



East Renfrewshire Local Development Plan

L O C A L
D E V E L O P M E N T
P L A N

Supplementary Planning Guidance Renewable Energy January 2017



**Supplementary
Planning Guidance**

**Renewable Energy
January 2017**



**Director of Environment
Andrew J Cahill B.Sc. (Hons.)**

Planning Contact Number: 0141 577 3001
Email: ldp@eastrenfrewshire.gov.uk

1 INTRODUCTION	1
1.1. Renewable Energy.....	1
2. RENEWABLE ENERGY POLICY CONTEXT.....	2
2.1. Introduction	2
2.2. Scottish Government Targets	2
2.3. Scottish Planning Policy (2014)	3
2.4. Local Development Plan Policy	4
2.5. Criteria for Assessing Renewable Energy Schemes.....	5
2.6. Renewable Energy Projects.....	7
3. SPATIAL FRAMEWORK	8
3.1. Spatial Framework for Onshore Wind	8
4. WIND ENERGY CONSIDERATIONS	11
4.1. National.....	11
4.2. Regional.....	11
4.3. Local	12
4.4. Environmental Considerations for all wind energy developments	14
4.5. Decommissioning, restoration, aftercare and repowering.....	19
4.6. Community benefits and ownership.....	19
5. SPATIAL FRAMEWORK MAP.....	20
6. CONTACT DETAILS.....	22
APPENDIX 1	23
FINDINGS FROM THE EAST RENFREWSHIRE WIND ENERGY STUDY (2012).....	23
APPENDIX 2	35
FINDINGS FROM THE LANDSCAPE CAPACITY STUDY (2014).....	35
APPENDIX 3	40
EXAMPLES OF SUPPORTED TECHNOLOGIES	40
APPENDIX 4	42
Domestic Scale Microgeneration	42

1 INTRODUCTION

1.1. Renewable Energy

- 1.1.1. This Supplementary Planning Guidance (SPG) has been prepared under Section 22 of the Planning etc. Scotland Act 2006. It sets out policies and other advice to assist in positively planning for renewable energy and forms part of the Development Plan for East Renfrewshire.
- 1.1.2. [Part 1](#) focuses on renewable energy in the context of action on climate change and the low carbon agenda. This highlights the need for a mix of renewable energy resources to help combat climate change. It provides details of the current renewable energy policy context within Scotland.
- 1.1.3. [Part 2](#) of the SPG applies the Spatial Framework for Onshore Wind, outlined in Scottish Planning Policy (2014), to the East Renfrewshire area.
- 1.1.4. [Part 3](#) identifies the specific environmental considerations for wind energy in the East Renfrewshire area
- 1.1.5. [Appendix 1](#) considers the findings of the East Renfrewshire Wind Energy Study (2012) which can be used to provide assistance to developers and Development Management officers regarding the “Areas of Greatest Potential” for wind energy developments over 20MW.
- 1.1.6. [Appendix 2](#) highlights the results of the Landscape Capacity Study (2014) and the local considerations for East Renfrewshire
- 1.1.7. [Appendix 3](#) provides additional information on support for alternative renewable energy sources, namely solar pv and anaerobic digestors
- 1.1.8. [Appendix 4](#) provides guidance for domestic properties in relation to microgeneration

PART 1

2. RENEWABLE ENERGY POLICY CONTEXT

2.1. Introduction

2.1.1. The planning system has an important role in supporting and encouraging renewable energy projects as a means to combat climate change by reducing the reliance on fossil fuels. In the East Renfrewshire area, as in much of Scotland, wind energy developments have been the primary source of renewable energy and demand for more wind farms is expected to continue over the coming years. The drive towards a low carbon future cannot be secured by wind energy alone and it is recognised that a diverse mix of renewable energy sources is required. Through SPP (2014), the Scottish Government has highlighted important criteria in the assessment of all energy infrastructure development and emphasises support for the delivery of a more diverse range of renewable energy sources.



2.1.2. This SPG largely focuses on wind energy and it should be acknowledged that the future of all renewables relies on support within industry, politics, local communities and decision makers.

2.2. Scottish Government Targets

2.2.1. The Scottish Government's commitment to energy reduction, and developing the renewables agenda as a major component of its policy, is established in the Climate Change (Scotland) Act 2009.

2.2.2. The Act created a statutory framework for a reduction in greenhouse gas emissions in Scotland by setting an interim 42% reduction target for 2020 and an 80% reduction target for 2050.

2.2.3. To help meet the greenhouse gas reduction targets, The Scottish Government's "2020 Routemap for Renewable Energy in Scotland", published in 2011, set ambitious targets to meet the equivalent of 100% of Scotland's demand for electricity from renewable energy by 2020.

2.2.4. The commitment to securing the transition to a resource efficient and low carbon economy is one of four priorities laid out in Scotland's Economic Strategy (2015). The Scottish Government sees this transition as being vital to maximising Scotland's sustainable growth, and therefore securing jobs and investment, as well as supporting the achievement of climate change targets.

- 2.2.5. In March 2015, the independent Committee on Climate Change published the 2015 Progress Report “Reducing emissions in Scotland”. The document provided some of the most up to date indicators of progress towards meeting climate change targets and stated that in 2013, “Scotland’s generation from renewables was equivalent to 44% of Scotland’s gross electricity consumption”. This was an increase from 40% in 2012 and meant that the 2015 interim target of 50% was likely to be met.
- 2.2.6. The most recent Scottish Government statistics show a provisional figure of 56.9% of gross electricity consumption from renewable sources, further emphasising the progress towards a low carbon future. www.gov.scot/Resource/0050/00503440.pdf
- 2.2.7. Despite the positive indicators, further progress towards the 100% target in 2020 has to be supported by policy and guidance at the national, regional and local levels.

2.3. Scottish Planning Policy (2014)

- 2.3.1. Scottish Planning Policy (2014) 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.
- 2.3.2. The planning system should:
- support the transformational change to a low carbon economy, consistent with national objectives and targets^[63], including deriving:
 - 30% of overall energy demand from renewable sources by 2020;
 - 11% of heat demand from renewable sources by 2020; and
 - the equivalent of 100% of electricity demand from renewable sources by 2020;
 - support the development of a diverse range of electricity generation from renewable energy technologies - including the expansion of renewable energy generation capacity - and the development of heat networks;
 - guide development to appropriate locations and advise on the issues that will be taken into account when specific proposals are being assessed;
 - help to reduce emissions and energy use in new buildings and from new infrastructure by enabling development at appropriate locations that contributes to:
 - Energy efficiency;
 - Heat recovery;
 - Efficient energy supply and storage;
 - Electricity and heat from renewable sources; and
 - Electricity and heat from non-renewable sources where greenhouse gas emissions can be significantly reduced.

- 2.3.3. Local Development Plans should support new build developments, infrastructure or retrofit projects which deliver energy efficiency and the recovery of energy that would otherwise be wasted both in the specific development and surrounding area. They should set out the factors to be taken into account in considering proposals for 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 (2014).

2.4. Local Development Plan Policy

- 2.4.1. The Adopted Local Development Plan contains policy E1: Renewable Energy that is informed by Scottish Planning Policy (2014) and places an emphasis on the assessment of applications through the considerations set out at paragraph 169 of the SPP. The need to set out the Spatial Framework for Onshore Wind is a key element of the document.

Policy E1: Renewable Energy

The council will support renewable energy infrastructure developments, including micro-renewable energy technologies on individual properties, wind turbine developments, hydro electric, biomass and energy from waste technologies in appropriate locations. The assessment of applications for such developments will be based on the principles set out in Scottish Planning Policy (2014), in particular, the considerations set out at paragraph 169 and additionally, for onshore wind developments, the terms of Table 1: Spatial Frameworks. Where appropriate, the applicant will be required to submit satisfactory mitigation measures to alleviate any adverse environmental impacts.

The council will prepare statutory supplementary guidance which accords with the Scottish Planning Policy (2014), and which contains the full spatial framework for onshore wind energy, sets policy considerations against which all proposals for renewable energy infrastructure developments will be assessed, and provides further detailed information and guidance on renewable energy technologies”;

2.5. Criteria for Assessing Renewable Energy Schemes

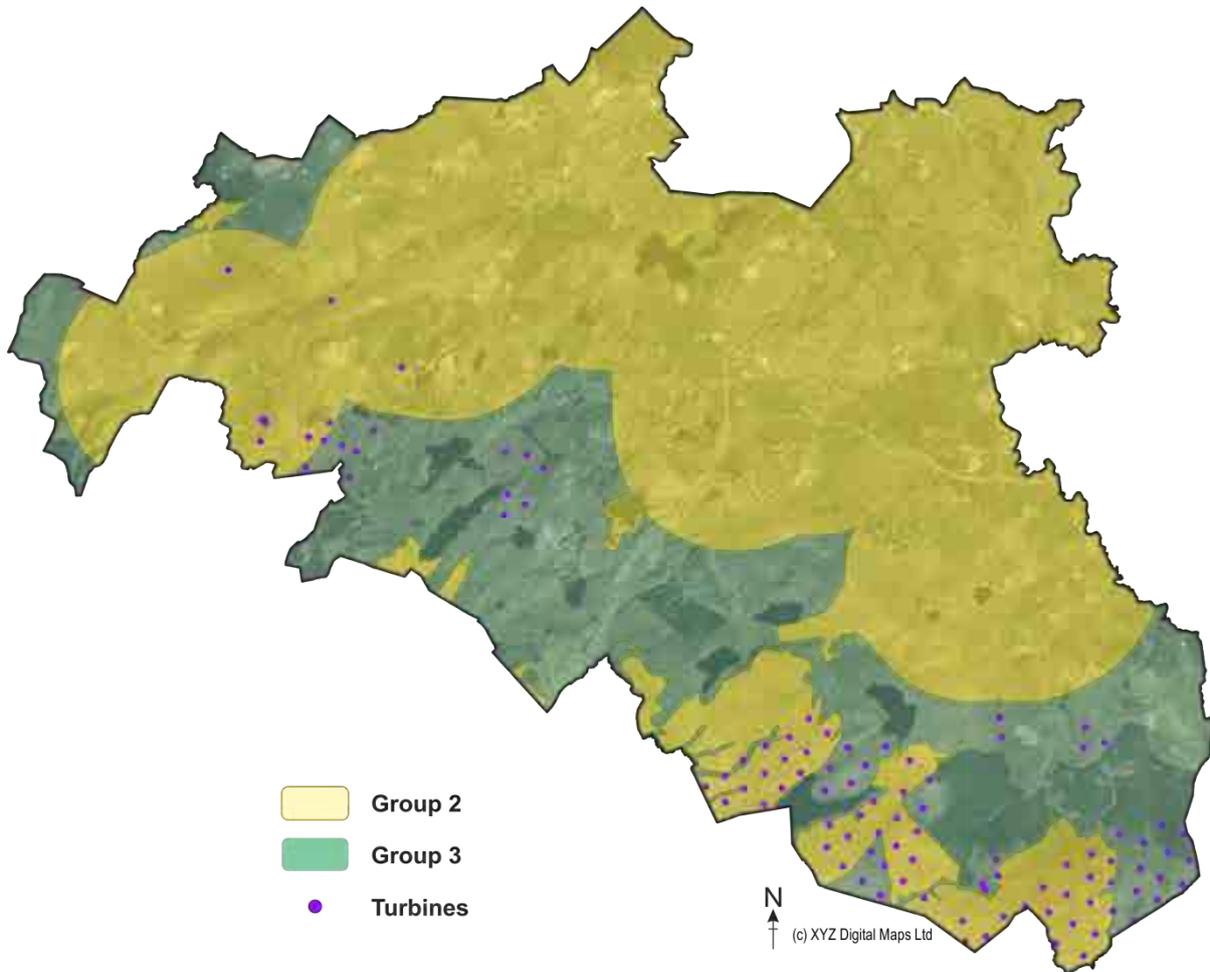
2.5.1. In assessing proposals for all renewable energy developments, the Council will consider the details contained in Paragraph 169 of SPP (2014). There may be opportunities for the erection of wind farms subject to the identified criteria below, whilst also satisfying the terms of Policy E1 of the Local Development Plan. Alternative renewable energy developments will be subject to the same scrutiny and will be required to consider national, regional and local policies.

