 The second aspect of cumulative impact of wind energy developments relates to the wider pattern of existing wind farm developments. Where there are distinct clusters of wind farm developments it can be desirable to leave gaps between these to prevent a wind farm landscape developing. SNH guidance Spatial Planning for Onshore Wind Turbines - natural heritage considerations (June 2015) states that in identifying cumulative issues planning authorities may find it useful to identify areas where clearly identified, existing cumulative
effects limit the capacity for further development (for example, the area between two existing, well defined clusters of wind farms). This would have to be backed up by robust reasons to do so, such as a settlement, or key transport corridor, or where the clusters are in separate landscape character types where the objective may be to maintain the distinction between those character types. Another factor referred to by SNH in identifying cumulative issues is the presence of regional landscape features (such as a firth or distinct hill range) which are important to the distinctive landscape character of the area.

6.54 The Southern Uplands Foothills and Pentland Hills between the M74, A70 and A702 lie between areas of cumulative development 3, 4, 6, 7 and 8 (see Table 6.2) and three of the areas of highest underlying capacity. It also includes the key landmarks of Tinto Hill and Black Mount, the loop of the upper Clyde and the southwestern terminus of the Pentland Hills, which extend in an unbroken chain 30km northeast to the city of Edinburgh. The area currently has no wind farms although there are over 30 consented turbines, predominantly under 30m tall with 15 concentrated in cumulative area 5 (see Table 6.2).

6.55 The area has a diverse landscape with a mix of landscape character types that extend outwith South Lanarkshire. This includes Foothills, Rolling Farmland, Plateau Farmland, Broad Valley Upland, Prominent Isolated Foothills, Old Red Sandstone Hills, Southern Uplands and Upland Glens. Many of these are of high landscape value and sensitivity and include extensive areas of local landscape designations (Pentland Hills and Black Mount SLA and Upper Clyde Valley and Tinto SLA) with very limited capacity for development.

6.56 The Landscape Capacity Study 2015, section 4 includes analysis of visibility from selected viewpoints and routes within and adjacent to South Lanarkshire. This concluded that the most visible parts of South Lanarkshire in relation to tourism and recreation routes and viewpoints lie in the north east of South Lanarkshire, around Tinto Hill, Biggar and Lanark. In addition, the Clyde Valley national tourist route runs through this area. This emphasises the importance of maintaining the existing landscape and visual resource of the Southern Uplands Foothills and Pentland Hills and protecting its quality. Development should be restricted in this area to maintain separation between surrounding areas with high cumulative change and help conserve distinctiveness in the South Lanarkshire landscape.

6.57 It is proposed that there should be no significant wind farm development in Southern Uplands Foothills and Pentland Hills area. The reasons for this are:

1. limited capacity for wind turbine development in key landscape types within the Southern Uplands Foothills and Pentland Hills area
2. the desire to maintain distinctiveness of landscape character across South Lanarkshire.
3. the importance of maintaining the distinctive regional landscape feature of the 'Pentland Hills' range
4. the strategic objective of avoiding coalescence of wind energy developments by maintaining a large gap between the most significant areas of cumulative wind energy development.

Taking into account SPP and SNH guidance it is considered that the 'Southern Uplands Foothills and Pentland Hills' area is identified as an area which prevents coalescence between existing clusters of wind farms and wind turbine developments.
Table 6.2 Description and Guidance for Areas of Significant Cumulative Development (see figure 6.2 and SG Map 2 for locations)

<table>
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<tr>
<th>Cumulative Area</th>
<th>Description</th>
<th>Key Development Guidance/Criteria</th>
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<tr>
<td>1</td>
<td>The <strong>Plateau Moorland</strong> and <strong>Plateau Farmland</strong> of Whitelee Moor on the border with East Ayrshire and East Renfrewshire, between East Kilbride and the Avon Water on which 66 turbines of Whitelee wind farm and associated developments including Calder Water and West Browncastle are located, with many more Whitelee turbines across the boundary to the west. This creates an extensive area of Wind Turbine Landscape, surrounded by a Landscape with Wind Turbines.</td>
<td>1. Avoid extension of a Wind Turbine Landscape into the surrounding <strong>Plateau Farmland</strong> and <strong>Upland River Valley</strong> areas and avoid significant increase in visual effects on Strathaven and East Kilbride by ensuring that there is sufficient setback/ screening of the main area of turbines, including use of landforms and trees, from these landscape character types and from single turbine developments located within them. 2. Avoid visual coalescence with cumulative areas 2 and 6 by limiting the extent of the main area of cumulative development and by limiting development of single turbine/ small scale developments to retain a Landscape with Occasional Wind Turbines in the intervening areas of <strong>Plateau Farmland</strong>, <strong>Rolling Farmland</strong> and <strong>Upland River Valley</strong>.</td>
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<tr>
<td>2</td>
<td>An area of <strong>Urban Fringe Farmland</strong> and <strong>Plateau Farmland</strong> between East Kilbride, Hamilton and Strathaven in which the six 115m turbines of Blantyre Muir and 14 other single or paired turbines between 15m and 80m tall are located, creating a Landscape with Wind Turbines, separated from area 1 by a Landscape with Occasional Wind Turbines.</td>
<td>1. Maintain separation of turbines to ensure there is no development of areas of Wind Turbine Landscape. 2. Give careful consideration to the position, scale and cumulative effects of developments close to the surrounding settlements including East Kilbride, Hamilton, Chapelton, Glassford and Strathaven. 3. Avoid coalescence with cumulative area 1 by limiting development and maintaining a Landscape with Occasional Wind Turbines in the <strong>Plateau Farmland</strong> and <strong>Urban Fringe Farmland</strong> between the two cumulative areas.</td>
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<td>3</td>
<td>The <strong>Plateau Moorland</strong> and <strong>Plateau Farmland</strong> between Carluke and the Pentland Hills on the northeast border with North Lanarkshire and West Lothian, containing most of Black Law wind farm, together with several other consented wind farms and turbines located either within South Lanarkshire or within the other local authorities but close to the boundary (Tormywheel, Pates Hill, Harburnhead, Pearie Law and Muirhall). This is separated from cumulative area 4 by an area of Landscape with Occasional Wind Turbines.</td>
<td>1. Maintain separation between windfarms and turbines within the <strong>Plateau Moorland</strong> to prevent extension of a Wind Turbine Landscape east of Climpie. 2. Maintain setback of main areas of turbines to avoid extension of a Wind Turbine Landscape into the surrounding <strong>Plateau Farmland</strong> and prevent further significant effects on the settlements of Carluke and Forth. 3. Avoid coalescence with cumulative area 4 by limiting development in the <strong>Plateau Farmland</strong>, <strong>Rolling Farmland</strong> and <strong>Plateau Moorland</strong> between the two areas to a Landscape with Occasional Wind Turbines. 4. Prevent further extension of the Landscape with Wind Turbines into the Pentland Hills.</td>
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<td>4</td>
<td>The <strong>Plateau Farmland</strong> and <strong>Rolling Farmland</strong> (together with small fragments of <strong>Plateau Moorland</strong>) surrounding Carstairs and Carnwath in which nearly 30 single or paired turbines of varied height between 15m and 80m are located, creating an area of Landscape with Wind Turbines.</td>
<td>1. Maintain separation of turbines to ensure there is no development of areas of Wind Turbine Landscape. 2. New turbines should relate well to form and height of existing turbines in closest proximity.</td>
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## Development management considerations

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<th>Key Development Guidance/Criteria</th>
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<tr>
<td>3</td>
<td>Avoid coalescence with cumulative area 3 by limiting development to a Landscape with Occasional Wind Turbines in the Plateau Farmland, Rolling Farmland and Plateau Moorland between the two areas of Landscape with Wind Turbines.</td>
<td></td>
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<tr>
<td>4</td>
<td>Give careful consideration to the position, scale and cumulative effects of developments close to the surrounding settlements including Carstairs, Carstairs Junction and Carnwath.</td>
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<tr>
<td>5</td>
<td>A small area of Plateau Farmland north of Biggar, between Black Mount and Biggar Common, in which some 15 turbines under 30m are located. Due to the small size of the turbines this remains a Landscape with Occasional Wind Turbines.</td>
<td>1. Avoid confused/ cluttered visual images with existing turbines by limiting turbine size to 30m. 2. Limit development level to a Landscape with Occasional Wind Turbines.</td>
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| 6              | A very extensive area south of the Avon Valley and either side of the M74 between Larkhall and Rigside including including two distinct areas of landscape character and development type:  
  - **Rolling Moorland** with several operational or consented wind farms (Bankend Rig, Dungavel, Kype Muir and Auchrobert);  
  - **Plateau Farmland** and **Rolling Farmland** with dozens of single or paired turbines and small wind farms, all with turbine heights varying from between 15m and 120m height.  
These developments create an extensive area of Landscape with Wind Turbines crossing from upland fringe into upland. This includes an area of Wind Turbine Landscape around Kype Muir and Auchrobert. | 1. Maintain separation between wind farms and turbines to avoid creating further areas of Wind Turbine Landscape. 2. Avoid visual coalescence with cumulative area 1 by limiting single turbine/ small scale developments in the intervening area of **Rolling Farmland, Plateau Farmland and Upland River Valley** (Avon Water). 3. Avoid physical or visual coalescence with cumulative area 7 by limiting developments in the intervening areas of **Upland River Valley** (River Nethan) and **Rolling Moorland**. 4. Give careful consideration to the position, scale and cumulative effects of developments close to the surrounding settlements including Larkhall, Stonehouse, Blackwood/Kirkmuirhill and Lesmahagow. 5. Give careful consideration to the setting of Lanark, New Lanark world heritage site and the Falls of Clyde by limiting the eastward extension of the Landscape with Wind Turbines to its current location on the crest of the Rolling Farmland. |
| 7              | An area of **Rolling Moorland** and **Plateau Farmland** between Douglas Water and the Nethan Valley with over 85 turbines in four wind farms: the operational Hagshaw Hill and Nutberry wind farms together with the consented Galawhistle and Dalquhandy wind farms. These wind farms create an area of Wind Turbine Landscape. | 1. Avoid coalescence with cumulative area 6 by limiting developments in the intervening areas of **Upland River Valley** (River Nethan), **Rolling Moorland**. **Plateau Farmland** and **Plateau Moorland**. 2. Limit further significant extension of the cumulative area into adjacent **Upland River Valley** (Douglas Water) landscape to the south and southeast. 3. Give careful consideration to the position, scale and cumulative effects of developments close to the surrounding settlements including Coalburn and Douglas. |
## Development management considerations

