# Resource Use and Renewable Energy

Supplementary Planning Document

Version for adoption, July 2014

# Foreword

Part (A) of Policy LP14 of the Fenland Local Plan focuses on resource use, renewable energy and allowable solutions.

The purpose of this Resource Use and Renewable Energy Supplementary Planning Document (SPD) is to set out in detail Fenland District Council's policies in respect of these issues, in order to suitably expand on Part (A) of Policy LP14 and thus ultimately achieve more sustainable development within the Fenland area.

In providing additional detail in relation to Policy LP14, it is intended that this SPD will not only provide additional guidance to the Council when assessing relevant planning applications, but that it will also provide prospective applicants with the necessary information that they should consider when preparing a proposal and submitting a planning application.

This 'July 2014' version for adoption follows the earlier 'January 2014' and 'June 2014' consultation draft versions of the SPD. Revisions were made to the SPD in light of comments received during the consultations on the draft versions of the SPD which ran from January 14th to February 24th 2014 and from June 3rd to June 30th 2014 respectively.

# Policy LP14 of the Fenland Local Plan (May 2014)

## Policy LP14 – Responding to Climate Change and Managing the Risk of Flooding in Fenland

**Part (A) Resource Use, Renewable Energy and Allowable Solutions**

**Resource Use:**
In order to address the following:

(a) the urgent need to combat the causes of, and adaptation to, climate change;
(b) the chronic levels of fuel poverty in selected parts of the district;
(c) the need to compensate for the embodied energy of new buildings;
(d) the need to create local jobs in Fenland;
(e) the increasing need to use water more efficiently;
(f) the desire to develop skills and experience in the 'green economy';
(g) the desire to minimise, as a result of new development, the need for costly and resource intensive upgrades and capacity increases to the wider power infrastructure network, and
(h) the need, generally, to upgrade existing dwellings to better energy performance (acknowledging the fact that 85% of today's existing, mostly energy inefficient, homes in the UK will likely still be in existence in 2050),

The Council will expect all developments of one dwelling or more, or 100 sq m or more for non-dwellings, to explicitly demonstrate what reasonable contribution the development will make towards minimising resource consumption above and beyond what is required by Building Regulations and/or other standard planning policies.

To meet this policy requirement will be a matter for negotiation. However, in order to assist developers in meeting the 'reasonable contribution' test, the Council will prepare and maintain a Resource Use based SPD which will set out a cost-effective and viable set of options for the developer.

All developments (dwellings and non-dwellings) are encouraged to incorporate on site renewable and/or decentralised renewable or low carbon energy sources, water saving measures and measures to help the development withstand the longer term impacts of climate change.

**Renewable Energy:**
Renewable energy proposals will be supported and considered in the context of sustainable development and climate change. Proposals for renewable energy technology, associated infrastructure and integration of renewable technology on existing or proposed structures will be assessed both individually and cumulatively on their merits taking account of the following factors;

- The surrounding landscape, townscape and heritage assets
- Residential and visual amenity
- Noise impact
- Specific highway safety, designated nature conservation or biodiversity considerations
- Aircraft movements and associated activities
- High quality agricultural land

The granting or refusal of planning permission for wind turbines will be informed by up-to-date local evidence and, if produced as anticipated, a Resource Use Supplementary

Planning Document.

Renewable energy proposals which will directly benefit a local community in the medium and long term and/or are targeted at residents experiencing fuel poverty will be particularly supported.

**Allowable Solutions**
Development proposals will, through Building Regulations or other regulations, need to meet all or the majority of their required reduction of carbon emissions on-site. Where these cannot be fully met on-site, and where a lawful mechanism exists to do so, the Council will be prepared to accept, as an 'allowable solution', a financial contribution to make up the difference. To implement this policy the Council intends to participate in a local offset fund, such as a Community Energy Fund. The contribution will be used to finance renewable energy projects within the local area identified through the Cambridgeshire Carbon Reduction Infrastructure Framework (CRIF) or subsequent updates or similar approaches.

**Part (B) Flood Risk and Drainage**
The granting or refusal of planning permission on sites will be informed by:

- Fenland Detailed Stage 2a Water Cycle Study [2011]
- Fenland Level 1 SFRA (District Wide) [2011]
- Fenland Level 2 SFRA (Wisbech) [2012]
- Cambridgeshire Surface Water Management Plan [2011]
- Middle Level Strategic Study [2004]
- Any subsequent additional or updated SFRAs, Surface Water Management Plans, Catchment Studies, and Water Cycle Studies
- Any national advice in force at the time

All development proposals should adopt a sequential approach to flood risk from all forms of flooding. Development in areas known to be at risk from any form of flooding will only be permitted following:

(a) the successful completion of a sequential test (if necessary), having regard to actual and residual flood risks
(b) an exception test (if necessary),
(c) the suitable demonstration of meeting an identified need, and
(d) through the submission of a site specific flood risk assessment, demonstrating appropriate flood risk management and safety measures and a positive approach to reducing flood risk overall, and without reliance on emergency services

In addition to the requirements of the NPPF and associated technical guide, all applications for relevant developments must include a drainage strategy to demonstrate that:

(a) suitable consideration has been given to surface water drainage;
(b) appropriate arrangements for attenuating surface water run-off can be accommodated within the site; and
(c) issues of ownership and maintenance are addressed. For foul drainage private infrastructure managed by residents groups or management companies should be avoided

The use of Sustainable Drainage Systems (SuDs) will be required to ensure that runoff from the site (post development) is to Greenfield runoff rates for all previously undeveloped sites and for developed sites (where feasible). This should include sufficient area within the site to accommodate SuDS for the short term management of surface water drainage and where

appropriate link to green / blue infrastructure to exploit opportunities for biodiversity, environmental, heritage, social and recreational enhancement and value. Schemes should complement the aims of the Cambridgeshire Green Infrastructure Strategy but should be retained and maintained primarily for the purpose for which they were designed, whilst being sensitive to the multi–functional benefits they can provide.