Para 169 (SPP 2014)

Proposals for energy infrastructure developments should always take account of spatial frameworks for wind farms and heat maps where these are relevant. Considerations will vary relative to the scale of the proposal and area characteristics but are likely to include:

- net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities;
- the scale of contribution to renewable energy generation targets;
- effect on greenhouse gas emissions;
- cumulative impacts – planning authorities should be clear about likely cumulative impacts arising from all of the considerations below, recognising that in some areas the cumulative impact of existing and consented energy development may limit the capacity for further development;
- impacts on communities and individual dwellings, including visual impact, residential amenity, noise and shadow flicker;
- landscape and visual impacts, including effects on wild land;
- effects on the natural heritage, including birds;
- impacts on carbon rich soils, using the carbon calculator;
- public access, including impact on long distance walking and cycling routes and scenic routes identified in the NPF;
- impacts on the historic environment, including scheduled monuments, listed buildings and their settings;
- impacts on tourism and recreation;
- impacts on aviation and defence interests and seismological recording;
- impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised;
- impacts on road traffic;
- impacts on adjacent trunk roads;
- effects on hydrology, the water environment and flood risk;
- the need for conditions relating to the decommissioning of developments, including ancillary infrastructure, and site restoration;
- opportunities for energy storage; and
- the need for a robust planning obligation to ensure that operators achieve site restoration.

- 2.5.2. Early discussion with the Planning Service is encouraged and will help to highlight key issues which will require to be addressed through the Environmental Impact Assessment and design statement.
- 2.5.3. The map below identifies the areas where wind turbines have been sited to date and further development may not be appropriate in the areas where there is already a high volume of turbines. In these areas, applicants will be required to submit a cumulative impact assessment to allow consideration of the site.



2.6. Renewable Energy Projects

- 2.6.1. Whilst wind energy is likely to make the most substantial contribution to renewable energy targets in the East Renfrewshire area, Scottish Planning Policy advises that development plans should support a diverse range of renewable energy projects and ensure that an area's potential to accommodate them is realised and optimised.

Local development plans should support new build developments, infrastructure or retrofit projects which deliver energy efficiency and the recovery of energy that would otherwise be wasted both in the specific development and surrounding area. They should set out the factors to be taken into account in considering proposals for 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](#).

Scottish Planning Policy (2014)

- 2.6.2. The list of potential renewable energy sources is wide and varied. Developments could include a focus on district heating, biomass, solar PV, hydro, geothermal, anaerobic digestion or other sources and potential issues surrounding the scale, location and impact of these types of developments will determine the viability of the various energy sources.
- 2.6.3. The commercial development of these sources will be affected by many factors, including the level of policy support.
- 2.6.4. Developers should seek to involve the Council at the outset of any development proposals.
- 2.6.5. Further studies may be commissioned by the Council to determine Areas of Greatest Potential for alternative energy sources, with a focus on locational/environmental considerations such as scale, visual impact, landscape features, carbon rich soils etc. Any results of these potential studies will feature in subsequent versions of this SPG.
- 2.6.6. Solar farms and anaerobic digesters (Appendix 3) are two examples of potentially viable renewable technologies that could be capable of delivering renewable energy at a commercial scale and would be generally supported by the council.

PART 2

3. SPATIAL FRAMEWORK

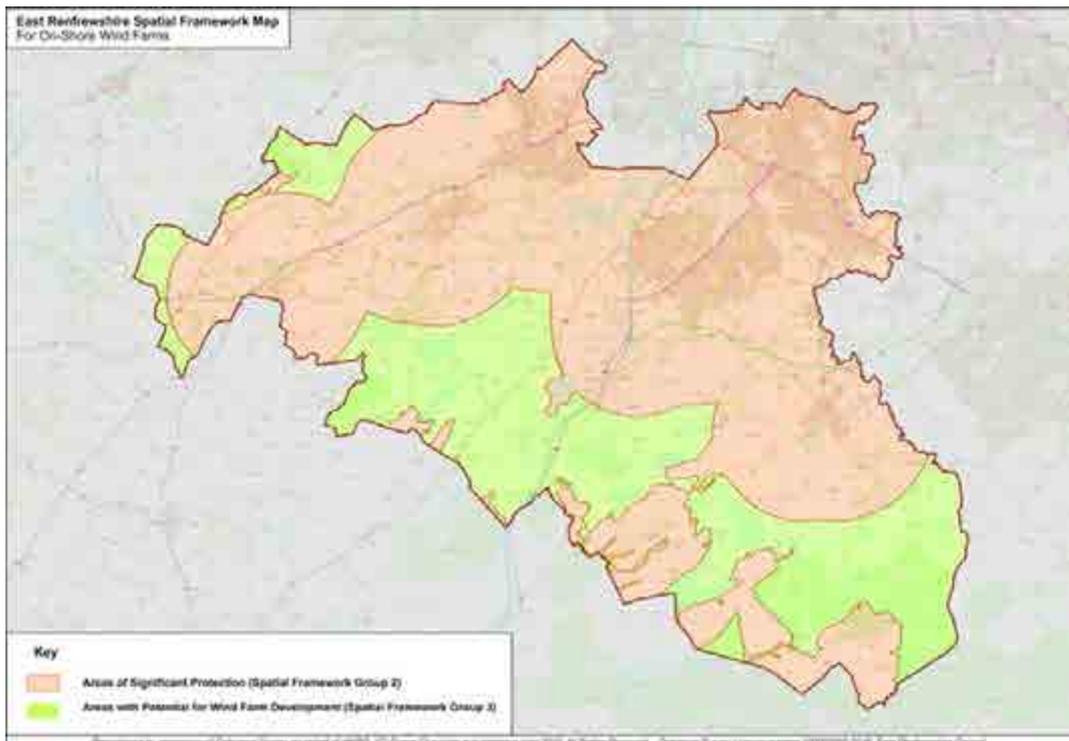
3.1. Spatial Framework for Onshore Wind

- 3.1.1. As detailed below, Scottish Planning Policy (2014) requires planning authorities to set out in the development plan a spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms. The development plan should also indicate the minimum scale of onshore wind development that the spatial framework applies to.
- 3.1.2. In East Renfrewshire, and for the purposes of clarity when considering the spatial framework, a wind farm is considered to be any wind energy development containing a minimum of 2 turbines of any height.

“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.”

Scottish Planning Policy (2014)

- 3.1.3. Scottish Planning Policy (2014) identifies three groupings of areas within Table 1: Spatial Frameworks to provide a clear and consistent national approach to developers and planning officers regarding the location of wind farms.
- 3.1.4. The detailed Spatial Framework Map is on Pages 20 and 21.



3.1.5. The three groupings are:

<p>Group 1: Areas where wind farms will not be acceptable: National Parks and National Scenic Areas</p>		
<p>Group 2: Areas of significant protection: 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.</p>		
<p>National and International designations:</p> <ul style="list-style-type: none"> • Works 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. 	<p>Other nationally important mapped environmental interests:</p> <ul style="list-style-type: none"> • Areas of wild land as shown on the 2014 SNH map of wild land areas; • Carbon rich soils, deep peat and priority peatland habitat. 	<p>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.</p>
<p>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.</p>		

3.1.6. In East Renfrewshire, there are no Group 1 areas (where wind farms would not be acceptable). There is a large Group 2 area (where significant protection would be required) which includes two Sites of Special Scientific Interest (SSSI) (Brother Loch and Little Loch), and two sites in the Inventory of Gardens and Designed Landscapes (Greenbank House, Clarkston, and Rouken Glen Park, Giffnock). Beyond the Group 2 area, the remaining part of East Renfrewshire is Group 3 (with potential for wind farm development).

3.1.7. Scottish Planning Policy (2014) states in Group 2 of the Spatial Framework that community separation for consideration of visual impact should be provided in:

“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.”

- 3.1.8. In accordance with Group 2 of the SPP (2014), the East Renfrewshire spatial framework applies a 2 kilometre buffer to settlements affording significant protection from wind farm development.
- 3.1.9. It should be noted that the development plans process is complemented by the development management process and therefore, consideration of the local context is contained within Part 2 of the SPG.



PART 3

4. WIND ENERGY CONSIDERATIONS

4.1. National

- 4.1.1. Scottish Planning Policy (2014)¹ confirms that there are detailed considerations including cumulative impact, natural heritage, landscape and visual impacts and impacts on communities and individual dwellings that development management should consider in deciding applications for wind farm developments and guidance in the form of this SPG can provide clarity regarding the Council's vision for wind energy in the area.
- 4.1.2. The impact of wind turbines can vary greatly depending on the location of the proposed development in relation to the landscape character, settlements and residential properties and indeed the scale of the turbines themselves.
- 4.1.3. The Scottish Government document Onshore Wind Turbines (December 2013)² confirms that in the first instance the advice of Scottish Natural Heritage in its capacity as the national agency and statutory advisor on landscape matters should be followed in respect of impact on landscape character appraisal and visual impact analysis.
- 4.1.4. The guidance confirms that wind turbines and wind farms can by their very nature impact on the landscape. The impact will also be dependent on the character of the landscape and its ability to absorb the development. This ability will depend on the features of the landscape itself, for example landform, ridges, hills etc. Different layouts and scale of turbines will be more or less suited to particular landscape types.
- 4.1.5. Scottish Natural Heritage provides further guidance on wind turbine design and layout through its publication Siting and Designing Wind Farms in the Landscape (May 2014)³.

4.2. Regional

- 4.2.1. Scottish Planning Policy (2014) is encompassed in Policy E1 'Renewable Energy' of the Local Development Plan and will be reflected in the Low and Zero Carbon Generating Technologies section of **Clydeplan's Strategic Development Plan 2** (currently at examination stage).
- 4.2.2. The adopted **Strategic Development Plan (May 2012)**⁴ supports renewable energy and sets out a spatial framework against which applications for wind farm development in excess of 20 megawatts can be assessed. It identifies in Diagram 16 - Wind Energy Broad Areas of Search and includes Strategy Support Measure 9 - Natural Resources Planning. It

¹ www.gov.scot/Topics/Built-Environment/planning/Policy

² www.gov.scot/Resource/0044/00440315.pdf

³ www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/landscape-impacts-guidance/

⁴ www.clydeplan-sdpa.gov.uk/sdp/approved-strategic-development-plan-may-2012

states that having identified the broad areas of search, it will be for the Local Development Plans to take forward the refinement of this area to establish their long term potential.

- 4.2.3. The emphasis on the refinement at the local level has been tailored to provide clear guidance for large scale wind farm development in East Renfrewshire.
- 4.2.4. The data collated through the East Renfrewshire Wind Energy Study (2012) is further supplemented by the **Landscape Capacity Study (2014) (findings in Appendix 2)** carried out at the strategic level and which identifies specific capacity issues for East Renfrewshire and the wider Glasgow and Clyde Valley area. (can be viewed at www.eastrenfrewshire.gov.uk)
- 4.2.5. The Landscape Capacity Study focuses on sensitivity and capacity issues (Appendix 2, Table 1) and identifies that residual capacity within East Renfrewshire is limited. Any remaining opportunities for larger scale developments are more likely in the Plateau Moorland (LCT18) in the south east of the council area. However, it is noted that this area already contains Whitelee Wind Farm which has a significant impact on the remaining available capacity.
- 4.2.6. Smaller scale developments may be possible throughout other parts of the East Renfrewshire area, including the Rugged Upland Farmland (LCT6) area, however potential cumulative impacts may limit the extent of these development opportunities.
- 4.2.7. The Landscape Capacity Study (2014) references the Wind Energy Study (2012) and notes that the detail in the earlier document provides a solid basis when considering wind energy developments in East Renfrewshire.