### Cumulative Area

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<th>Cumulative Area</th>
<th>Description</th>
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| 8               | **The Southern Uplands and Upland Glens** east of the Clyde and Daer and adjacent to Scottish Borders, in which the 206 turbines of Clyde wind farm and its consented extension are located. This creates a mixture of Wind Turbine Landscape and Landscape with Wind Turbines, depending on topography and the degree of separation of turbine groups. | 1. Other wind farms should be clearly separated from Clyde wind farm:  
2. Limit further significant northward wind turbine development to avoid extension of Landscape with Wind Turbines into the Southern Upland Fault area or onto Culter Fell and to avoid visual coalescence with Glenkie wind farm to the northeast in Scottish Borders  
3. Limit further significant southward development to maintain clear visual and physical separation from Harestanes wind farm in Dumfries and Galloway.  
4. Any proposed wind farm to the west of Clyde wind farm should be separated from the latter by at least 10km or two ridges and valleys.  
5. Avoid further extension of Landscape with Wind Turbines/ Wind Turbine Landscape of Clyde wind farm down slopes into **Upland Glen** areas. |

### Requirements for Cumulative Impact Assessments

Four or more turbines:

- All applications for four or more wind turbines must contain a cumulative landscape and visual impact assessment prepared in accordance with current SNH guidance (see Appendix 1).

- **35km cumulative study area** - for all developments with four or more turbines.

- To include single, two and three turbine developments (above 15 metres in height) up to a 10km radius of the proposed development (to be agreed with the planning authority).

Single/small scale developments (up to three turbines):
The Council may request that developers of smaller schemes submit a cumulative impact assessment.

- The cumulative study area requires to be agreed prior to the submission of the application with the relevant Planning Area office.
- To include single, two and three turbine developments (above 15 metres in height) and wind farm developments up to a 10km radius of the proposed development (to be agreed with the planning authority).

All cumulative landscape and visual impact assessments must include all operating and consented schemes and those that are the subject of valid but undetermined applications. Assessments must consider where appropriate, sequential effects that may extend beyond the Council area.

At present the scale and nature of other types of renewable energy development proposals in South Lanarkshire is not considered to raise issues relating to cumulative impact. However the Council will keep this under review and should issues emerge during the lifespan of the SG then cumulative impact assessments may be requested for such developments.

Impacts on communities and individual dwellings, including visual impact, residential amenity, noise and shadow flicker

6.60 SPP states that individual properties and those settlements not identified within the development plan will be protected by the safeguards set out in the local development plan policy criteria for determining wind energy developments and the development management considerations taken into account when determining individual applications.

6.61 There is currently no standard minimum distance specified in Scottish Government guidance between residential properties and turbines. The renewable industry standard for the distance from non-financially involved residential properties to a turbine is approximately 500-600 metres. The Council will assess all proposals on their merits taking into account turbine height, rotor diameter and number of blades, local topography and landscape features.
Residential visual amenity

6.62 For all wind turbine proposals of more than 15 metres the Council will expect an assessment to identify the likely significant effects of the proposals on residential visual amenity. The need for a Residential Visual Amenity Survey (RVAS) requires to be determined on a case by case basis. The survey of residential visual amenity may vary but can extend up to 5km from the proposed development site.

6.63 The residential visual amenity survey is in addition to the consideration of particular viewpoints that have been assessed under the Landscape and Visual Impact Assessment. Consideration should also be given to the cumulative impacts of wind farm and wind turbine developments within the area as experienced from residential properties (see section on cumulative impacts).

6.64 At present there is no published guidance on the extent of study areas for residential amenity surveys. However, the potential effects of wind turbine developments on residential amenity and living conditions has been examined in detail at recent public inquiries. Taking account of this it is considered that the residential visual amenity survey area is required if the impact on residential visual amenity could potentially be so great as to materially affect the living conditions of the occupiers.

Requirements for Residential Visual Amenity Survey

The residential visual amenity survey should assess the impact of the proposal from the following parameters:

- distance of the property from the development
- extent of the development in the view from the property
- angle of view in relation to orientation of the property
- proportion of the view from the property occupied by the development
- local context in which the development is seen
- extent of other built development visible from the property, in particular vertical elements
- screening effect of intervening landscape elements such as local landform and vegetation (woodland tree cover and hedges).

The residential visual amenity survey and assessment should be undertaken in accordance with best practice guidance: ‘Guidelines for Landscape and Visual Assessment, 3rd Edition’.

6.65 The approach taken by reporters in Scotland and inspectors in England confirms that no individual has a legal right to a particular view. However, there may be circumstances where the proximity, size and scale of a wind energy development would render a residential property 'so unattractive a place to live' - albeit not uninhabitable - that planning permission should be refused. This may be the case where turbines affect visual amenity in a way that is 'unpleasantly overbearing' or where they are 'inescapably dominant and overwhelming'.

6.66 The appropriate distance from residential properties should, therefore, be determined by the size and proximity of the turbines, orientation of views, local topography, the position of buildings, vegetation and trees and the spread or extent of the turbines.

The turbine/s should not have an overbearing presence or dominate adjacent residential buildings.
SNH guidance Siting and Design of Small Scale wind turbines between 15 and 50 metres in height (2012) advises that the height of the turbine in relation to nearby buildings and structures should be considered.

**Noise**

There are two main types of noise associated with wind turbines: mechanical noise produced by the gearbox and generator, and aerodynamic noise produced by the movement of the blades through the air. Noise can be influenced by a number of factors including turbine design, local topography and land cover and prevailing climatic conditions.

All applications for wind turbine developments should be accompanied by a site specific noise assessment. Noise assessments may also be required for other renewable energy developments. The applicant shall undertake a noise assessment to determine the impact of noise from the proposed development on nearby dwellings and any noise sensitive premises taking cognisance of the Scottish Government document Planning Advice Note 1/2011 Planning and Noise.

For single/small scale wind energy developments the noise assessment should use the principles set out in the document 'Small turbine performance and safety standard' February 2008 published by the British Wind Energy Association.

For wind farm developments, the guidance and the application of the appropriate limit for day time and night time limits should follow ETSU-R-97 and will be used by planning authorities to assess and rate noise from wind energy developments, until such time as an update is available. This should be used together with Institute of Acoustics (IoA) Best Practice Guide (A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, May 2013).

For small scale wind energy developments the applicant will ensure that noise associated with the proposed development measured as LA90, T shall not exceed the prevailing background noise level +5dB at anytime.

For wind farm developments the applicant shall ensure that noise associated with the proposed development shall not exceed a level of between 35dB to 40dB, measured LA90, T or the prevailing background noise level +5dB, during the day time period, whichever is greater, and shall not exceed 43dB measured as LA90, T or the prevailing background noise level +5dB during the night time period, whichever is greater, for nearby noise sensitive dwellings. For involved dwellings the limits shall not exceed 45dB LA90 T or the prevailing background noise level +5dB, whichever is greater. The factors for deciding the exact limit are set out in ETSU-R-97.

For any wind energy development will be required to consider the cumulative noise effects of any nearby wind turbine developments, either operational, approved or under construction at the time of submission of the application.

The Scottish Government's online guidance for Onshore Wind Farms provides links to various publications setting out technical advice for the measurement and assessment of wind farm and turbine noise.
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Shadow flicker

6.76 In certain circumstances shadow flicker from turbines can cause a nuisance for neighbouring properties. Scottish Government guidance advises that where there is sufficient separation between wind turbines and nearby dwellings (as a general rule a distance of greater than 10 rotor diameters), shadow flicker should not be a problem. For properties within 10 rotor diameters of a turbine under the right conditions and circumstances shadow flicker could occur and as such the Council would expect an assessment to be undertaken by the applicant to assess potential effects.

Impacts on peatland and carbon rich soils, using the carbon calculator

6.77 The Scottish Government’s published method for assessing carbon losses and savings requires to be carried out. Developers are expected to follow best practice for minimising carbon emissions and disturbance of peat, and the carbon calculator represents a useful tool in assessing proposed practices. Full details of this can be found on the Scottish Government website wind farms and carbon.

6.78 The 2000 Land Cover Map of Great Britain indicates that the main concentrations of peatland in South Lanarkshire are located in the upland areas, particularly along the northern and western boundaries of the area. This data is now augmented by the SNH consolidated spatial dataset of carbon-rich soil, deep peat and priority peatland habitats in Scotland derived from existing soil and vegetation data (see section 4 of this SG).

6.79 Often these areas coincide with other designated sites (SPA, SAC, SSSI). The areas of peat which are not covered by any designations are not excluded from wind farm development but require to be subject to good on-site peat management practices to ensure minimum carbon loss (refer to Good Practice During Windfarm Construction (SNH, SEPA, FCS and Scottish Renewables 2015) and relevant current guidance on peat management. SEPA’s 2014 document Planning Guidance on onshore windfarm developments is also a useful source of advice. Applications which affect peatland or carbon rich soils may require a Peat Management Plan to be prepared.

6.80 If turbines and associated infrastructure (turbine foundations, array road network, drainage) are to be located in areas of peat a detailed peat survey undertaken in accordance with current SEPA guidance is required in order to inform the assessment of the proposal. Where proposals affect peat and carbon rich soils, developments must be designed to minimise soil disturbance when building and maintaining tracks, turbine bases and other infrastructure to ensure that the carbon balance savings of the scheme are maximised. Where relevant, developers will be expected to provide geotechnical and hydrological information in support of applications, identifying the presence of peat at each site, including the risk of landslide connected to any development work.

6.81 Current SEPA guidance emphasises that developing on peat sites can raise significant issues in relation to re-use of excavated peat and disposal of peat waste. There are important waste management implications regarding measures to deal with surplus peat as set out within SEPA’s Regulatory Position Statement - Developments on Peat. Landscaping with surplus peat (or soil) may not be of ecological benefit and consequently a waste management exemption may not apply. In addition, the disposal of a significant depth of peat is considered landfilled waste and this may not be consentable under SEPA’s regulations. It is therefore essential that the scope for minimising the extraction of peat is explored and alternative options identified that minimise risk in terms of carbon release, human health and environmental impact. SEPA has prepared guidance for developers on peat survey requirements.
Early discussion with SNH, SEPA and the Council's Countryside and Greenspace Service is recommended where wind farm developments are likely to affect peatland or mire systems. Such developments may require a habitat management plan to be submitted (see paragraph 6.14 above) dealing with mitigation measures.

Prime agricultural land

SPP emphasises the need for the protection of prime agricultural land (classes 3.1 and above). Renewable energy development may be acceptable where restoration proposals will return the land to its former status. See Criteria 23 of Assessment Checklist in Section 7.

Public access

SPP requires consideration of public access including impact on long distance walking and cycling routes and scenic routes identified in the NPF. The Council recognises the importance of outdoor access (walking, cycling, horse riding and non-motorised water based activities) for both the health and social wellbeing of communities and economic vitality of the area. The South Lanarkshire Core Path Plan should be referred to, however, core paths are only one component of the overall outdoor access provision of the area. Core paths will be supplemented by and linked to a more extensive network of access routes (non core paths). There are a number of strategic long distance walking and cycling routes in South Lanarkshire including the Clyde Walkway, Southern Upland Way and elements of the National Cycling Network. These are important visitor attractions. NPF 3 makes provision for a 20km extension of the Clyde Walkway from New Lanark to Biggar.

Any impacts from renewable energy developments on core paths, wider access network routes and recreational uses across South Lanarkshire require to be fully assessed and, if appropriate, proposed mitigation measures require to be identified. The visual impact of renewable energy developments from core paths and strategic routes is an important consideration. The SG seeks to ensure that views from key routes will not be significantly adversely affected by development.

Wind farm array road networks (turbine service roads) are of importance for recreational access purposes and are often strategically important in linking up elements of the longer distance routes network as well as offering considerable potential for extending the access network provision (for walking, cycling and horse riding) for local communities. The Land Reform Act creates a statutory right of non-motorised access to most land and inland water in Scotland for the purpose of recreation and passage. There are, however, certain exceptions to this right on grounds of safety, security and privacy. This should be recognised by developers and appropriate public access provision should be incorporated in proposals and an Access Management Plan prepared aimed at addressing the development and future management of the site for recreational access use.

Impacts on the historic environment, including scheduled monuments, listed buildings and their settings

Historic environmental resources are widely distributed across South Lanarkshire, these include:

- Gardens and designed landscapes
- New Lanark World Heritage Site and its setting and buffer zone
- Historic battlefields
- Listed buildings
- Conservation areas
- Scheduled monuments
- Archaeology

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The first three listed above are international/national designations and are identified as areas of significant protection in the spatial framework for onshore wind (see chapter 4 of SG). In general, historical environmental resources are widely dispersed throughout South Lanarkshire. In these circumstances, impacts arising from renewable energy development should be assessed at project level and mitigated where possible.

Renewable energy developments have the potential for direct and/or indirect impacts on the historic environment by virtue of the location of wind turbines and ancillary development, or changes to ground water levels or surface water patterns, which may affect archaeological deposits. Developments can be designed to avoid or minimise such impacts. Historic Environment Scotland’s guidance on setting explains how the impact of change can be assessed and mitigated.

The Council considers that the policies in the LDP for the protection of the historic environment continue to provide an adequate basis for the assessment of renewable energy proposals. Renewable energy developments of any scale must accord with Policy 15 Natural and Historic Environment of the SLLDP and the detailed policies/guidance on designations set out in the Natural and Historic Environment SG.

International and National Historic environmental designations are shown on Map 1 of this SG (Spatial Framework) and local designations are shown on Map 2 (Development Management Considerations).

Applications for renewable energy developments must:
1. identify historic assets that could be affected by the development
2. consider the potential for direct impacts on historic environment assets from components of the application such as turbine bases, access tracks and ancillary structures
3. consider the potential for impacts on the setting of historic environment assets by identifying the setting of assets within the vicinity of the proposal and assessing the potential impact of the development on these settings
4. consider the potential for cumulative impact on historic environmental assets
5. consider opportunities for improving the accessibility of historical assets and their interpretation.

Impacts on tourism and recreation

Tourism and recreation and renewable energy developments are not necessarily incompatible. Frequently those areas which are important for tourism are often protected by other designations, as is the case in South Lanarkshire where the most popular destinations are already covered by designations (World Heritage Site, National Nature Reserves (NRR), Country Parks, historic gardens/designed landscapes and Special Landscape Areas).

The visual impact of renewable energy developments from tourist routes and viewpoints is an important consideration. The Clyde Valley National Tourist Route passes through South Lanarkshire. The SG seeks to ensure that views from key tourist routes and visitor attractions will not be significantly adversely affected by development. Further guidance on public access routes is set out above. The Landscape Capacity Study for Wind Turbines 2015 carried out an analysis of visibility from selected viewpoints and routes within and adjacent to South Lanarkshire (refer to Section 4 of Capacity Study 2015). This concluded that the most visible parts of South Lanarkshire in relation to tourism, recreation routes and viewpoints lie in the north east of South Lanarkshire, around Tinto Hill, Biggar and Lanark.
Views from key tourist routes, including the Clyde Valley National Tourist Route, and visitor attractions must not be significantly adversely affected. Any impacts identified on tourism and recreational facilities and uses require to be assessed in full and proposed mitigation measures identified where appropriate.

Impacts on aviation and defence interests and seismological recording

South Lanarkshire is affected by a number of aviation and defence interests:

- The northern part of South Lanarkshire is within the radar coverage for Glasgow Airport.
- An area on the western edge of South Lanarkshire is within the radar coverage for Prestwick Airport.
- The north east of South Lanarkshire is within the radar coverage for Edinburgh Airport.
- Almost all of South Lanarkshire is identified by NATS (En Route) plc (NERL) as an area where wind farm developments are likely to interfere with operational infrastructure.
- The south of South Lanarkshire is within the 50km buffer zone around Eskdalemuir Seismic Array.
- MOD Tactical Training Area (TTA) covers the southern and western area of South Lanarkshire (low flying operations take place across all of South Lanarkshire not just in the TTA).
- There is a small airfield at Strathaven, where local safeguarding requirements apply.


The relationship between wind farm development and aviation and defence interests is an evolving field. Current advice from the aviation industry and Ministry of Defence (MoD) is that development proposals will continue to be assessed on a case by case basis. However, all developers of wind turbines are advised that early engagement with the relevant consultees is essential to determine the nature of any issues and identify possible mitigation at an early stage.

NATS (En Route) plc (NERL) offer a pre-planning service to developers. All pre-planning enquiries and scoping requests should be made via the pre-planning service on NATS website.

There are particular issues with regard to radar capacity in the south west of Scotland. Early in 2009 a group was set up under the leadership of the Scottish Government Energy Consents and Deployment Unit (ECDU) to investigate the potential for solutions to the radar-based objections affecting a significant number of consented or proposed developments in the south-west of Scotland. The South-west Scotland Regional Aviation Solution Group’s work concluded with the publication in February 2010 of the South West Scotland Regional Aviation Solution Group Final Radar Feasibility Study. This report made recommendations as to opportunities for further use of existing “blanking and infill” infrastructure informed by the development proposals at that time. Further, the Scottish Government published its guidance on the use of aviation suspensive conditions in January 2012. In place of the 2009 working group, the Scottish Government has sought to continue
engagement between aviation stakeholders and the wind industry to
look for future regional solution opportunities through the Scottish
Windfarm Aviation Group (SWAG).

6.100 Eskdalemuir Seismological Recording Station is located in
southern Scotland. The Eskdalemuir Seismic Array is one of 170 seismic
stations across the world used to monitor compliance with the
Comprehensive Nuclear-Test-Ban Treaty. The UK is bound by the
Test-Ban Treaty not to compromise the detection capabilities of the
Eskdalemuir station, and it is the responsibility of the MoD to safeguard
this station. A study in 2004, commissioned by the Eskdalemuir Working
Group (EWG), showed that wind turbines generate ground vibrations
that could interfere with Eskdalemuir Seismic Array. To safeguard the
Seismic Array, MoD manage a statutory consultation zone for wind farm
planning applications within a radius of 50km around the station using
a noise budget. The EWG has completed its re-assessment of the
Eskdalemuir safeguarding criteria in May 2014 with the publication of a
report by Xi Engineering, Seismic vibration produced by wind turbines
in the Eskdalemuir region (Release 2.0). Based on this work, the MoD
has reviewed its cumulative seismic budget allocation and concludes that
the Eskdalemuir noise budget has not been fully allocated and therefore
there remains capacity for further development within the Eskdalemuir
consultation zone. The Scottish Government issued guidance based on
these findings in May 2014.