4.3. Local

- 4.3.1. Scottish Planning Policy (2014) states “The spatial framework is complemented by a more detailed and exacting development management process where the merits of an individual proposal will be carefully considered against the full range of environmental, community, and cumulative impacts”
- 4.3.2. In preparing the Local Development Plan the Council reviewed the broad areas of search taking into account local considerations including environmental designations, capacity, landscape character and impact upon settlements and residential properties.
- 4.3.3. This review was informed by **the East Renfrewshire Wind Energy Study (October 2012) (findings in Appendix 1)**, prepared by Land Use Consultants for East Renfrewshire Council (available to view at www.eastrenfrewshire.gov.uk).
- 4.3.4. The analysis for the Wind Energy Study (Appendix 1) was carried out prior to SPP (2014) being published, however the study reflects local considerations including landscape character and cumulative impact and therefore provides a valuable tool to inform

- developers and the development management process, beyond the parameters of the Spatial Framework identified in Part 1.
- 4.3.5. The 2012 Wind Energy Study reviewed the land use and planning designations, leading to the identification of areas where wind farms might be sited, and those areas where there is less capacity for wind farm development **in excess of 20 megawatts**. Consideration of landscape character, views and cumulative impact was a key part of the project scope.
 - 4.3.6. The study focused on the broad area of search but considered constraints, local landscape character and views across the East Renfrewshire area, excluding the designated green belt which, due to its proximity to settlements, would be unlikely to be acceptable for wind farm development in excess of 20 megawatts.
 - 4.3.7. In order to allow a fuller understanding of cumulative development within the wider landscape, wind farm development within 10 kilometres of the study area boundary was also assessed.
 - 4.3.8. The inclusion of this broad area of study allowed a full understanding of the potential impact of development upon settlements, and the wider landscape and environment.
 - 4.3.9. Although the Council has identified areas of lower landscape capacity for wind farm development, with reference to cumulative impacts, it has chosen to include the areas of lower capacity under the category of areas of potential constraint. It is accepted that these areas could be affected by new large scale wind farm development. The analysis which has been undertaken also indicates that limited new development in these areas may be acceptable where it can be demonstrated not to significantly affect the underlying landscape character of these areas.
 - 4.3.10. The Council will however protect land affected by the following designations from wind farm development with a generating capacity in excess of 20 megawatts:
 - 4.3.11. **International and National Designations** A number of Sites of Special Scientific Interest (SSSI) are present within the East Renfrewshire area including Brother Loch and Little Loch (NS5052). Large scale wind farm development should be directed away from Sites of Special Scientific Interest and any other international or national designation which may exist in the future.
 - 4.3.12. **Green Belt** The East Renfrewshire green belt is identified in the Local Development Plan and performs a crucial role in directing planned growth to the right location and protecting and enhancing the quality, character and landscape setting of settlements.
 - 4.3.13. The majority of the East Renfrewshire green belt is not generally considered suitable for wind farm development over 20 megawatts due to its proximity to settlements. It should be noted that this view is informed by work undertaken at the Strategic and Local level and does not seek to restrict developers wishing to pursue wind energy developments that are sensitively designed. Nevertheless, the details in Appendix 1 help to identify the areas that have the greatest potential for large scale wind energy developments.

4.4. Environmental Considerations for all wind energy developments

4.4.1. In addition to local landscape considerations the following potential environmental considerations have been identified and these align with the criteria contained in the SEA Environmental report for this SPG. It should be noted that that these considerations do not only apply to the turbine but also to the ancillary works such as borrow pits, access roads, crane hardstandings, construction compounds, cabling, substations etc.

4.4.2. Natural Heritage

In support of Policy D8 of the adopted LDP, the impact of proposals on the natural heritage will require to be assessed and appropriate mitigation put in place. For larger wind farm proposals and any other wind energy schemes where priority species/habitats are affected, applicants may be required to submit and implement a Habitat Management Plan setting out the means of land management that will secure biodiversity enhancement.

Site of Special Scientific Interest (SSSI)

- There are 6 SSSIs within the authority boundary. They are areas designated for their geological and biological importance. Developments that may impact upon this site area unlikely to be considered appropriate.

Local Biodiversity Sites (LBS)

- Several Local Biodiversity Sites are located across the Council area and proposals which are likely to affect them, will require to demonstrate that the reasons for designation of the site will not be adversely affected by the construction and operation of the proposed wind farm development.

Developers would be advised to refer to the SNH guidance 'Spatial Planning for onshore wind turbines – natural heritage considerations at www.snh.gov.uk/docs/A1663759.pdf

4.4.3. Non Designated Natural Heritage

- European Protected Species (e.g. bats, Great Crested Newts and otters);
- Other Protected Species (e.g. badgers, water voles and birds);
- Local Biodiversity Action Plan species;
- Broadleaved woodland
- Species listed on the Scottish Biodiversity List.

The impact of proposals on the natural heritage will require to be assessed and appropriate mitigation put in place. In addition, prior to granting planning permission the Council will require to be satisfied that proposals will not impact adversely on any European Protected Species.

Applications will be assessed on their own merits in relation to ornithological issues and applicants should be guided by Scottish Natural Heritage in respect of the requirements for ornithological studies. A range of bird survey guidance can be found at

www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/windfarm-impacts-on-birds-guidance and applicants should also refer to the RSPB's Bird Sensitivity Map.

4.4.4. Visual and Noise Impact

Impact on Settlements

- It is recognised that large scale wind farm development can impact upon local communities. Proposals affecting areas located within 2 km of a settlement and not in the green belt (i.e. parts of Neilston, Newton Mearns and Eaglesham) will require to demonstrate that visual and noise impacts on the settlement will be minimised and will not adversely affect residential amenity.

Impact on Individual Dwellings

- Applicants will require to demonstrate that there will be no unacceptable impacts on the residential amenity, including visual and noise impact, of individual residential properties.

It is expected that wirelines and noise assessments will be submitted with Environmental Impact Assessments and appropriate mitigation put in place.

4.4.5. Forestry and Woodland

Scottish Government recognises the valuable contribution trees, woodlands and forestry can make to the social, economic and environmental aspects of communities. In recognition of forestry's wider value Scottish Government has set a woodland creation target of 100,000 hectares of new woodland by 2022 to help mitigate against Climate Change.

Forestry is 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.

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 and early engagement with Forestry Commission Scotland is advised.

Where it is proposed to fell significant quantities of trees in order to accommodate a proposal, then consideration of how any tree material cleared to facilitate development will be utilised must be undertaken. Where this includes felling to waste, where the

waste generated by the process will be managed by techniques such as chipping, mulching or spreading, this approach must comply with SEPA's Management of Forestry Waste guidance.

4.4.6. Historic Environment

There are a number of listed buildings, scheduled monuments, archaeological sites, designed landscapes and conservation areas across the Council area. It is Council policy to prevent unacceptable impact on these sites and their settings. Applicants will require to demonstrate that this is the case.

Listed buildings, scheduled monuments, designed landscapes and conservation areas within the Council area can be found on the council website.⁵

The West of Scotland Archaeology Service maintain the Sites and Monuments Records which hold information on a range of archaeological sites and this can be found on the WOSAS website.⁶

4.4.7. Tourism and Recreation Interests

A number of multi-use access routes and opportunities for recreation and outdoor pursuits exist across the Council area including core paths, Dams to Darnley Country Park, golf courses and angling clubs. The visual impact of wind farms from access routes, recreational resources and viewpoints will be considered in the determination of planning applications.

There is the potential that poorly sited and designed wind farms will affect adversely the enjoyment of the area and the following criteria will be useful in determining the impact of development:

- The location in relation to cycling and walking routes;
- The relative scale of recreation and tourism in the area;
- The potential to create positive tourism and recreation opportunities associated with the development.

4.4.8. Carbon Soils

Wind farm development should be designed to cause least disruption to soil and water. The disturbance of soils, particularly peat, may lead to the release of stored carbon, contributing to greenhouse gas emissions. Where peat and carbon rich soils are present, applicants should assess the likely effects associated with the proposal. Further

⁵ www.eastrenfrewshire.gov.uk/listed-buildings.

⁶ www.wosas.net.

guidance is available in the joint publication “Good Practice During Windfarm Construction”.⁷

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. Classes 1 and 2 correspond to the ‘carbon rich soils, deep peat and priority peatland habitat’ identified in Table 1 of SPP and have been used in the spatial framework. Developers should consult the SNH website to ensure they are using the most up to date version.

Guidance can be found at www.snh.gov.uk/planning-and-development/advice-for-planners-and-developers/soils-and-development/cpp

There are difficulties in working with/in peat, particularly regarding the re-use of excavated peat and problems with waste peat disposal. Any peat reuse proposals must be in line with SEPA’s Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste and the Regulatory Position Statement – Developments on Peat.

4.4.9. Water Environment

The water environment includes wetlands, rivers, lochs, transitional waters (estuaries), coastal waters and groundwater. Consideration should also be given to groundwater dependent ecosystems, which rely on the hydrological regime to thrive. The potential impact of development on water bodies including watercourses, lochs and riparian areas is an important consideration. Early input from SEPA is required to the potential impact of the location, layout and design of the proposed development.

Wind energy developers are required to demonstrate that every effort has been made to avoid any adverse impact to the water environment. This includes all built elements of the proposed development as well as construction impacts.

Further guidance on flood risk and impacts on groundwater abstractions can be found in SEPA’s Planning Advice on Windfarm Developments and Planning Guidance on assessing the impacts of development proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems.

The Water Framework Directive⁸ 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 in terms of location, layout and design.

⁷ www.snh.gov.uk/docs/A1168678.pdf

⁸ www.gov.scot/Topics/Environment/Water/15561/WFD

4.4.10. Geodiversity

The council will ensure that opportunities to enhance geodiversity and access to sites are considered in all relevant proposals, including the potential to create, extend or restore geodiversity interests (e.g during construction of new routes or upgrade of existing ones) and that any landscaping (e.g hydroseeding) or slope grading takes account of geodiversity interests.

4.4.11. Aviation and Defence

The proximity of parts of the Council area to Glasgow Airport raises issues relating to safety and consultation with aviation authorities will be crucial for many wind energy developments.

4.4.12. Broadcasting Installations

It is the applicant's responsibility to demonstrate that they have consulted network owners and that they are satisfied with the proposal. As turbines can cause disruption to radio and television signals it is important to know the location of such installations. It is expected that where a transmission is affected the developer will provide alternative arrangements to those whose service is disrupted.

4.4.13. Transport

The impact on any adjacent trunk roads and road traffic should be considered as part of the development process and consideration should be given to the structural and physical ability of roads and bridges to accommodate any additional traffic and the need to minimise disturbance to local communities.