6.101 The impacts of the proposal on radar performance, defence
interests and other air safety and seismological recording considerations
must be satisfactorily addressed and demonstrated to the satisfaction of
the relevant technical authorities. Developers are strongly advised to
seek early engagement with the relevant consultees.

6.102 The use of suspensive conditions to address aviation issues,
on planning consents for wind energy developments will not be considered
unless the principle of the type of solution to be developed has been
established with the appropriate operator and there is agreement between
the developer and the relevant operator that such a solution can be
delivered in a reasonable time frame.

Solar Farms

6.103 Due to the potential impact solar PV arrays may have on aviation
safety, developers are advised to consult with all aerodrome operators
at an early stage in the development process. PV systems should be
designed to avoid adverse effects from reflected light and thus conform
to the Air Navigation Order 2009, specifically Articles 137, 221 and 222.

- Article 137 - Endangering safety of an aircraft.
- Article 221 - Lights liable to endanger.
- Article 222 - Lights which dazzle or distract.

6.104 Consideration of the impacts from installed lighting and the
potential for glint and glare associated with the development will need
to be taken into consideration.

Impacts on telecommunications and broadcasting
installations

6.105 The siting of wind turbines must have regard to radio, television,
telecoms and other communication systems particularly ensuring that
transmission links are not compromised. The construction of tall
structures, including wind turbines, may impact on wireless services
including wireless links or domestic broadcast reception. More information
on these effects is available in an Ofcom guidance document, Tall structures and their impact on broadcast and other wireless services. Developments shall be assessed by consultation with relevant operators.

6.106 Scottish Power and Scottish Water radio telemetry links are located within some parts of South Lanarkshire. Wind turbine developments have the potential to cause interference to radio systems operated by energy companies in support of their operational requirements for the management of critical national infrastructure. If turbine proposals are assessed as causing interference to a protected link, discussions with the appropriate operator is required at an early stage to determine if there is a solution through siting, design or other mitigation.

6.107 Where there are potential issues with TV reception the developer will be required to carry out appropriate surveys. A baseline/pre-construction study involves measurements of baseline television and radio reception conditions, prediction and assessment of impacts and effects and the identification of suitable mitigation. Post-construction study includes measurements and analysis of post-construction reception conditions, assessment of actual impacts and identification of suitable mitigation.

6.108 It must be demonstrated no electromagnetic disturbance is likely to be caused by the proposal to any existing transmitting or receiving system, or where such disturbances may be caused, that measures will be taken to remedy or minimise any such disturbances. In relation to TV reception, pre-surveys should be carried out and agreed demonstrating the baseline position, and if required, appropriate mitigation measures and remedial procedures should be agreed with the Council.

Impacts on road traffic and on adjacent trunk roads

6.109 Road and traffic impacts require to be identified in the application submission. In siting wind turbines close to major roads, it is recommended that pre-application discussions are held with Transport Scotland’s Trunk Road and Bus Operations (TRBO). This is also particularly important for the movement of large components (abnormal load routing) during the construction period, periodic maintenance and for decommissioning. Where the trunk road network is to be used to transport turbine components to site then an abnormal load route assessment should be undertaken and submitted to Transport Scotland for consideration. The assessment should identify the preferred route to site and should identify any pinch points on the trunk road network where mitigation measures may be required. Swept path analysis should be included to help identify the nature and extent of the trunk road mitigation required. In terms of siting and design, it is recommended that a minimum set back from roads and railways is one and half times the height to tip of the turbine proposed, though this will be considered in detail on a case by case basis.

6.110 For wind farm developments (of three or more turbines) a Transport Assessment will be required. Prior to drafting the Transport Assessment, a Roads and Transportation Transport Assessment/Statement Scoping form is required to be completed and approved to ensure the necessary details are submitted with the application. Details of the development will be required such as programme of works including, junction requirements, phases of development, volume and frequency of vehicles, impact on road network, surveys (including swept path analysis) and travel plan. Where appropriate, the Assessment should demonstrate the likely impacts of the development on the trunk road network. If a proposal involves locating wind turbines close to the Trunk Road Network, approval will be required from Transport Scotland who will require to be satisfied that the proposal will not adversely affect the
Development management considerations

safety and free flow of the trunk road network. It should be noted that any new or modified direct access from the trunk road network will require approval from Transport Scotland. The design of the new or modified access junction will require to be designed in accordance with the Design Manual for Roads and Bridges (DMRB).

6.111 The construction of wind energy developments can have significant short term impacts on the road network. Access for construction traffic must not compromise road safety, residential amenity or cause significant permanent damage to the environment. Applicants must provide an assessment of the traffic impact during both the construction and operational periods and demonstrating suitability of the transport routes for delivering turbine and other components from their source. It is likely that the developer will be required to enter into a Section 96 Agreement with the Council or agree to an upfront payment for smaller sites. Where appropriate, pre and post construction road surveys will be required to be completed that cover damage to public roads by construction traffic. A bond or guarantee may be required to cover the cost associated with this damage.

6.112 Where appropriate, an appraisal of the ecological and landscape/visual impacts associated with road construction/upgrading will be required from the developer. Any impacts of road construction/upgrading on Natura 2000 sites or Protected Species must comply with paragraph 6.9 above and criterion 1 of the Assessment Checklist.

6.113 The siting and design of solar farms should take account of the effect of glint and glare on the road transport network and include appropriate mitigation measures, where required.

Effects on hydrology, the water environment and flood risk

6.114 Renewable energy developments can have a significant effect on the water environment for example, watercourses, lochs, wetlands and riparian areas. A principal concern is the potential impact from construction works in, or adjacent to, water bodies. These works may involve watercourse crossings, river bank modifications and/or culverting. The most appropriate water crossing, from a technical and environmental perspective requires to be considered.

- Water quality and quantity

6.115 Water abstraction and impacts on water resources for example, springs are also important considerations. Roads, foundations and other construction works associated with large scale developments can disrupt groundwater flow and impact on groundwater abstractions. To address this risk a list of groundwater abstraction both within and outwith the site boundary, within a radius of i) 100m from roads, tracks and trenches and ii) 250 m from borrow pits and foundations) should be provided. Where appropriate, applications which gain consent will require to submit a Water Quality Management Plan prior to commencement of construction.

6.116 It is recommended that pre-application discussions for proposals and applications for wind energy developments should be undertaken with Scottish Water so that they can be assessed for any impact on:

- drinking water quality and quantity
- below-ground assets
- radio telemetry interference
This allows Scottish Water to assess any potential impact on its operations and suggest adequate control measures if required.

6.117 Waters used for the abstraction of drinking water have to comply with the requirements of Article 7 of the Water Framework Directive. The general objective of this Article is: To protect bodies of water used for the abstraction of water intended for human consumption avoiding deterioration in quality in order to reduce the level of purification treatment required. This has been interpreted to mean avoiding additional requirement for treatment and not the removal of treatment systems. Scottish Water can advise of precautions to take if an activity falls within or comes within close proximity to a Drinking Water Protected Area. The Scottish Government website has maps showing these areas. Protected Areas Maps 2013.

- Ecology

6.118 The Water Framework Directive also requires maintenance of the good ecological status of water bodies and consideration of any potential impacts on hydromorphological and hydrological processes. These issues may be a constraint to wind farm developments and other renewable energy developments in terms of site location, layout and design. Proposals should avoid impacting Groundwater Dependent Terrestrial Ecosystems (GWDTEs). GWDTEs are types of wetland, specifically protected under the Water Framework Directive. A phase 1 habitat survey should be carried out for the whole site and the guidance contained in A Functional Wetland Typology for Scotland should be used to identify all wetland areas. National Vegetation Classification should be completed for any wetlands identified. The results of the National Vegetation Classification survey should be used to identify if wetlands are GWDTEs. If any GWDTEs are located within a radius of (i) 100 m from roads, tracks and trenches or (ii) 250 m from borrow pits and foundations, the likely impact of these features will require further assessment. Further guidance can be found in SEPA planning guidance on onshore windfarms developments.

6.119 In addition, a fisheries habitat survey following the Scottish Fisheries Coordination centre method require to be carried out on all areas directly (e.g. watercourse crossings) or indirectly (e.g. sediment run off) affected by the proposal along with appropriate buffers up and downstream. This would inform the likelihood of the presence of salmonids, eels, freshwater pearl mussel and other freshwater protected species and therefore identifying the need or otherwise for species specific surveys. Where there is connectivity to protected areas (e.g. a river Special Area of Conservation), a higher level of survey and targeted assessment may be required.

- Flood Risk

6.120 The Council's Flood Risk Management requirements must be adhered to, which include providing details and information on Sustainable Drainage Design (SuDS) and flood risk. A SuDS serving a proposed development site requires to be designed and independently checked in accordance with the Council's SuDS Design Criteria Guidance Note. It is expected the surface water runoff will be collected, treated, attenuated and discharged using sustainable urban drainage techniques in accordance with the latest industry guidance listed within Section 3.0 of the Council's SuDS Design Criteria Guidance Note.

6.121 To ensure the risk of flooding to the proposed development site from any source is at an acceptable level as defined in the Scottish Planning Policy and there is no increase in the future flood risk to adjacent land as a result of the proposed development, a Flood Risk/Drainage
Assessment and Independent Check are to be carried out in accordance with the latest industry guidance listed within Section 4.0 of the Council’s SuDS Design Criteria Guidance Note.

6.122 The Council’s self-certification for SuDS, flood risk, professional indemnity insurance and future maintenance responsibilities of SuDS apparatus are contained in the SuDS Design Criteria Guidance Note and require to be completed to the satisfaction of the Council prior to the commencement of development. This can be obtained from the Flooding Section of the Council’s Roads and Transportation Service (see Appendix 5 Contact details).

- Hydro

6.123 Hydro proposals should have regard to the above guidance where appropriate. In addition, at the early stages in the planning process developers should apply the SEPA Guidance for developers of run-of-river hydropower schemes. This sets out how SEPA intends to achieve Scottish Ministers’ policy objectives and contains guidance on the developments that are likely to be acceptable. SNH also has guidance on hydroelectric schemes and the natural heritage (2012).

The need for conditions relating to the decommissioning of developments, including ancillary infrastructure and site restoration

6.124 Renewable energy applications must acknowledge the need for decommissioning, restoration and aftercare at the end of the permission or the life of the turbines, if earlier. Conditions, requiring a restoration bond or other approved mechanisms to be put in place, will be imposed on any permission granted. These conditions will also include a requirement for implementation measures to be agreed with the Council in accordance with best practice at the time. Key elements of decommissioning and restoration are shown in Table 6.3.

6.125 An outline Decommissioning/Repowering Plan (DRP), following SNH guidance (Decommissioning and Repowering plans for onshore wind farms (2014)), should be submitted as part of the Environmental Statement (or other environmental report supporting a planning application). As it is anticipated that there would be some 25 years between construction and decommissioning/repowering, the outline DRP should be brief. However, it should still provide an appropriate level of detail about how the site infrastructure may be removed and how the site is intended to be restored. In the 3-5 years prior to the year of decommissioning/repowering, the DRP should be revised and completed to provide full details of decommissioning/repowering, and then submitted for approval. Further survey work may be required to inform the final DRP.

6.126 Developers are required to satisfy the Council that the plan for decommissioning and restoration of the proposed development is robust and any consent granted will require to have a decommissioning and restoration condition attached. The purpose of the condition is to return the site to as near to its original state as is feasible in a practicable and environmentally sound way. Wind turbine development permissions are time limited, usually for 25 years, with a requirement that the decommissioning and restoration takes place at the end of this period or sooner if the wind turbines cease operational use before then.
### Table 6.3

<table>
<thead>
<tr>
<th>Key Element</th>
<th>Description of restoration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbines</td>
<td>Removal of blades, hub, nacelle, gear box, tower. Requires crane to dismantle and involves abnormal loads.</td>
</tr>
<tr>
<td>Turbine base</td>
<td>Remove base approximately 1 metre of top of concrete base and backfill above and around base. Excavator and dump trucks required and dispose/recycle of material.</td>
</tr>
<tr>
<td>Transformer</td>
<td>Remove electrical components and concrete base. Break and remove concrete and dispose/recycle material. Low-loader required.</td>
</tr>
<tr>
<td>Crane Pad</td>
<td>Remove hardstanding. Excavator and dump trucks required and dispose/recycle of material.</td>
</tr>
<tr>
<td>Tracks</td>
<td>Reinstate as required, excavator and dump trucks required and dispose/recycle of material.</td>
</tr>
<tr>
<td>Control Buildings</td>
<td>Reinstate as required, excavator and dump trucks required and dispose/recycle of material.</td>
</tr>
<tr>
<td>Substation</td>
<td>Isolation of electrical power. Controlled removal using cranes and specialist contractors. Reinstate base as required, excavator and dump trucks required and dispose/recycle of material.</td>
</tr>
<tr>
<td>Cables</td>
<td>Remove using extractor to pull out of trench or duct. Load onto tippers and dispose/recycle of material.</td>
</tr>
</tbody>
</table>

### Opportunities for energy storage

**6.127** Energy storage allows renewable energy to be captured and set aside for use when and where it is needed. The energy storage technologies are developing and it is considered that energy storage opportunities could facilitate the expansion of variable renewable energy sources such as wind and solar.

**6.128** At this time further investment in research and development of energy storage opportunities is required. Though as technology and the market advances, more developments of this nature are likely to come forward. The Council will consider proposals for energy storage on a case by case basis.

### The need for a robust planning obligation to ensure that operators achieve site restoration

**6.129** The requirement for decommissioning and restoration plans is noted above. In addition to proposed plans, the Council requires a financial bond or guarantee to be put in place to meet all the expected costs of the proposed decommissioning and restoration phase.

**6.130** The bond or guarantee will require to be satisfactory to the Council and requires to meet the following criteria:

- There shall be no commencement of development or operations at the site until the guarantee or bond is satisfactory to the Council.
- The bond or guarantee will be lodged for a period from the date of commencement of development to a date no earlier than 24 months after the date of completion of the restoration and /or aftercare.
- The guarantee or bond shall be increased on an annual basis by the same percentage increase in BCIS Output Price Index for New Construction (2010).
The guarantee or bond is from a financial institution, bank or building society that is of sound financial standing and capable of paying the Indexed Restoration Sum.

- The guarantee or bond is enforceable by the Planning Authority either (a) for the whole Guarantee Period or (b) for a period not less than five years.

- The Planning Authority is entitled to make a claim on the Guarantee for the Indexed Restoration Sum (a) on a breach of the restoration and aftercare conditions (b), for a breach of the requirements set out in the guarantee/bond criteria, (c) for a breach of the requirement for a guarantee/bond to be in place for the guarantee period.

Other considerations for renewable energy proposals

**6.131** The following matters are not specifically referred to in paragraph 169 of SPP but nevertheless are important considerations in the assessment of wind energy and other renewable energy proposals.

**Forestry and woodland**

**6.132** Woodlands within South Lanarkshire are under increasing pressure from wind energy developments. The Scottish Government's Control of Woodland Removal Policy includes a presumption in favour of protecting woodland resources and woodland removal should only be allowed where it would achieve significant and clearly defined additional public benefits. Compensatory planting is generally expected where woodland is removed in association with development and will be taken into account when assessing proposals.

**6.133** The effects that the proposed development will have on woodlands and the consequences that woodland removal will have on the ecology and landscape of the area and environs requires to be fully assessed. The information submitted with the application requires to adequately address the impact that the felling associated with the development will have on the environment and how the felling proposals adhere to the UK Forestry Standard Guidelines and the Scottish Government’s Control of Woodland Removal Policy. Design options to minimise the necessity for tree removal should be considered.

**6.134** In some cases South Lanarkshire has an extensive forestry and woodland coverage and this often coincides with upland areas which have potential for wind farms. In order for a full assessment to be undertaken on the removal of woodland, the following requires to be provided as part of the planning application:

- A Forest Plan that details all major forest operations over the lifespan of the wind farm. When developing the plan, the developer should follow Forestry Commission Scotland's Strategic Forest Plan guidance. All operations should be compliant with the UK Forest Standard. The restructuring of the woodland area may increase the diversity of tree species and habitats with biodiversity benefits for habitats.

- A woodland habitat assessment in terms of its social, economic and environmental value

- Proposed mitigation for area of woodland to be felled. Where compensatory planting is required, full details should be provided that are compliant with the UK Forest Standard. The compensatory planting land must have the necessary forestry consents to allow tree planting.

- An assessment of the landscape impact of the felling plans. The developer should refer to the UK Forest Standard, Forest and Landscape guidelines when undertaking this assessment.

- Where the technique of key holing turbines into woodlands is proposed, this prescription must be supported by a full description
of both the top height and yield class of the surrounding woodland, as well as the topography of the site. This information is necessary to demonstrate how these factors influence wind flow and inform the extent of felling that is required to mitigate against reductions in wind yield.

- Where it is proposed to fell significant quantities of trees to accommodate a proposal, then consideration of how forestry waste will be disposed of needs to be provided as part of the planning application. Further information can be found in SEPA Guidance on management of forestry waste.

6.135 Any wind energy proposal that includes woodland removal should therefore be discussed at an early stage with Forestry Commission Scotland (FCS) and take account of the advice in the Scottish Government’s Control of Woodland Removal Policy, Scottish Forest Strategy and Glasgow and Clyde Valley Forest and Woodland Strategy. Where forestry occurs on peatland, additional guidance should be sought regarding habitat restoration proposals and early engagement with FCS and the Council’s Countryside and Greenspace Service is advised.

Environmental protection

6.136 A Construction Method Statement (CMS) and Environmental Management Plan (EMP) should be submitted for wind energy developments for four turbines or more. These documents should also take into consideration SEPA’s Pollution Prevention Guidance Notes. A finalised CMS and EMP will be required through a condition attached to any consent granted for wind energy developments for four or more turbines. It may be appropriate to require a similar level of information for developments with three or less turbines in particular cases or for renewable energy developments other than wind.

Scottish Water assets

6.137 There may be waste water and/or water assets which are above and/or underground in the area that may be affected by the proposed development. Copies of water or waste water network drawings can be ordered from the undernoted Asset Plan Providers who have developed internet based, plan collation services which deliver substantial benefits over traditional methods of plan provisioning. Site Investigation Services (UK) Ltd. Tel: 0333 123 1223 Email: sw@sisplan.co.uk Website: www.sisplan.co.uk National One-Call Tel: 0844 800 9957 Email: swplans@national-one-call.co.uk Website: www.national-one-call.co.uk/swplans. Scottish Water can supply a list of precautions to take if an activity may impact on water and/or water assets above and/or underground.

Notifiable Installations and exclusion zones

6.138 When locating wind turbines and other renewable energy infrastructure attention must be paid to their proximity to notifiable installations and exclusion zones. In South Lanarkshire there are a number of high pressure gas pipelines and an ethylene pipeline. The locations of these pipelines and their buffer zones are shown on the Local Development Plan strategy map. The Health and Safety Executive (HSE) as a statutory consultee, provides land use planning advice to planning authorities on proposed developments on sites which lie near to a major hazard site or a major accident hazard pipeline. HSE Planning advice
Assessment checklist

7.0 Assessment checklist

7.1 Scottish Government guidance advises that development plans should set out the criteria that will be considered in deciding applications for all renewable energy applications.