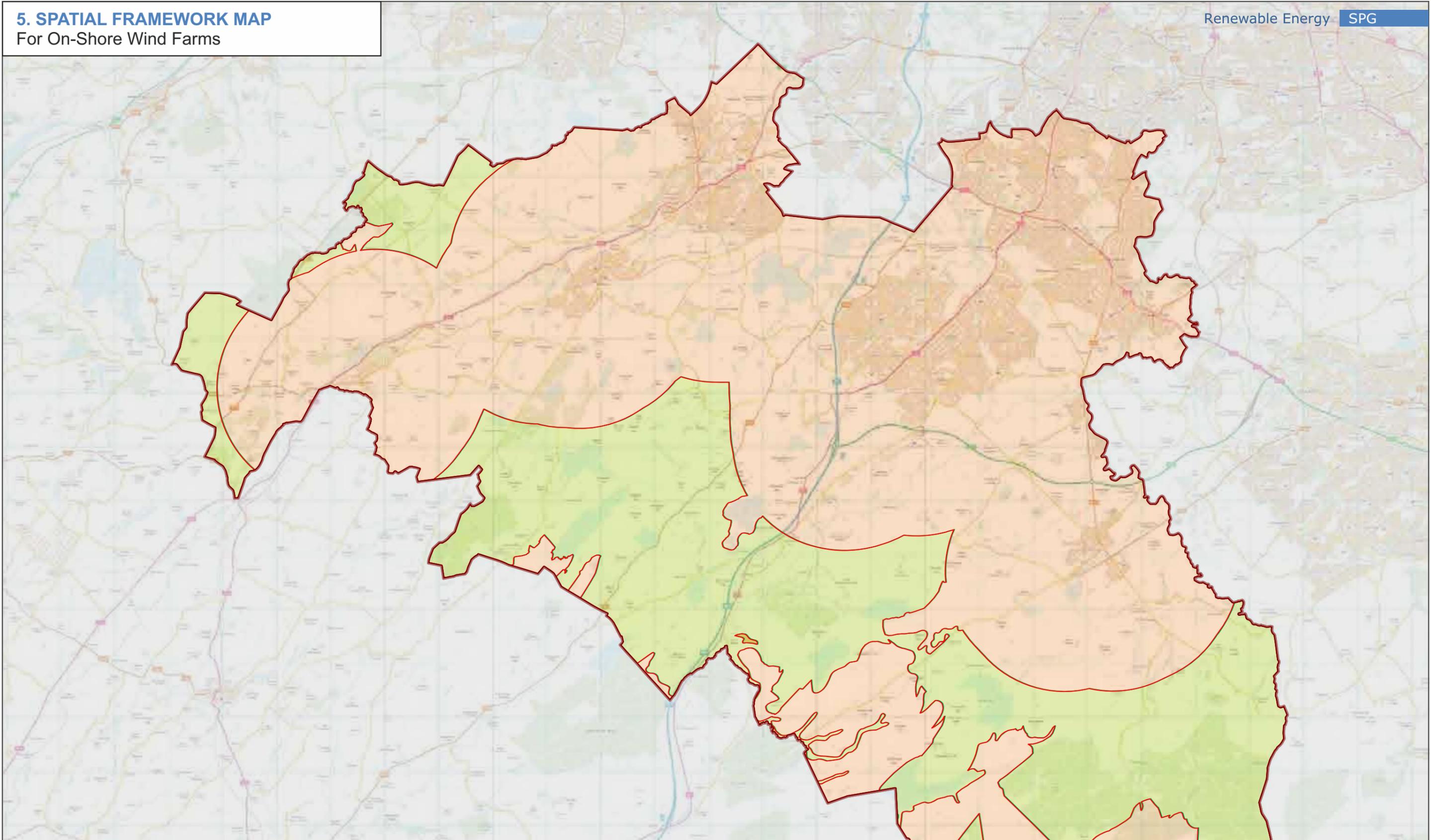
Any wind farm developments in close proximity of adjacent trunk roads may have significant impacts therefore in this type of scenario the application will require to be consulted, assessed and agreed with Transport Scotland.

4.5. Decommissioning, restoration, aftercare and repowering

- 4.5.1. Applications for wind farms should include full details of the proposals for **decommissioning, site restoration and aftercare**, to ensure that when the development comes to the end of its operational lifespan, the site is restored to an acceptable standard. This should include the removal of both the turbines and ancillary infrastructure where appropriate.
- 4.5.2. The council may require an application to be supported by a financial guarantee to ensure that decommissioning, restoration and aftercare costs can be met in full.
- 4.5.3. An application would also have to meet SEPA's requirement for the demonstration of adherence to waste regulations and that the principle of waste minimalisation has been taken into account from the outset.
- 4.5.4. It is anticipated that there will be an increasing number of situations where developers will seek to **repower** older wind farms coming to the end of their life span, or in situations where newer more efficient turbines would provide much greater yields.
- 4.5.5. Although the existing use of a site as a wind farm will be a material consideration, the same level of scrutiny of the location, scale and design of the repowered wind farm will be applied to ensure consistent decision making. The onus will remain on the developer to demonstrate the reasons for the new repowered development being acceptable in perpetuity.

4.6. Community benefits and ownership

- 4.6.1. Scottish Planning Policy 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 benefits in line with the Scottish Government's Good Practice Guide (www.gov.scot/Publications/2013/11/8279/1)
- 4.6.2. Community benefits in the form of financial contributions **cannot** be taken into account in the determination of planning applications, however, where appropriate developers may be in a position to provide benefits to help alleviate any negative consequences and to ensure the community benefits from the development.
- 4.6.3. Community ownership of wind farms can provide a much needed boost to local economies and allow communities to generate their own energy whilst also having control over how they spend the financial returns.
- 4.6.4. Neilston Community Windfarm is an example of a local wind farm that has directly benefited the local community and the council would generally support similar models of wind farm deployment.



Key



Areas of Significant Protection (Spatial Framework Group 2)



Areas with Potential for Wind Farm Development (Spatial Framework Group 3)

6. CONTACT DETAILS

For further advice on this Supplementary Planning Guidance and its application, please contact:

Principal Planner

Council Offices

2 Spiersbridge Way

Spiersbridge Business Park

Thornliebank, G46 8NG

Phone: 0141 577 3876

Fax: 0141 577 3781

Email: ldp@eastrenfrewshire.gov.uk

APPENDIX 1

FINDINGS FROM THE EAST RENFREWSHIRE WIND ENERGY STUDY (2012)

The Spatial Framework map contained in Part 2 is an important tool to set the context for wind energy developments across Scotland and provides a clear indication of the local areas requiring protection according to the criteria in Table 1 of SPP (2014). It is evident that East Renfrewshire contains both Group 2 and Group 3 areas. In order to provide further project level information for these areas, Appendix 1 and Appendix 2 focus on specific wind energy studies that have been carried out in the East Renfrewshire area.

East Renfrewshire already contains wind farms that have been erected within both Group 2 and Group 3 areas. SPP (2014) indicates that wind farms in Group 2 areas may still be appropriate in some circumstances, however, it will need to be demonstrated that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.

The Group 3 area is recognised by SPP (2014) as having potential for wind farms and that new developments are likely to be acceptable, subject to detailed consideration against identified policy criteria.

Appendix 1 and 2 provide additional guidance for developers and decision makers to understand the opportunities and limitations throughout the Group 2 and Group 3 areas.



Areas of Greatest Potential for Wind Farms over 20MW (Large Scale)

The identification of Areas of Greatest Potential also take into account a range of local considerations which are outlined below:

Local Landscape Considerations A local landscape character assessment has been undertaken to allow a finer grain of characterisation than has been applied at the strategic level.

The character of East Renfrewshire is described and classified at a regional scale in the Glasgow and Clyde Valley Landscape Character Assessment (1999). The area is almost entirely classified as plateau moorlands, and forms part of a wider area of this type, referred to as the Western (Ayrshire) Plateau, and stretching from Neilston to the Duneaton Valley in South Ayrshire.

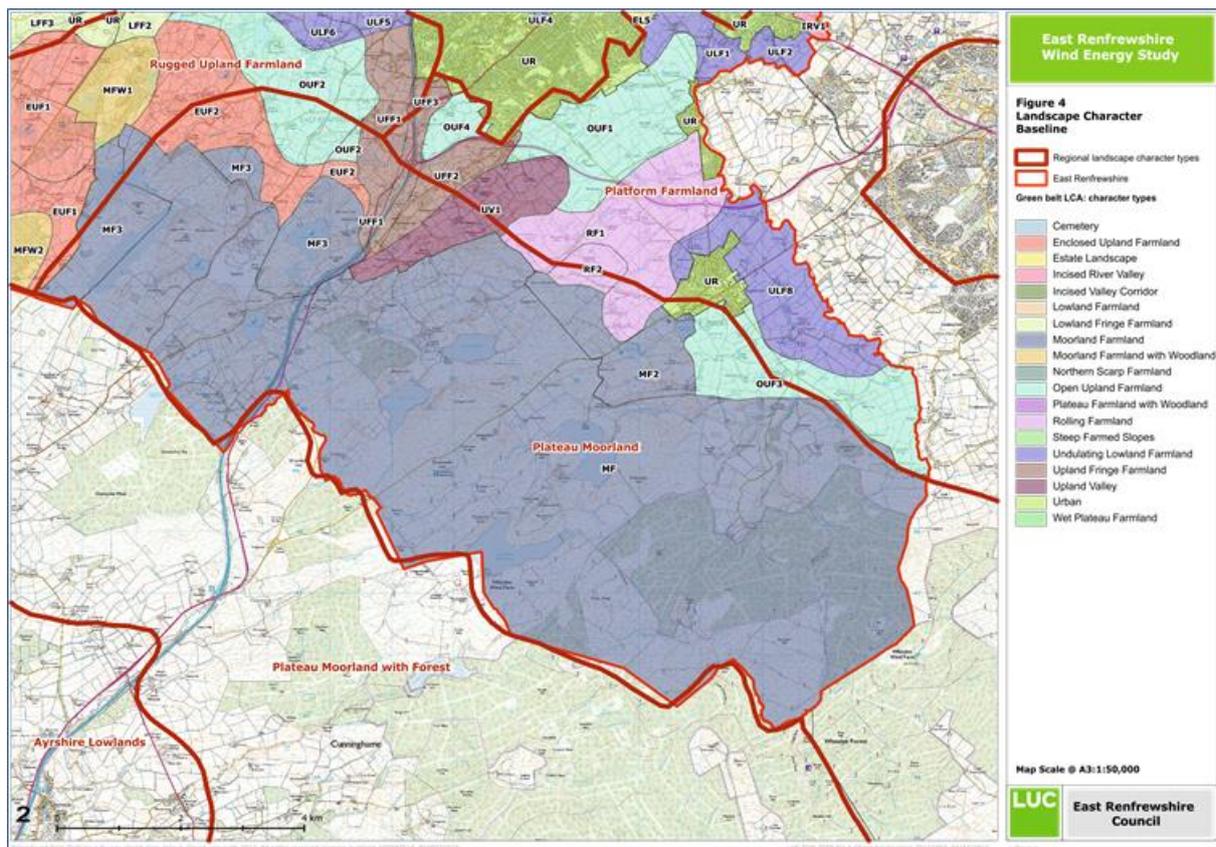
The key characteristics of this landscape type are:

- “Distinctive upland character created by the combination of elevation, exposure, smooth plateau landform, moorland vegetation and the predominant lack of modern development;
- A sense of apparent naturalness and remoteness which contrasts with the farmed and settled lowlands.”

Whilst this is relevant, there are also local variations which can be detected. In particular, the “smooth plateau landform” is only apparent to the east, while the landform is more irregular to the west. The area to the south of the Council area is classified as plateau moorland (plateau moorland with forest sub-type) in the Ayrshire Landscape Character Assessment.

An assessment of the landscape character of the East Renfrewshire green belt was undertaken in 2005 (Green Belt Landscape Character Assessment, 2005). This study does not examine the area outside the green belt but provides a locally appropriate level of detail for the adjacent areas and has informed this most recent review of the search area (see Figure 2, *Local Landscape Character*).