7.2 To assist developers, this is presented as a checklist indicating which criteria have to be addressed. The criteria relate to both assessment and technical requirements. In some cases, particularly for small scale developments, developers are advised to discuss with the Council whether a criterion is relevant. This is indicated in the checklist.

7.3 While it is intended that the checklist provides a comprehensive guide to developers, it is always possible that individual applications may raise site specific issues which are not addressed in the list. Furthermore, guidance from the Scottish Government and other statutory agencies may change in future, therefore developers must comply with guidance that is current at the time of their application. The checklist must be used in conjunction with the detailed guidance in sections 4-6 of this SG.

Policy RE2 Renewable energy developments

Applications for renewable energy developments will only be acceptable if they accord with the relevant guidance set out in:

- Section 6 Development Management considerations for the assessment of renewable energy proposals
- Table 7.1 Assessment Checklist for Renewable Energy Proposals.
While this SG and checklist provides specific guidance for renewable energy proposals, it should be noted that there may be other policies within the SLLDP and other associated SGs which are relevant depending on the nature, scale and location of the development. Therefore it is strongly recommended that reference be made to this SG, the LDP and other relevant SGs when considering new renewable energy development proposals.
### Table 7.1 Assessment checklist for renewable energy proposals

Proposals for wind energy and other renewable energy developments will be assessed against the criteria set out in the Assessment Checklist for Renewable Energy Proposals and the relevant guidance in sections 4, 5, and 6 of this SG. The criteria direct applicants to the appropriate sections of the SG, which set out the detailed guidance and requirements for developers which must be adhered to.

#### Areas of Significant Protection (Spatial Framework Stage 2)

Wind energy development proposals within or affecting the areas of significant protection listed below will be required to demonstrate that any significant effects on the qualities of the areas can be substantially overcome by siting, design or other mitigation. (see Policy RE 1). Other renewable energy proposals should comply, as indicated below.

<table>
<thead>
<tr>
<th>Area Description</th>
<th>Single/Small Applications</th>
<th>Wind Farms</th>
<th>Other renewable developments</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Lanark World Heritage Site and its buffer zone and setting (NHE1)</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Natura 2000 Sites and Ramsar Sites (Special Protection Areas and Special Areas of Conservation including sites outwith the South Lanarkshire boundary) (NHE8)</td>
<td>●</td>
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<tr>
<td>National Nature Reserves and Sites of Special Scientific Interest (NHE9)</td>
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<tr>
<td>Sites identified in the Inventory of Gardens and Designed Landscapes (NHE4)</td>
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<tr>
<td>Sites identified in the Inventory of Historic Battlefields (NHE5)</td>
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</table>

#### Impact on international and national designations

See Section 4 (paragraph 4.10 – 4.11) and section 6 (paragraph 6.7 – 6.9)

The impact of all renewable energy developments on international and national natural heritage designations must accord with South Lanarkshire Local Development Plan (SLDP) Policy 15 Natural and Historic Environment and the relevant policy in the Natural and Historic Environment SG (NHE/SG).

- New Lanark World Heritage Site and its buffer zone and setting (NHE1)
- Natura 2000 Sites and Ramsar Sites (Special Protection Areas and Special Areas of Conservation including sites outwith the South Lanarkshire boundary) (NHE8)
- National Nature Reserves and Sites of Special Scientific Interest (NHE9)
- Sites identified in the Inventory of Gardens and Designed Landscapes (NHE4)
- Sites identified in the Inventory of Historic Battlefields (NHE5)

#### Impact on carbon rich soils, deep peat and priority peatland habitat (CPP)

See Section 4 (paragraph 4.15 – 4.18)

There shall be no significant adverse effects on land identified in Classes 1 and 2 of the SNH national CPP mapping 2015 (see also criterion 11).

#### Community separation for consideration of visual impact

See Section 4 (paragraph 4.19 – 4.25)

A 2km buffer zone around settlements is an indicative area in which potential developers will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.
## Criteria for detailed consideration of renewable energy proposals (including Spatial Framework Group 3 areas)

These relate to considerations set out in paragraph 169 of SPP.

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<tr>
<td><strong>4. Economic benefits</strong></td>
<td>See section 6 (paragraphs 6.2 – 6.3)</td>
<td>Proposals for renewable energy should provide a statement, proportionate to the scale of the development, of the socio-economic benefits that will arise from the project.</td>
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<tr>
<td><strong>5. Scale of contribution to renewable energy targets</strong></td>
<td>See Section 6 (paragraphs 6.4 – 6.5)</td>
<td>Proposals should contain a statement explaining the contribution to national renewable energy targets.</td>
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<tr>
<td><strong>6. Effects on greenhouse gas emissions</strong></td>
<td>See Section 6 (Paragraph 6.6)</td>
<td>Applications should contain a statement setting out how the proposal contributes to reducing greenhouse gas emissions.</td>
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<tr>
<td><strong>7. Effects on the natural heritage, including birds</strong></td>
<td>a) South Lanarkshire Local Biodiversity Strategy, Local nature conservation designations, bird sensitivity, protected species and bats (see criterion 1 for national and international designations)</td>
<td>The impacts from renewable energy developments on South Lanarkshire’s natural heritage require to be fully assessed and if appropriate, mitigation measures require to be identified.</td>
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<tr>
<td><strong>7. Effects on the natural heritage, including birds</strong></td>
<td>b) Habitat management plans</td>
<td>For larger wind energy schemes, and for other schemes where specific species/habitats are affected, developers will be required to submit a Habitat Management Plan (HMP) setting out the means of land management that will secure biodiversity objectives.</td>
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<tr>
<td><strong>8. Landscape and visual impacts</strong></td>
<td>a) Landscape designations; landscape character; visual impacts</td>
<td>Renewable energy proposals should have no unacceptable significant adverse effects on landscape designations, landscape character and/or visual impact and should contain an appropriate Landscape and Visual Impact Assessment (LVIA) as set out in paragraph 6.45.</td>
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</table>
## Assessment checklist

### 8. Landscape and visual impacts
   **b) Landscape capacity study**
   See Section 6 (paragraph 6.27)
   Wind energy proposals greater than 15m in height shall be assessed against the guidance for specific landscape character types contained in table 6.1 of the Landscape Capacity Study for Wind Energy 2015.

### 9. Cumulative impacts
   **a) Landscape and visual**
   See Section 6 (paragraphs 6.46 – 6.59)
   The cumulative landscape and visual impacts of wind energy and other renewable energy developments must be fully assessed and shown to be acceptable.

### 9. Cumulative impacts
   **b) Areas where cumulative impact limits capacity for further development**
   See Section 6 (paragraphs 6.50 – 6.57 and table 6.2)
   Applications require to address the criteria set out regarding the areas where cumulative impact limits capacity for further development.

### 9. Cumulative impacts
   **c) Natural heritage**
   See Section 6 (paragraphs 6.23 – 6.24)
   Where there may be significant cumulative impacts on ecological and/or ornithological interests, developers will be required to undertake a cumulative impact assessment.

### 10. Impact on communities and individual dwellings
   **a) Residential visual amenity**
   See Section 6 (paragraphs 6.62 – 6.67)
   For all wind turbine proposals of more than 15 metres the Council will expect an assessment to identify the likely significant effects of the proposals on residential visual amenity. Residential visual amenity surveys may also be required for other renewable energy developments.

### 10. Impact on communities and individual dwellings
   **b) Noise**
   See Section 6 (paragraphs 6.68 – 6.75)
   All applications for wind turbine developments should be accompanied by a site specific noise assessment. Noise assessments may also be required for other renewable energy developments.
### 10. Impact on communities and individual dwellings
#### c) Shadow Flicker
See Section 7 (paragraph 6.76)
Where turbines are within 10 rotor diameters of a residential property an assessment should be undertaken by the applicant to assess potential effects due to shadow flicker.

<table>
<thead>
<tr>
<th>10. Impact on communities and individual dwellings</th>
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<tr>
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<td>effects due to shadow flicker.</td>
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### 11. Impact on carbon rich soils and peat (see also criterion 2)
See Section 6 (paragraph 6.77 – 6.82)
Where proposals affect carbon rich soils and peat, developments must be designed to minimise soil disturbance when building and maintaining roads and tracks, turbine bases and other infrastructure to ensure that the carbon balance savings of the scheme are maximised, and appropriate mitigation measures must be set out.

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<tr>
<th>11. Impact on carbon rich soils and peat (see also criterion 2)</th>
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### 12. Impact on public access
See Section 6 (paragraph 6.84 – 6.86)
The impact from renewable energy developments on core paths, wider access network routes and recreational uses across South Lanarkshire should be fully assessed and if appropriate, mitigation measures require to be identified.

<table>
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<tr>
<th>12. Impact on public access</th>
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<tr>
<td>See Section 6 (paragraph 6.84 – 6.86)</td>
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<td>wider access network routes and recreational uses across</td>
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<tr>
<td>South Lanarkshire should be fully assessed and if appropriate,</td>
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<td>mitigation measures require to be identified.</td>
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### 13. Impact on historic environment (see also criterion 1)
See Section 6 (paragraph 6.87 – 6.91)
The impact from renewable energy developments on the historic environment of South Lanarkshire should be fully assessed and if appropriate, mitigation measures require to be identified.

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<tr>
<th>13. Impact on historic environment (see also criterion 1)</th>
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<td>require to be identified.</td>
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### 14. Impact on tourism and recreation
See Section 6 (6.92 – 6.94)
The impact from renewable energy developments on tourism and recreation should be fully assessed and if appropriate, mitigation measures require to be identified.