Figure 2: Landscape Character



The area outside the green belt and some areas extending into it are classified as moorland farmland. Key characteristics are given are detailed in the Landscape Character Assessment as follows:

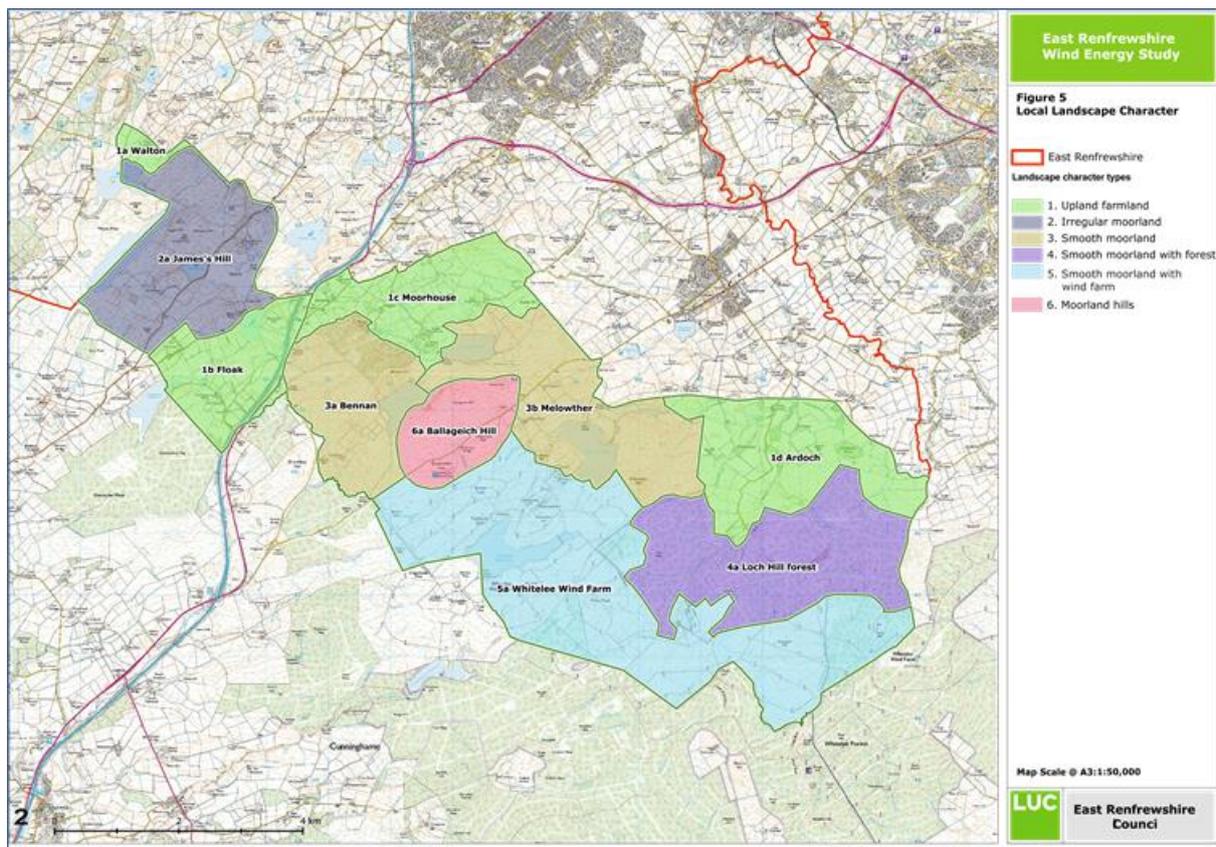
- *“Knolly, undulating rough moorland extending southwards into more undulating broad plateau, elevated to heights of 200m to 330mm AOD, which gives upland exposed character openness reinforced by lack of dominant tree cover;*
- *Large scale open irregular field pattern on upper slopes enclosing rough grazing and moorland/ heathland pasture;*
- *Predominant land cover is rough pasture with some reedy, wet areas and some flooded areas;*
- *Lack of development with few scattered farms in the landscape;*
- *Field boundaries comprise partially derelict stone walls and replacement fences;*
- *Typically vast open moorland landscape with limited areas of small block of woodland typically associated with cluster of buildings;*
- *Surrounding views are to the elevated moorland.*

The East Renfrewshire Wind Energy Study takes each landscape character type and assesses it in relation to its sensitivity to change, cumulative development and capacity to accommodate wind farms in excess of 20 megawatts. This has been informed by a range of factors:

- Views for each local character area landscape and visual characteristics have been recorded and provide a basis for assessing landscape sensitivity to wind farm development;
- Cumulative impact has been assessed taking into account the level of development present in, or visible from, each landscape;
- The level of capacity was established for each character area based on an assessment of the local landscape and visual sensitivities combined with a current picture of cumulative development. In this way a general impression of landscape capacity for large scale wind farm development could be gauged.

The likely landscape capacity of each character area is summarised in (Appendix 2, Table 2) and should be taken into account in the consideration of proposals for large scale wind farm development. This is illustrated in Figure 2, Local Landscape Character.

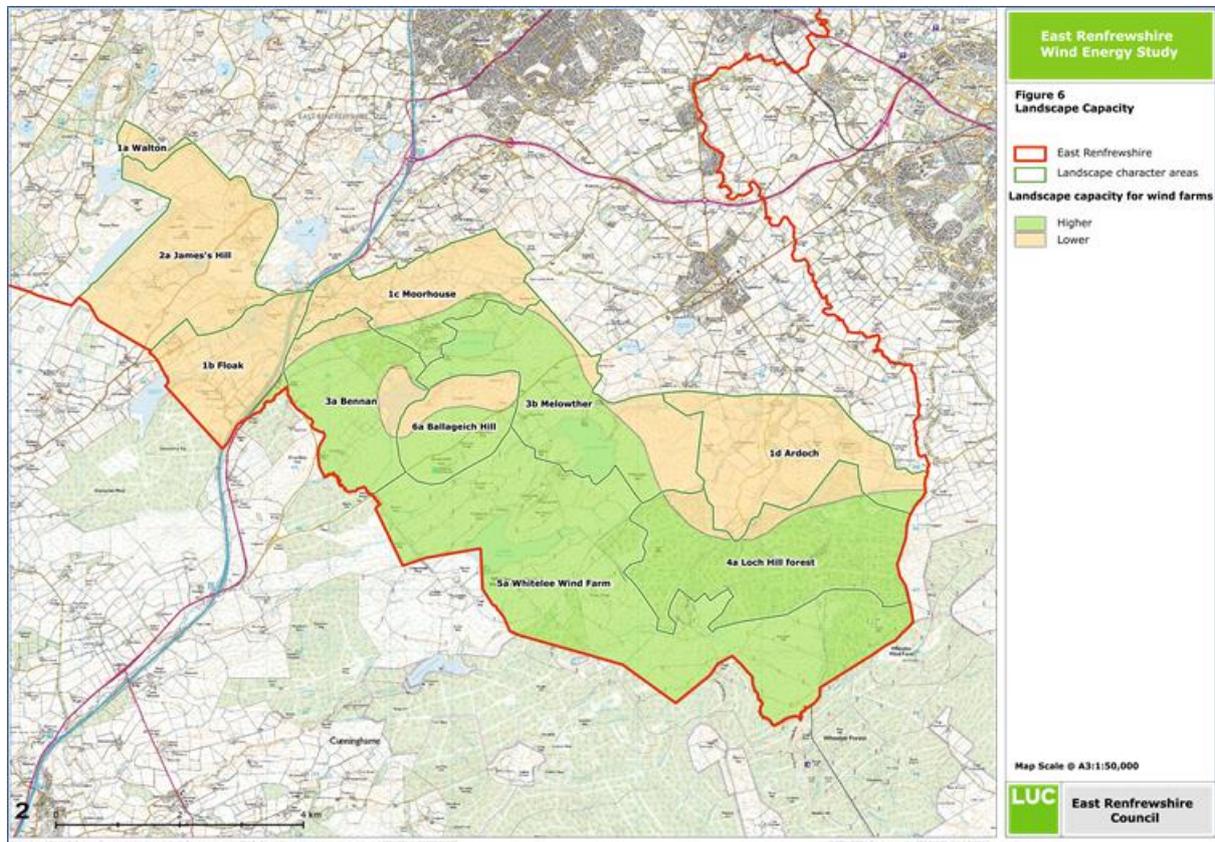
Figure 3: Local Landscape Character



Using this information a division of the study area into landscapes of relatively 'higher capacity' and 'lower capacity' has been adopted and is shown in Figure 3, Landscape Capacity. The areas which have lower capacity for large scale wind farm development are considered to be potentially constrained. Whilst all proposals will need to demonstrate that landscape and visual amenity are not adversely affected, there will be additional considerations in these areas of lower capacity, including potential for effects on landscape scale, landmarks, key views and cumulative effects.

The areas of higher capacity relate to the smooth moorland areas in the south and east of the rural area. The plateau edge along the north of the study area is of lower capacity, as is the more irregular hilly landscape to the west of the M77. The higher northern slope of Ballageich Hill is also considered to be of lower capacity for development.

Figure 4: Landscape Capacity



Having identified that there are areas within East Renfrewshire that are less likely to be able to accommodate wind energy developments over 20MW, the Council has sought to identify areas that have the most potential for developments of this scale.

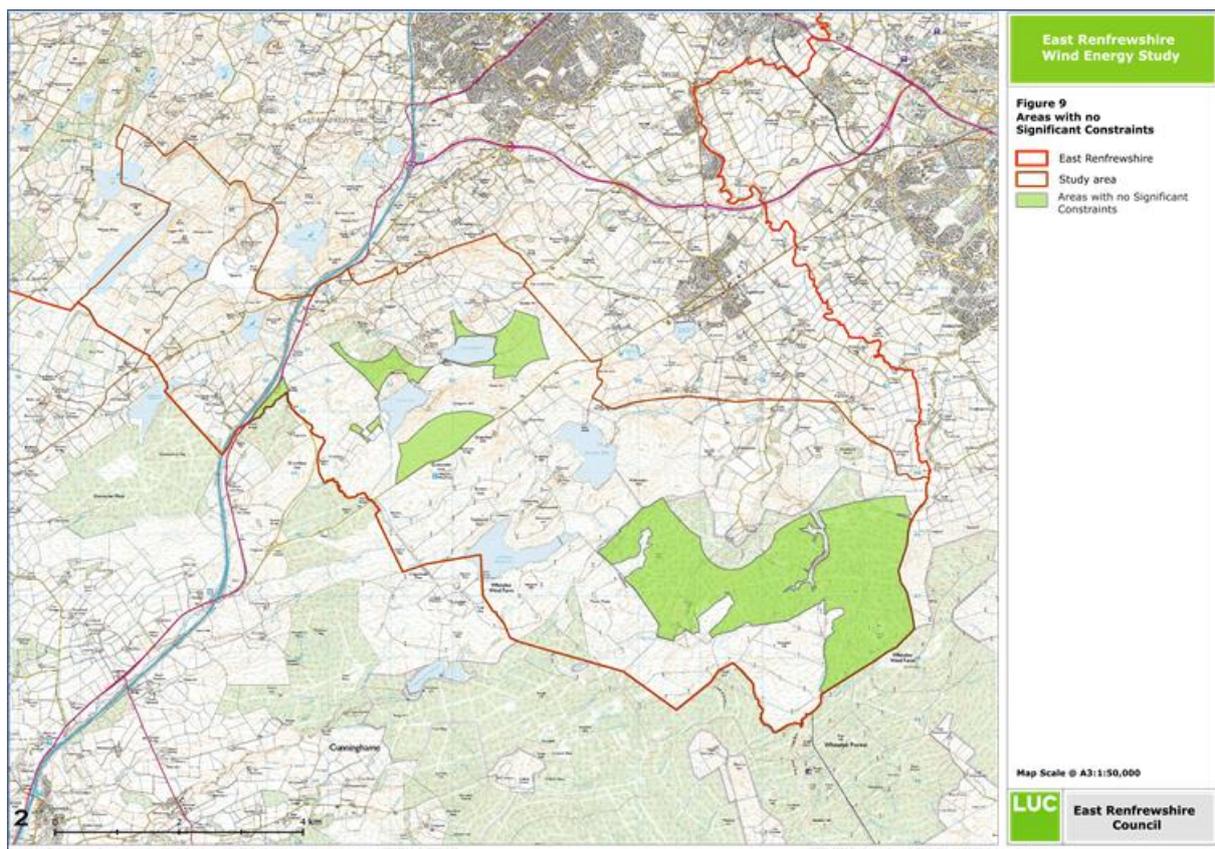
This area differs from that shown in the Strategic Development Plan but, as stated earlier in this SPG, the Strategic Development Plan shows only a broad area of search and specifically requests local authorities to refine it in their Local Development Plans. The Areas of Greatest Potential as shown on Figure 4 has been amended following scrutiny of local considerations including cumulative impact and landscape character.

Those areas considered to have a lower capacity for further large scale wind energy development because of cumulative or visual impact have been removed from the areas of search. The areas that remain are those considered to be the most appropriate for further large scale wind energy development.

Specifically the measures which have informed the East Renfrewshire Areas of Greatest Potential for large scale wind farm development (in excess of 20MW) are:

- Green belt;
- 2km buffer around settlements;
- Landscape capacity;
- Local Biodiversity Sites;
- 500m buffer around dwellings.

Figure 5: Areas of Greatest Potential for Wind Farm Development over 20 Megawatts



Single Turbines and Wind Farms Under 20 MW (Small Scale)

Single turbine sites and wind farm developments under 20 Megawatts are likely to contain a variety of turbine heights and scales and consequently can have a varying impact upon the landscape within which they sit. For this reason it is not thought appropriate to identify areas of greatest potential for these development types. However, by using government guidance and local data it is possible to indicate where there may be particular restrictions on development for single/ small scale wind energy developments. These are listed below:

- International and national designations;
- Cumulative landscape and visual impact.

As with large scale wind farm development, proposals should generally be directed away from international and national designations.

Policy D3 of the Local Development Plan and the SPG on Rural Development indicates that some renewable energy proposals within the green belt may be acceptable.

Therefore, there may be scope for single/ small scale wind energy developments to be accommodated in selected locations away from settlements and to avoid proximity to and significant cumulative impacts with large wind farms.

Impact on residential amenity will be a significant factor. Proposed developments within 2 km of the edge of cities, towns and villages (Group 2 in the Spatial Framework) will be considered on a case by case basis taking into account specific local circumstances and geography.

In addition, the visual and noise impact of proposals located within 500m of a residential property will be considered on a case by case basis.

Table 1: Landscape Capacity of Each Character Area (WES, 2012)

Area	Character Type	Capacity
1a) Walton	<p>Upland farmland located between the higher ground of Neilston Pad and Lochend Hill.</p> <p>Skylines are formed by the adjacent hills and it has a strong relationship with Neilston Pad, which is popular for recreational activities.</p>	<p>Sensitive to wind turbine development due to its complex landform, and the low but distinctive ridges which frame it. Site visible from Neilston Pad.</p> <p>Development of wind turbines could result in cumulative impact with Middleton wind farm.</p> <p>Lower capacity to accommodate wind farms of 20 megawatts or over.</p>
1b) Floak	<p>Upland farmland located between the M77 and a minor road to the northwest.</p> <p>The area is medium- large in scale and simple in landform and cover, though with some distinctive features.</p>	<p>Relatively sensitive to wind energy development where landform is more enclosed.</p> <p>Development in this area may give rise to cumulative impacts in addition to Whitelee and Harelaw and Moorhouse (currently at Planning Appeal).</p> <p>Development at Harelaw would physically limit capacity for further development.</p> <p>Lower capacity to accommodate wind farms of 20 megawatts or over.</p>
1c) Moorhouse	<p>Upland farmland located at the northern edge of the plateau. It generally has a gently shelving landform which becomes more complex and irregular to the west and more simple and convex to the east.</p> <p>The skylines are relatively simple and there are few clear landmarks.</p>	<p>The area has moderate sensitivity to wind energy development with the western part being somewhat more sensitive due to its irregular landform. The eastern part is slightly less sensitive where it is more closely associated with the smoother moorland.</p> <p>Development in this area would likely have cumulative impacts in addition to Whitelee. If Moorhouse and Harelaw are consented this would bring additional cumulative impact.</p> <p>The northern edges and western parts of the area are considered to have lower capacity however the more southerly area fringing the smooth moorland have a slightly higher capacity for wind farms of 20 megawatts or over.</p>

Area	Character Type	Capacity
1d) Ardoch	<p>Upland farmland centred on the upper valleys of the Netherton and Ardoch Burns.</p> <p>The area gently slopes northwards and lies at the edge of the plateau. Landcover is varied relative to other areas of this type, being mainly enclosed pasture with occasional arable land.</p>	<p>Limited capacity for substantial development within this area due to the irregular landform and potential for visibility from settlements to the north.</p> <p>Turbines at Whitelee are visible to the south however there may be scope for further small scale development at the southern edge of this area, close to the edge of the forest.</p> <p>Cumulative impacts may occur in relation to the consented turbines, and turbine selection would be a key issue in this relatively smaller scale landscape.</p> <p>Lower capacity to accommodate wind farms of 20 megawatts or over.</p>
2a) James's Hill	<p>This is a landscape of irregular and diverse landform, comprising a chain of low, rounded, steep sided hills.</p> <p>James's Hill is the highest point and is surrounded by hummocky moorland which contrasts with smoother moorland further east.</p> <p>Receptors in this landscape are limited to users of the B769 and a few dwellings.</p> <p>Bannerbank Quarry is a major intervention in the eastern part of the area, though other human influence is limited.</p>	<p>The area is considered to be sensitive to wind energy development, due to its more sensitive irregular landform, though it is affected by human intervention around the quarry.</p> <p>The development of Middleton and, if consented, Harelaw wind farms is likely to reduce further capacity and may lead to cumulative impact.</p> <p>Lower capacity to accommodate wind farms of 20 megawatts or over.</p>

Area	Character Type	Capacity
3a) Bennan	<p>An area of smooth, gently undulating moorland forming part of the wider moorland plateau. Aside from Bennan Hill there are no distinct landmarks.</p> <p>The area includes Bennan Loch, a coniferous plantation, and a small area of enclosed pasture but is otherwise open moorland.</p> <p>The area is visually enclosed, is not overlooked from the M77 and is not a recreational landscape.</p>	<p>The area is considered to be less sensitive to wind turbines, as an area largely undifferentiated smooth moorland. It is visually enclosed and few sensitivities have been identified.</p> <p>Developments in this area may give rise to cumulative effects alongside Whitelee. Development of Moorhouse wind farm would physically limit available space, but may not affect the capacity of this landscape to accommodate further development.</p> <p>Overall this area has higher capacity to accommodate wind energy development of 20 megawatts or over.</p>
3b) Melowther	<p>The area extends from Lochcraig Reservoir to Melowther Hill and lies at the northern edge of the smooth moorland plateau. It is a simple, gently undulating landscape, with only topographical variation occurring around the valley of Dunwan Burn.</p> <p>Aside from enclosed fields of semi improved pasture around Greenhill, the area is unenclosed grass moorland.</p> <p>The area has a simple skyline and few significant landmarks. The area is not a recreational landscape.</p>	<p>The area of smooth moorland has limited sensitivity in terms of its landform and scale, though its location at the northward facing plateau edge means it is highly visible and thus more sensitive than similar areas of smooth moorland character.</p> <p>The areas of greatest sensitivity are those to the north, where the moorland plateau begins to drop away. Further south sensitivity decreases on the plateau itself. Cumulative effects would arise where development in this area will be seen in combination with Whitelee, particularly if development results in the perception of turbines extending beyond the plateau.</p> <p>Overall this landscape has higher capacity to accommodate wind farms of 20 megawatts or over, though the northern edge has lower capacity.</p>

Area	Character Type	Capacity
4a) Loch Hill Forest	<p>This smooth moorland landform is generally marked by forestry. It lies at the edge of the plateau and is dissected by the upper valleys of burns.</p> <p>There is some variety in land cover and there are areas of blanket coniferous plantation.</p> <p>There are few views out of the dense forest, and few receptors, though parts of the area are publicly accessible via Whitelee wind farm.</p> <p>The area lies at the northern edge of the plateau, as the land begins to shelve away towards Eaglesham, and is therefore more visible from areas to the north</p>	<p>Development in this area would be highly visible from the north, though turbines would potentially be viewed as part of the Whitelee Wind Farm.</p> <p>Changes to forest cover would be required and this could result in changes to the skyline and screening of existing turbines at Whitelee. Locally the smaller scale landscapes would be of greater sensitivity than the more open parts of the plateau.</p> <p>This area is considered to have higher capacity for further development, particularly if carried out along the southern edge in the context of Whitelee.</p> <p>The northern part of the area is more visible and is therefore of lower capacity.</p>
5a) Whitelee Moor	<p>This area comprises a large open tract of smooth moorland plateau. The landscape undulates gently although there are steeper slopes and hills and the pronounced crag at Dunwan Hill is the only significant natural landmark.</p> <p>There is little enclosure with manmade dams to the western part of the site at Loch Goin and Dunwan. Over 80 turbines are located here connected by tracks across the moor.</p> <p>The skylines in this area are open and smooth and only interrupted by turbines. There are few residential receptors and the crag at Dunwan Hill is the only significant natural landmark.</p>	<p>Although there is unlikely to be any physical capacity for further development due to the number of existing turbines, the underlying landscape has reduced sensitivity.</p> <p>Future development in this area could include re-powering of Whitelee.</p> <p>The landscape has a higher capacity to accommodate wind energy development of over 20 megawatts.</p> <p>The capacity is currently constrained by existing development.</p>

Area	Character Type	Capacity
<p>6a) Ballageich Hill</p>	<p>This area of low, rounded hills is elevated above the surrounding moorland. It is a simple, large scale moorland landscape but has more distinction as a group of upstanding hills.</p> <p>The hills act as local landmarks, particularly the steeper slopes viewed from Eaglesham Road.</p> <p>The area is adjacent to Whitelee wind farm and will be impacted upon by Moorhouse wind farm if it is consented.</p> <p>Due to its elevated nature, the landscape will enable views to other wind energy developments in the wider area.</p>	<p>This more distinctive section of elevated landscape within the moors is considered to be of higher sensitivity, particularly on its steeper northern side, where the turbines are likely to be more widely visible.</p> <p>Turbines may also affect perception of these low hills.</p> <p>The southern facing slopes of the hills are considered to be of lower sensitivity as development would be more screened from the north and this area is more associated with the lower sensitivity smooth moorland.</p> <p>The northern parts of this landscape are considered to have lower capacity to accommodate wind farms of 20 megawatts or over and the southern areas are considered to have higher capacity.</p>

APPENDIX 2

FINDINGS FROM THE LANDSCAPE CAPACITY STUDY (2014)

Overview

The study presents a strategic view of the sensitivity and capacity of the landscape of East Renfrewshire in relation to wind energy. It identified higher landscape sensitivity in the smaller landscapes of East Renfrewshire, and lower sensitivity in the more open landscapes in the south east. These areas of the Plateau Moorland and Plateau Farmland LCTs are judged to have higher levels of underlying capacity, but the current residual capacity is much reduced by the high level of development already operating within this area.

Whitelee wind farm occupies a large part of East Renfrewshire, and is widely visible across much of the Clyde basin to the north. Further development on the moorland may lead to cumulative effects on these wider views. Development of turbines in the farmland to the north of Whitelee may lead to cumulative effects on local views, with turbines of different scales being visible together.

The potential for cumulative effects therefore presents a limiting factor to capacity in these landscapes, as well as in the area around the Levern Valley where cumulative effects may arise from development flanking the valley.