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<thead>
<tr>
<th>14. Impact on tourism and recreation</th>
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<tr>
<td>See Section 6 (6.92 – 6.94)</td>
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<td>and if appropriate, mitigation</td>
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<td>measures require to be identified.</td>
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### 15. Impact on aviation and defence
See Section 6 (paragraphs 6.95 – 6.104)
The impacts of the proposal on radar performance, defence interests and other air safety and aeronautical recording considerations must be satisfactorily addressed and demonstrated to the satisfaction of the relevant technical authorities.

<table>
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<tr>
<th>15. Impact on aviation and defence</th>
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<tbody>
<tr>
<td>See Section 6 (paragraphs 6.95 – 6.104).</td>
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<td>addressed and demonstrated to the satisfaction of the relevant technical authorities.</td>
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### 16. Impact on transmitting or receiving systems
See Section 6 (paragraphs 6.105 – 6.108)
It must be demonstrated no electromagnetic disturbance is likely to be caused by the proposal to any existing transmitting or receiving system or, where such disturbances may be caused, that measures will be taken to remedy or minimise any such disturbances.

<table>
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<tr>
<th>16. Impact on transmitting or receiving systems</th>
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<tbody>
<tr>
<td>See Section 6 (paragraphs 6.105 – 6.108)</td>
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### Assessment checklist

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<tr>
<td><strong>17. Impact on road traffic and trunk roads</strong>&lt;br&gt;See Section 6 (paragraphs 6.109 - 6.113)&lt;br&gt;The impact from renewable energy developments on road traffic and trunk roads should be fully assessed and if appropriate, mitigation measures require to be identified and agreed with Transport Scotland and/or SLC Roads and Transportation.</td>
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<tr>
<td><strong>18. Impact on hydrology, water environment and flood risk</strong>&lt;br&gt;See Section 6 (paragraphs 6.114 - 6.123)&lt;br&gt;The impact from renewable energy developments on hydrology, the water environment and flood risk should be fully assessed and if appropriate, mitigation measures require to be identified.</td>
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<tr>
<td><strong>19. Decommissioning and restoration</strong>&lt;br&gt;See Section 6 (paragraphs 6.124 - 6.126)&lt;br&gt;Renewable energy applications must acknowledge the need for decommissioning, restoration and aftercare at the end of the permission or the life of the turbines, if earlier. Developers are required to satisfy the Council that the plan for decommissioning and restoration of the proposed development is robust.</td>
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<td><strong>20. Energy storage</strong>&lt;br&gt;See Section 6 (paragraphs 6.127 - 6.128)&lt;br&gt;The Council will consider proposals for energy storage on a case by case basis.</td>
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<td><strong>21. Site decommissioning and restoration bond</strong>&lt;br&gt;See Section 6 (paragraphs 6.129 - 6.130)&lt;br&gt;The Council requires a financial bond or guarantee to be put in place to meet all the expected costs of the proposed decommissioning and restoration phase.</td>
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<tr>
<td><strong>Other Considerations and information requirements</strong></td>
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<tr>
<td><strong>22. Forestry and woodland removal</strong>&lt;br&gt;See Section 6 (paragraph 6.129 - 6.135)&lt;br&gt;The effects of a proposed development will have on woodlands and the consequences that woodland removal will have on the ecology and landscape of the area and environs requires to be fully assessed.</td>
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<tr>
<td><strong>23. Impact on prime agricultural land</strong>&lt;br&gt;See Section 6 (paragraph 6.83)&lt;br&gt;Renewable energy development on Prime Agricultural Land (Macaulay* classes 1, 2 and 3.1) shall only be acceptable where restoration proposals will return the land to its former status&lt;br&gt;*Macaulay Land Use Research Institute (now the James Hutton Institute).</td>
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## Assessment checklist

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<tr>
<td><strong>24. Borrow pits</strong></td>
<td>Section 6 (paragraphs 6.40 – 6.42). Borrow pits associated with wind farm and other renewable energy developments shall only be permitted if they comply with the requirements in paragraph 243 of SPP.</td>
<td></td>
</tr>
<tr>
<td><strong>25. Environmental protection</strong></td>
<td>See Section 6 (paragraph 6.136 – 6.137) Developers must obtain all required authorisations or licenses under current environmental protection regimes prior to construction and ensure there is no impact on waste water and/or water assets which are above and/or underground in the area that may be affected by the proposed development.</td>
<td></td>
</tr>
<tr>
<td><strong>26. Notifiable installations and exclusion zones</strong></td>
<td>See Section 6 (paragraph 6.138) When locating wind turbines and other renewable energy infrastructure attention must be paid to their proximity to notifiable installations and exclusion zones.</td>
<td></td>
</tr>
<tr>
<td><strong>27. Mitigation</strong></td>
<td>Where proposals are shown to have a significant adverse impact in respect of any of the above criteria, the developer will be required to demonstrate that appropriate mitigating measures will be applied.</td>
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<tr>
<td><strong>28. Legal agreement</strong></td>
<td>Where appropriate, the Council will normally require an applicant to enter into a legal agreement (Section 75 Agreement/Section 96 Agreement) to address community benefit payments, planning monitoring officer, roads and bridge structures and other matters.</td>
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<tr>
<td><strong>29. Environmental Impact Assessment (EIA)</strong></td>
<td>The Council will require all applications for renewable energy developments which fall within the scope of the Environmental Assessment legislation to be accompanied by an Environmental Statement, and encourages these to be preceded by a pre-application scoping report. Developments that do not clearly fall within the EIA regulations should undergo screening.</td>
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8.0 Monitoring and review

8.1 This SG will be kept under review to ensure that it remains relevant and up to date. The development of renewable energy generation facilities and the framework that supports it continually evolves and reacts to changing circumstances in technology and national energy policy. The Council will therefore keep under review:

- national legislative and policy developments
- changes to renewable energy technologies
- the scale and nature of wind energy developments in South Lanarkshire and adjoining areas.

8.2 A monitoring report will be prepared alongside the local development plan which will cover:

- data on renewable energy proposals and developments in South Lanarkshire
- developments affecting the constraints identified in this SG.
Further sources of information

Scottish Government Planning Policy and Advice (Legislation, circulars, SPP and PANs)
Scottish Government online renewables planning advice
Scottish Government Policy on Control of Woodland Removal
SEPA guidance for renewable generation technologies
Guidance from SEPA on Water Environment
Additional guidance is available from SEPA’s CAR Practical Guide
NATS en route safeguarding maps and guidance
SNH online planning and renewable energy guidance a regularly updated list of current SNH publications and guidance notes

SNH publications referred to in this SG include the following. These can be accessed via the link above:

- Visual Representation of Windfarms (2014)
- Assessing the impact of small-scale wind energy proposals on the natural heritage (2014)
- Guidance on Assessing Connectivity with Special Protection Areas (SPAs) (2013)
- Siting and Design of Small Scale Wind Turbines of between 15 and 50 metres in height (2012)
- Assessing the cumulative impact of onshore wind energy developments (2012)
- Siting and designing wind farms in the landscape (V2) (May 2014)
- Recommended bird survey methods to inform impact assessment of onshore wind farms (2014)
- Bats and Wind Turbines (2012)
- Spatial planning for onshore wind turbines – natural heritage considerations (June 2015)
- Habitat management plans (January 2014)
- Research and guidance on restoration and decommissioning of onshore wind farms (2013)
- Guidance on hydro-electric schemes and the natural heritage (February 2015)
- Micro-renewables and the natural heritage (2009)
- Decommissioning and Repowering plans for onshore wind farms (2014)
- Constructed tracks in the Scottish Uplands (2015)


Other:

Scottish Government: Guidance on Dealing with Aviation Objections and Associated Negative Conditions in Wind Turbine Consents

Wind Energy developments and Natura 2000 (EU Guidance Document) (October 2010)
**Ancient Semi-natural Woodlands:** Categories 1a and 2a on the ‘Inventory of ancient, semi-natural and long-established woodlands’. Interpreted as semi-natural woodland from maps of 1750 (1a) or 1860 (2a) and continuously wooded to the present day. If planted with non-native species during the 20th century, they are referred to as Plantations on Ancient Woodland Sites (PAWS). Datasets can be downloaded from SNH Website.

**Cumulative Impact:** The additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together. Although the term ‘cumulative impact’ is often used to refer only to landscape and visual effects, cumulative effects of wind energy development can relate to a wider range of natural heritage effects, including impacts on birds and habitats.

**Environmental Impact Assessment (EIA):** An Environmental Impact Assessment is a technique for drawing together, in a systematic way, expert quantitative analysis and qualitative assessment of a proposals environmental effect. The need for an EIA is determined under the Environmental Impact Assessment (Scotland) Regulations 1999 and divides into two schedules:-

- **Schedule 1** - development which by law must have an Environmental Assessment.

- **Schedule 2** - development which poses significant harm to the environment by virtue of the nature, size and location of the proposal requires an EA at the discretion of the local authority.

**Environmental Statement (ES):** A document containing the compiled information gathered during the EIA process.

**Habitat Survey:** A field based survey that identifies and maps the different types of habitat (assemblages of plants) within an area and highlights any special or potentially sensitive areas.

**Habitat Management Plan (HMP):** Mitigation measures proposed by the applicant as part of their submitted development proposal, or required by a condition of planning consent which mitigate or compensate for the impacts caused by the development, or enhance the natural heritage interest of the area.

**Habitats Regulations Appraisal:** Used to describe an assessment of the implications of the policies and proposals of the LDP on Special Protection Areas (SPAs) or Special Areas of Conservation (SACs) as required by Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) as transposed into domestic law by the Conservation (Natural Habitats, &c.) Regulations 1994 as amended.

**Inventory of Gardens and Designed Landscapes:** This is a list of nationally important sites that meet the criteria published in the Scottish Historic Environment Policy 2011.