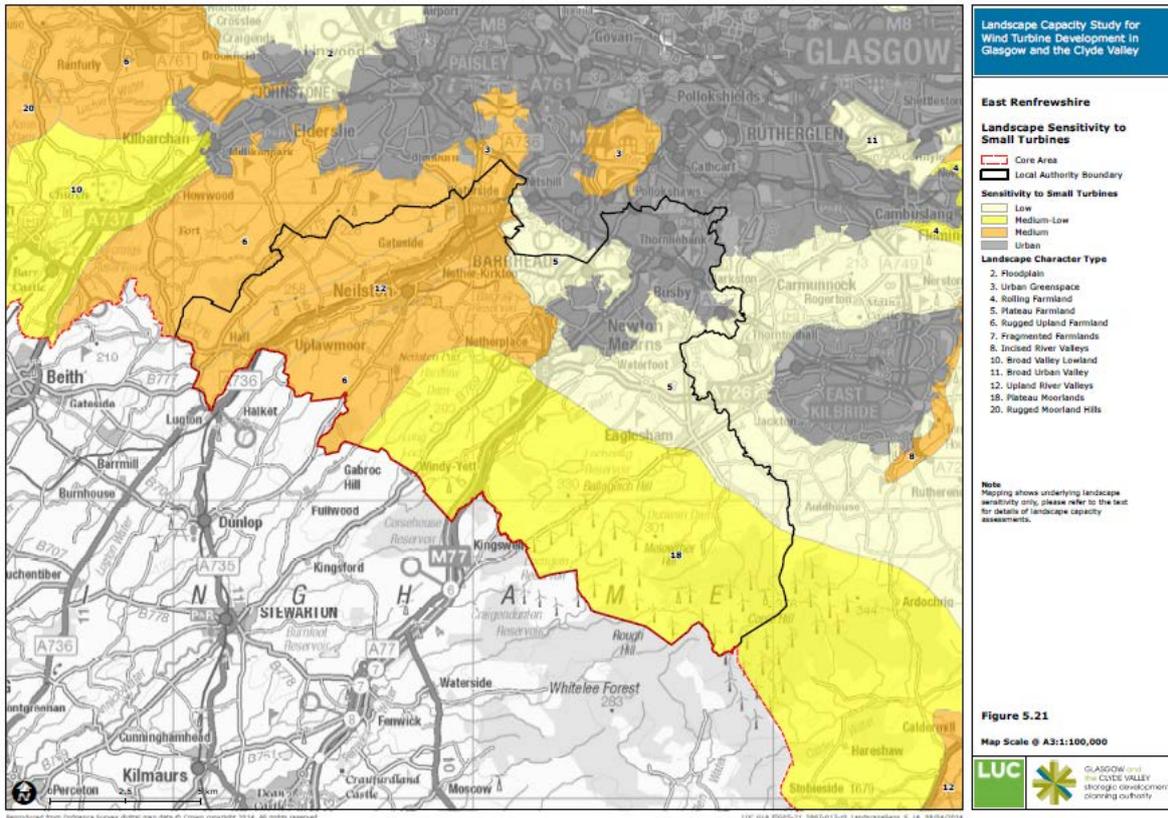
Turbine Development typologies

Turbine typology	Height range
Small turbine	15 - 30 m to tip
Small-Medium turbine	31 – 50 m to tip
Medium turbine	51 – 80 m to tip
Large turbine	81 – 120 m to tip
Very large turbine	Over 120 m to tip, up to around 150 m

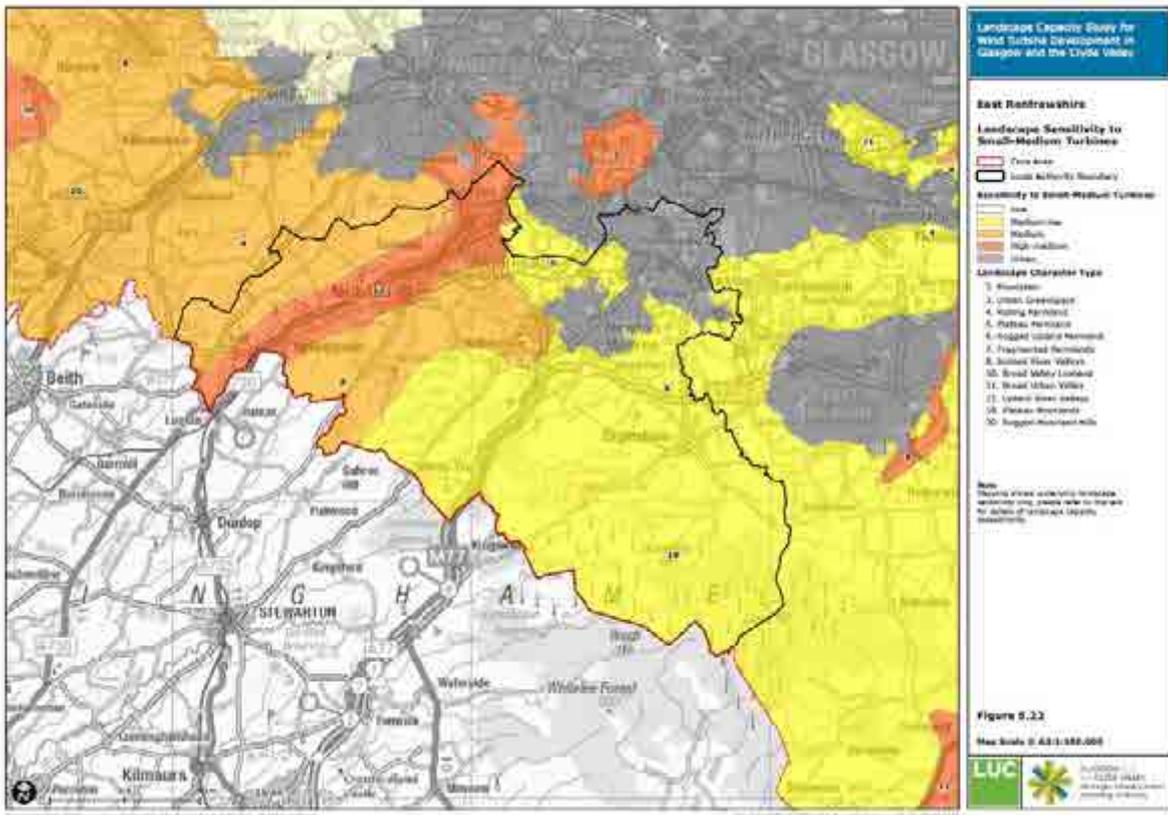
Table 2: Summary of sensitivity and capacity in East Renfrewshire (LCS, 2014)

Landscape Character Type (LCT)	Turbine Typology	Sensitivity	Underlying Capacity	Current Residual Capacity
3 Urban Greenspace	Small	Medium	Low capacity for wind energy development at all scales: there may be limited opportunities for small turbines within this landscape	As underlying capacity
	Small-medium	High-medium		
	Medium	High		
	Large	High		
	Very large	High		
5 Plateau Farmland	Small	Low	Moderate to higher overall capacity for wind turbine development at a range of scales, up to large typology	Lower residual capacity for all turbine scales, except for small or small-medium turbines
	Small-medium	Medium-low		
	Medium	Medium		
	Large	High-medium		
	Very large	High-medium		
6 Rugged Upland Farmland	Small	Medium	Moderate to lower capacity for wind energy development at small or small-medium scales, with lower capacity for medium development and limited capacity for large or very large turbines	As underlying capacity
	Small-medium	Medium		
	Medium	High-medium		
	Large	High		
	Very large	High		
12 Upland River Valley	Small	Medium	Lower capacity for wind turbine development at all but the smallest developments	As underlying capacity
	Small-medium	High-medium		
	Medium	High		
	Large	High		
	Very large	High		
18 Plateau Moorlands	Small	Medium-low	Moderate to higher capacity for small, small-medium or medium scale wind turbine development, and moderate capacity at large or very large scales	May be capacity for development which is set back from the ridge
	Small-medium	Medium-low		
	Medium	Medium		
	Large	High-medium		
	Very large	High-medium		

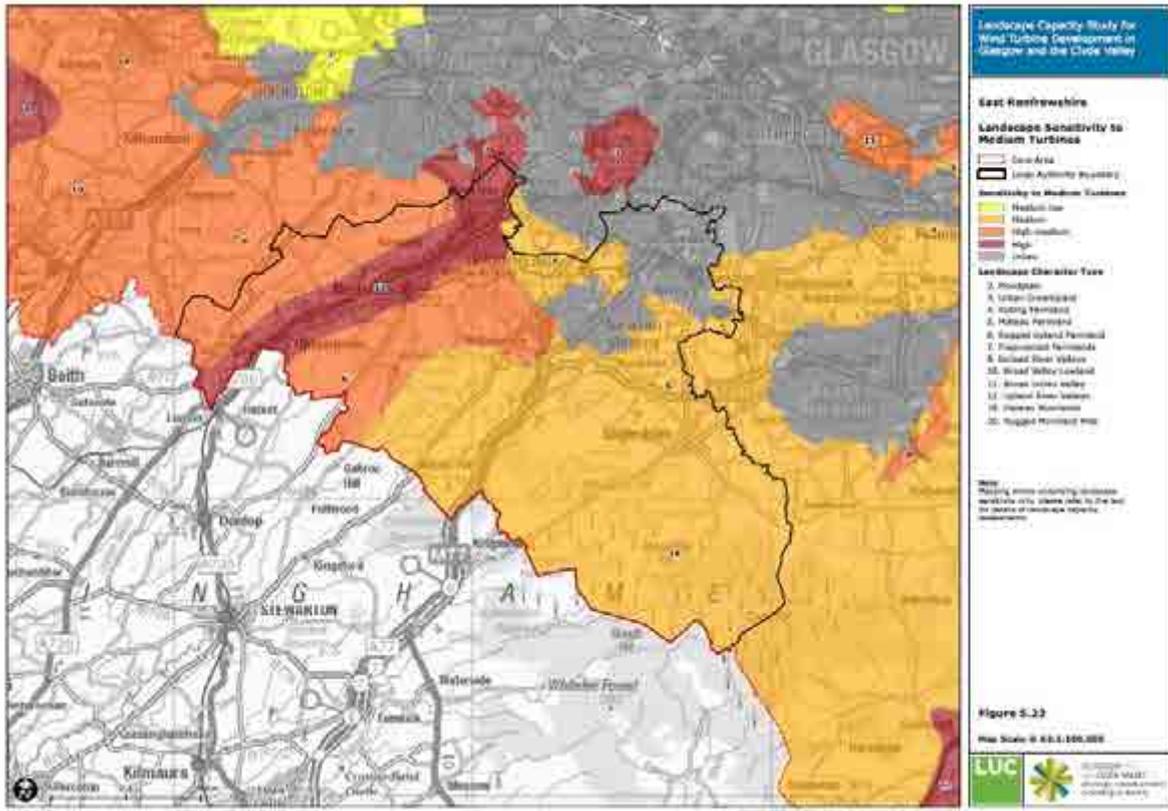
Landscape sensitivity to small turbines



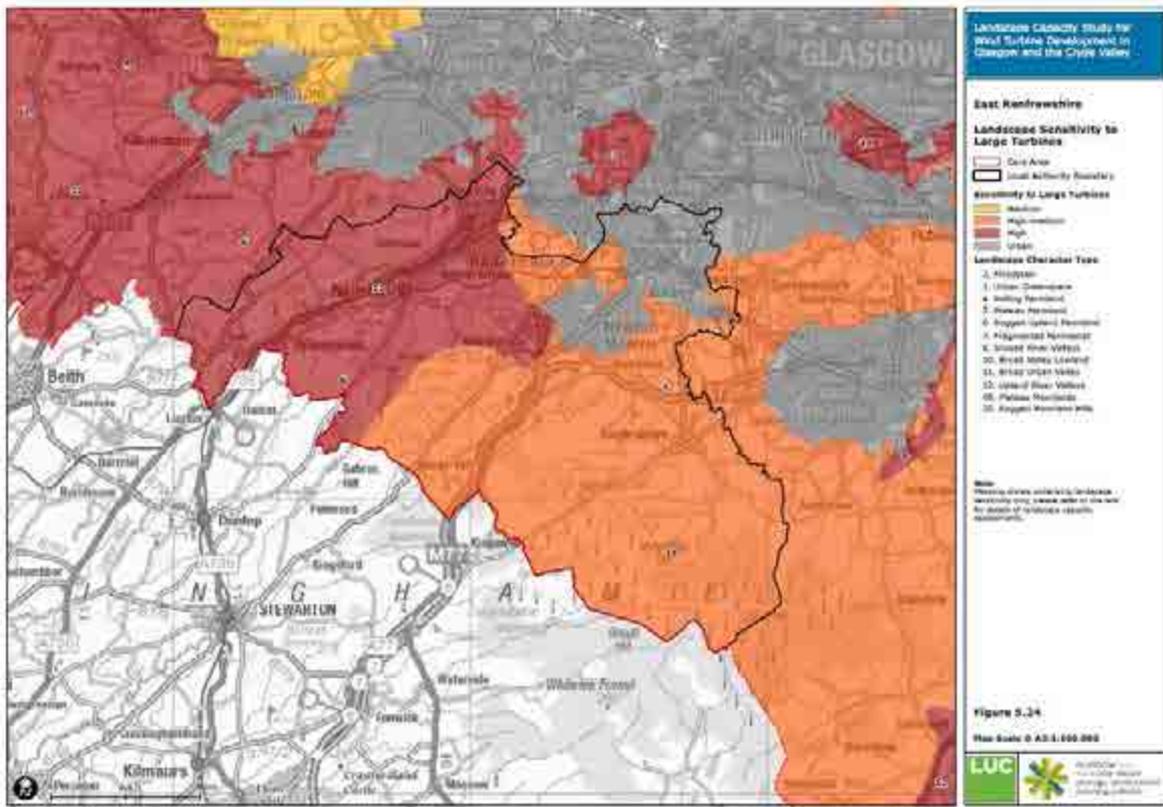
Landscape sensitivity to small-medium turbines