**Inventory of Historic Battlefields:** The Inventory of Historic Battlefields is a list of nationally important battlefields in Scotland that meet the criteria published in Scottish Historic Environment Policy 2009. It provides information on the sites in it to raise awareness of their significance and assist in their protection and management for the future.

**Landscape:** The landscape is part of the land, as perceived by local people or visitors, which evolves through time as a result of being acted upon by natural forces and human beings. (European Landscape Convention).
**Landscape Character Assessment (LCA):** Landscape Character Assessment provides a classification and description of the landscape. The process identifies distinct areas of consistent and recognisable landscape character. The South Lanarkshire Landscape Character Assessment includes guidelines for assessing the sensitivity of different landscape character types to development.

**Local Biodiversity Action Plan (LBAP):** Local Biodiversity Action Plans and Partnerships operate at a local level to conserve and enhance biodiversity and deliver action for national priorities identified in the UK Biodiversity Action Plan (UKBAP), as well as for species and habitats which are particularly cherished or valued in local areas of Scotland.

**Long-Established Woodlands or Woodlands of High Conservation Value:** Categories 1b, 2b, and 3 in the Inventory of ancient, semi-natural and long-established woodlands. Long-established woodland is interpreted as plantation from maps of 1750 (1b) or 1860 (2b) and continuously wooded since. Category 3 sites are shown as unwooded on the 1st edition maps but as woodland on the Roy maps of 1750. Such sites have, at most, had only a short break in continuity of woodland cover and may still retain features of Ancient Woodland. Datasets can be downloaded from SNH Natural Spaces.

**Megawatts (MW):** The unit for measuring power equaling one million watts (1000 kW). The output from wind farms is measured in MW.

**National Nature Reserves (NNR):** Areas of land set aside for nature, where the main purpose of management is the conservation of habitats and species of national and international significance. They are declared by Scottish Natural Heritage.

**Renewable Energy:** Those sources of energy which are naturally occurring within the environment and which can either be tapped without consuming the resource, or where the resource can renew itself on a human timescale.

**Riparian Zone:** Land relating to or situated on the banks of a river, or land relating to wetlands adjacent to rivers and streams.

**Sites of Special Scientific Interest (SSSI):** SSSIs represent the best of Scotland’s natural heritage. They are ‘special’ for their plants, animals or habitats, their rocks or landforms, or a combination of these. SSSIs are designated by Scottish Natural Heritage under the provisions of the Nature Conservation Act (Scotland) Act 2004.

**Setting (Historic Asset/Place):** The way in which the surroundings of a historical asset or place contribute to how it is experienced, understood and appreciated. Setting often extends beyond the immediate property boundary into the broader landscape.

**Special Areas of Conservation (SAC):** A European wide network of important sites containing rare or endangered species and habitats, (Natura 2000 sites) designated under the terms of the EC Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (The Habitats Directive).

**Special Landscape Areas (SLAs):** Local designation for quality and value of landscape.

**Special Protection Areas (SPA):** Designated under the terms of Directive 2009/147/EC of the European Parliament and of the Council of Europe on the conservation of wild birds. These areas are specifically protected for their ornithological importance.
Glossary of terms

**Strategic Environmental Assessment (SEA):** Aims to provide a systematic method of considering the effects on the environment of a plan or programme with the aim of helping to reduce or avoid environmental impacts.

**Water Environment:** All surface water, groundwater and wetlands.
Background

The Council has a well established mechanism for the collection and distribution of community benefit related to renewable energy developments. The Council's Renewable Energy Fund (REF), set up in 2004, administers community benefit schemes for a number of wind farms within South Lanarkshire resulting in delivery of locally led projects. The Scottish Government advises that a community can gain valuable funding from renewables projects over and above the energy generated and financial benefits. The South Lanarkshire REF seeks to support this.

Where a development is considered acceptable in planning terms but may have potential long-term impacts, it is important that the options for securing community benefit are maximised. Since Scottish Government guidance is clear that such developments should deliver wider benefits, the Council’s Regeneration Services actively seeks contributions in respect of appropriately scaled renewable energy developments.

At the Executive Committee on the 1st December 2010 the Council approved a report which updated and refined existing policy, and considered and set the level of community benefit for renewable energy developments in South Lanarkshire. This policy was further updated in a report approved by the Enterprise Services Committee on the 1st April 2014.

The Renewable Energy Fund

The purpose of the REF is to collect and distribute funds to assist affected communities to improve the quality of life and economic prosperity in their local area by providing capital funding for community based projects within the identified area. Examples of previously funded projects include either upgrading or providing new community halls, upgrading of play parks, environmental improvements, enhancing community owned assets, purchase of equipment for community groups and feasibility studies for future projects.

The REF will consider grant applications for projects within an identified radius of each participating renewable energy development site. Applications can be considered from outwith the identified area if it can be clearly demonstrated that the beneficiaries of the project reside within the eligible area. The grant award in these cases would be proportionally based on the percentage of residents from eligible communities benefiting from the project.

The REF will provide financial support for capital projects which meet one or more of the criteria set out in the fund application process. Details of the REF and eligibility criteria can be found on the Council’s website.

The REF provides the opportunity for affected communities to access funding for their eligible projects and benefit from the support and expertise that the Council can provide. Communities also have the comfort that the fund has a fully transparent reporting process, is accessible by all eligible organisations and operates independently from any one community group.

Contribution Level and Process

It is common industry practice, although not mandatory, for the level of community benefit to be related to the electrical output of a wind farm. This is the approach that South Lanarkshire Council will use in relation to the community benefit calculation. In this respect there are two elements to consider:

(1) The measure of electrical output from the wind farm is in Megawatts.
Community benefit contributions

It is considered that installed/consented capacity is the most appropriate mechanism as this provides a consistency of payment and allows the Council to project future payments and manage their distribution.

(2) The value of the contribution per Megawatt of production.

The Council has agreed that a package of contribution of £5,000 per megawatt be set as the standard minimum contribution.

This would be payable annually from the date of commissioning and would increase relative to the PubSec Index (non housing building) or other such replacement index as agreed with the Council.

The Council are keen to explore ways of maximising local benefits from community benefit contributions and, working with contributing developers, may seek to deliver training and employability initiatives locally around participating developments.

The payment would be expected for developments of four or more turbines, including either planning applications to the Council or Section 36 applications to the Scottish Government. Developments of three or less turbines may also be expected to contribute with the scale and structure of the payments considered on a case by case basis.

It is recognised that there may be circumstances when the development costs of a wind farm are exceptional and a developer may find it difficult to finance the level of contribution sought. On this basis, the Council may not wish to prejudice the development proceeding. In these circumstances the Council will ask the developer to enter into an open book discussion on the finances of the scheme. This would allow an informed judgement to be made by the Council on the level of contribution sought.

With regard to other forms of renewable energy generation, an equivalent level of Community Benefit will be negotiated once the details of the scheme are known.

Regeneration Services will handle the negotiation and collection of community benefit from all renewable energy developments. The funds will be distributed to eligible communities using the REF approach providing a coordinated and comprehensive system to the whole process of collection and distribution.

It is the Council’s view that discussions on contributions should begin as early as possible in the development process to provide a degree of certainty to all parties. At the same time, however, these discussions should not be construed as the Council, as Planning Authority, pre-determining the application. As stated above, any contributions are not material considerations in the assessment of the proposed development.

For further information please contact: John Archibald, Project Development Officer, Telephone: 01698 455181, E-mail: john.archibald@southlanarkshire.gov.uk
## Settlements in South Lanarkshire

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Contacts

Planning and Building Standards Headquarters (Policy and applications for 4 or more wind turbines and solar farms)
South Lanarkshire Council
Community and Enterprise Resources
Planning and Building Standards Services HQ
Montrose House
154, Montrose Crescent,
Hamilton ML3 6LB
Telephone: 0303 123 1015  Email: localplan@southlanarkshire.gov.uk

Area Offices (applications for 3 or fewer wind turbines/applications for other renewable energy developments)

Hamilton
South Lanarkshire Council
Community and Enterprise Resources
Planning and Building Standards Services Area Office
Montrose House
154 Montrose Crescent
Hamilton ML3 6LB
Tel: 0303 123 1015  Email: planning@southlanarkshire.gov.uk

Clydesdale
South Lanarkshire Council
Community and Enterprise Resources
Planning and Building Standards Services Area Office
South Vennel
Lanark ML11 7JT
Tel: 0303 123 1015  Email: planning@southlanarkshire.gov.uk

Regeneration Services (Renewable Energy Fund)
South Lanarkshire Council
Community and Enterprise Resources
Montrose House
154 Montrose Crescent
Hamilton, ML3 6LB
Tel: 0303 123 1015

Cumbuslang/Rutherglen and East Kilbride
South Lanarkshire Council
Community and Enterprise Resources
Planning and Building Standards Services Area Office
Civic Centre
Andrew Street
East Kilbride, G74 1AB
Tel: 0303 123 1015  Email: planning@southlanarkshire.gov.uk

South Lanarkshire Council
Roads and Transportation
RoadsandTransportation@southlanarkshire.gov.uk

Countryside and Greenspace
CAG@southlanarkshire.gov.uk
Tel: 0303 123 1015

Scottish Natural Heritage
strathclyde_ayrshire@snh.gov.uk
Tel: 01698 421 668
South Lanarkshire Local Development Plan

South Lanarkshire Council
Community and Enterprise Resources
Planning and Building Standards Services
Montrose House, 154 Montrose Crescent
Hamilton ML3 6LB
www.southlanarkshire.gov.uk

If you need this information in another language or format, please contact us to discuss how we can best meet your needs.
Phone 0303 123 1015 or email:
equalities@southlanarkshire.gov.uk