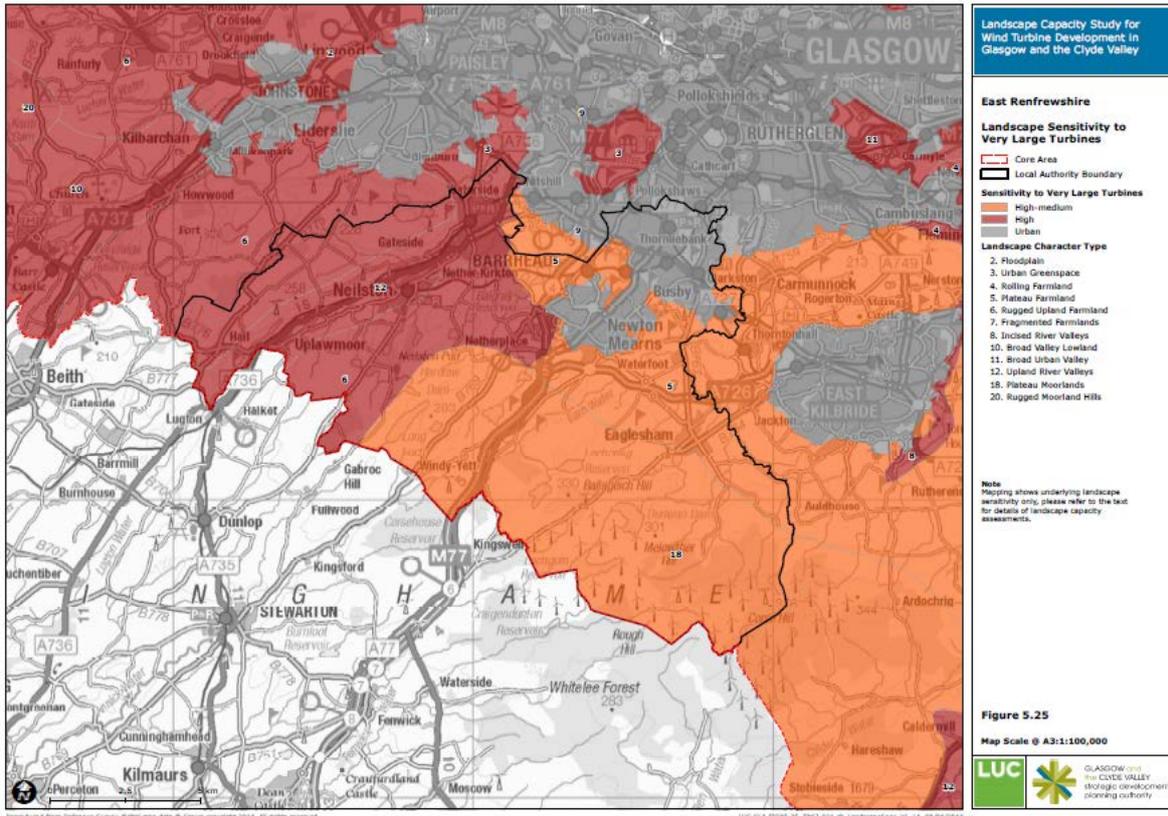
Landscape sensitivity to medium turbines



Landscape sensitivity to large turbines



Landscape sensitivity to very large turbines



APPENDIX 3

EXAMPLES OF SUPPORTED TECHNOLOGIES

Electricity

Solar PV

- i. Solar energy in Scotland has largely been confined to small scale domestic or community schemes. Recent advances in technology and the falling price of solar installations has resulted in the potential for commercial solar farms mean that applications for solar farms are becoming a distinct possibility.
- ii. Solar farms are made up of a series of free standing solar photovoltaics (PV) which are normally mounted on frames that are anchored to the ground. The height and angle of the panels will be guided by the surrounding landform and orientation of the site. The panels are normally arranged in rows with adequate space between the rows to avoid over shadowing.
- iii. The council is generally supportive of this technology and the potential for the development of solar farms largely rests on the selection of locations that minimise the impact on the surrounding environment.
- iv. There is support for co-location with existing wind farms with the complementary nature of the technologies helping to address efficiency and intermittency issues. In addition, the use of vacant and derelict land for ground based solar installations, or the use of industrial rooftop locations would also provide further opportunities for deployment of this technology.
- v. Further information on arrange of solar energy issues can be found at the BRE website www.bre.co.uk/nsc/

Fuels

Biogas

- vi. The production of Biogas, and other fuels, from a variety of natural sources can contribute to the Scottish Government's renewable energy targets and help combat climate change.
- vii. The council recognises the importance of supporting a mix of renewable energy sources and the need for medium-large scale commercial projects to meet consumer demand and climate change targets.
- viii. Anaerobic digestors are an example of a commercially viable method of producing useable fuels, that when based on purely natural sources, such as grass, would fall within the category of renewable energy.

- ix. Energy from waste may play a part in the production of Biogas or other types of energy source, however, it should be recognised that mixed residual waste is considered to be a partially renewable energy source. Waste that consists of things made from oil, such as plastic products, does not qualify as a renewable source, however, anything that has recently been growing and is biodegradable, such as paper, wood and some foodstuffs would be considered as a renewable source.

APPENDIX 4

Domestic Scale Microgeneration

- x. Beyond the commercial scale, domestic microgeneration can have a significant impact on reducing reliance on fossil fuels and shifting cultural attitudes towards supporting a decentralised energy system. In addition to the carbon benefits, increased use of micro-renewables plays an important part in diversifying our energy mix, ensuring security of energy supply. It can allow energy to be produced and consumed locally, help alleviate fuel poverty (especially in off-gas network areas) and play a part in meeting renewable energy targets.
- xii. These various micro-renewable technologies can be used individually or in combination to provide renewable energy in all seasons. The best micro-renewable technology to use will vary depending on the local context, available resource and the energy requirements of the applicant. Micro-renewables can be retrofitted to existing buildings, where they may be the subject of a specific application; or they can be built into new developments.
- xii. For further information on the technologies and further advice and guidance you can see <https://beta.gov.scot/publications/microgeneration-planning-advice/Microgeneration.pdf?inline=true> and the Renewable Technologies and Planning Permission Briefing note on www.eastrenfrewshire.gov.uk
- xiii. The comments in Table 3 relate only to planning permission and do not cover the need for any other permissions, for instance listed building consent; approval under the Building Regulations or any Environmental Health implications.
- xiv. Domestic renewable energy production should be considered alongside energy efficiency measures that can help limit the energy requirements of individual households. A variety of measures are outlined in East Renfrewshire's complementary **SPG Energy Efficient Design** (www.eastrenfrewshire.gov.uk).



Table 3: Guidance for Domestic Properties

Technology	What is Permitted without Needing Planning Permission
<p>Wind turbines – can be either freestanding on a mast or fixed to a building on a pole.</p> <p>Energy generation can be good if wind speeds are adequate, however they can be visually intrusive and there are concerns that some generate a degree of noise, vibration, light flicker and disturb television reception.</p>	<p>Free-standing turbines - Not permitted development in a conservation area or in the curtilage of a listed building. Outwith these locations, only one turbine per property is permitted and should be sited at least 100 metres from the curtilage of another dwelling. The installation must be:</p> <ul style="list-style-type: none"> • sited to minimise its effect on the amenity of the area; • only be for domestic generation; and • removed when no longer needed. <p>Whilst planning permission is not required in these instances, you will still require to seek the prior approval of the Council for the design and size of the proposed turbine).⁽²⁾</p> <p>Turbines attached to a dwelling will always require planning permission.</p>
<p>Solar electricity – can either be fixed to a building (either the roof or a wall) or freestanding solar panelling can be installed at or near ground level.</p> <p>There are potential issues with visual intrusion.</p>	<p>Solar panels on dwellings – Not permitted development in a conservation area or on a listed building. Outwith these locations panels are permitted subject to them protruding no more than 1 metre from the surface of the wall, roof or chimney.</p> <p>Free-standing solar panels - Not permitted in a conservation area or within the curtilage of listed building.</p> <p>Outwith these locations panels are not permitted forward of any principal elevation or side wall, where that elevation/wall fronts a road.</p> <p>Panels will only be permitted up to 3 metres above ground level and only where the area of ground covered by development takes up no more than half of the front or rear garden (excluding the ground area of the original house and any hard surface or deck).⁽³⁾</p>

Technology	What is Permitted without Needing Planning Permission
<p>Heat pumps – collect low level heat from outside a building (from the ground, water or the air) and release it at a higher temperature inside the building</p>	<p>Air-source heat pump - Not permitted development in a conservation area if the pump is visible from a road, and not at on a listed building. Outwith these areas only one installation per property, which should be sited at least 100 metres from the curtilage of another dwelling.</p> <p>The installation must be:</p> <ul style="list-style-type: none"> • sited to minimise its effect on the amenity of the area; • for domestic generation; and • be removed when no longer needed (even though planning permission is not needed in these instances, you will need to apply and get the prior approval of the Council for the design and size of the proposed heat pump).⁽²⁾ <p>Ground-source and water-source heat pumps are permitted within the curtilage of a house or flat.⁽¹⁾</p> <p>Combined heat and power system In a conservation area, a flue is not permitted on the principal elevation of a property; and not on a listed building.</p> <p>Outwith these areas permission is not needed for an external boiler flue providing that its height is no more than 1 metre above the highest part of the roof (excluding the chimney).⁽¹⁾</p>
<p>Biomass Boilers – burn wood, usually in the form of pellets or chips. They are deemed carbon neutral because the carbon emitted during burning is the same as that absorbed during growth. There can be some concerns about the smoke/particles that they emit and the visual impact of the boiler and flue.</p>	<p>Boilers will largely be located inside a dwelling and consequently will not require planning permission.</p> <p>The flue is not permitted on the principal elevation of a property within a conservation area, a listed building or within an Air Quality Management Area.</p> <p>Outwith these areas permission is not needed for an external boiler flue providing that its height is no more than 1 metre above the highest part of the roof (excluding the chimney).⁽¹⁾</p>

Legislation notes:

⁽¹⁾ [The Town and Country Planning \(General Permitted Development\)\(Domestic Microgeneration\)\(Scotland\) Amendment Order 2009](#)

⁽²⁾ [The Town and Country Planning \(General Permitted Development\)\(Domestic Microgeneration\)\(Scotland\) Amendment Order 2010](#)

⁽³⁾ [The Town and Country Planning \(General Permitted Development\)\(Scotland\) Amendment Order 2011](#)

If you require this information in large print, Braille or translated, please telephone our Customer Service Officer on 0141 577 3001.

इस सूचना-पत्र मे उल्लेखित सूचना यदि आप हिन्दी अनुवाद मे चाहे तो कृपया सम्पर्क करे ।

ਜੇ ਤੁਸੀਂ ਇਸ ਲੀਫਲੈਟ ਵਿਚ ਦਿਤੀ ਜਾਣਕਾਰੀ ਦਾ ਅਨੁਵਾਦ ਚਾਹੁੰਦੇ ਹੋ ਇਥੇ ਸੰਪਰਕ ਕਰੋ।

اگر آپ اس لیفلیٹ میں درج معلومات کا ترجمہ اپنی زبان میں چاہتے ہیں تو ہم سے رابطہ کریں

如果您想得到该资料所含信息的译文，请联系：