The most appropriate SuDS techniques should be used depending on the particular circumstances of the site and area. Consideration should be given to the facility to be used, what is trying to be achieved, and the nature of water level management in the area.

The discharge of surface water from developments should be designed to contribute to an improvement in water quality in the receiving water course or aquifer in accordance with the objectives of the Water Framework Directive.

All proposals should have regard to the guidance and byelaws of the relevant Internal Drainage Board, including, where appropriate the Middle Level Strategic Study and should help achieve the flood management goals from the River Nene and Great Ouse Catchment Flood Management Plans.

A Supplementary Planning Document informed by up-to-date national and local evidence and to be adopted in 2014 will be used to further assess planning applications on flood risk and drainage matters.

# Policy List

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|---|---|
| **Benefitting Local Communities** | |
| **COM1** | Proposals which will directly benefit a local community |
| **Wind Turbines** | |
| **WT1** | Surrounding landscape, townscape and heritage assets |
| **WT2** | Residential and visual amenity |
| **WT3** | Noise impact |
| **WT4** | Highway safety, designated nature conservation and biodiversity considerations |
| **WT5** | Aircraft movements and associated activities |
| **WT6** | High quality agricultural land |
| **Active Solar Technology** | |
| **S1** | Surrounding landscape, townscape and heritage assets |
| **S2** | Residential and visual amenity |
| **S3** | Noise impact |
| **S4** | Highway safety, designated nature conservation and biodiversity considerations |
| **S5** | Aircraft movements and associated activities |
| **S6** | High quality agricultural land |
| **Dry Biomass and Anaerobic Digestion Facilities** | |
| **B1** | Surrounding landscape, townscape and heritage assets |
| **B2** | Residential and visual amenity |
| **B3** | Noise impact |
| **B4** | Highway safety, designated nature conservation and biodiversity considerations |
| **B5** | High quality agricultural land |

# SPD
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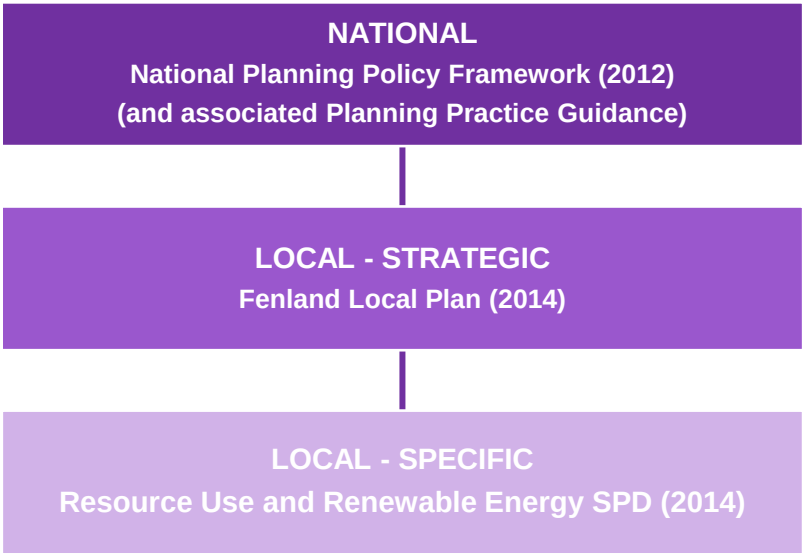
# Part 1: Introduction and Context

## 1.1 Context

1.1.1. Local Planning Authorities can prepare Supplementary Planning Documents (SPDs) to expand on the policies contained within their adopted Local Plan in order to help applicants make successful applications or aid infrastructure delivery.

1.1.2. Figure 1 highlights what position this SPD has in the planning policy hierarchy.

Figure 1: Context of this Resource Use and Renewable Energy SPD




1.1.3. In relation to resource use and renewable energy, at national level, the National Planning Policy Framework (NPPF, 2012) dictates, for example, that:

- *"Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change*" (para 94, page 22).
- The planning system should *"mitigate and adapt to climate change including moving to a low carbon economy"* (para 7, page 2).
- *"…planning should…encourage the use of renewable resources, (for example, by the development of renewable energy)…"* (para 17, page 5).

1.1.4. At a local level, the Fenland Local Plan includes:

- Objective 4.1: *"increase use of renewable energy sources"*.
- Objective 5.1: *"reduce emissions of greenhouse gases and other pollutants".*

1.1.5. This Resource Use and Renewable Energy Supplementary Planning Document has been prepared to support Part (A) of Policy LP14 - *'Responding to climate change and managing the risk of flooding in Fenland'* - of the Local Plan. Specifically, it is intended that this SPD will assist developers in meeting the 'reasonable contribution' test outlined in policy LP14 and in turn (alongside Fenland's Local Plan, other supplementary planning documents and national planning policy guidance) assist the Council when assessing whether proposals have met this policy requirement.

1.1.6. Furthermore the SPD outlines the considerations that should be taken into account when assessing both the individual and cumulative impacts of proposals for renewable energy generation against the various factors listed in policy LP14.

1.1.7. This SPD will effectively replace Fenland District Council's 2009 Wind Turbine Guidance.

### Identifying areas for new development

1.1.8. It should be noted that identifying the capacity of, and locations within, the Fenland district to accommodate renewable energy generation schemes is not within the remit of this SPD. This task is technically too difficult as no two proposals are the same: for example, a 100m turbine in one location may be totally inappropriate, but a 10m turbine in exactly the same location may be acceptable - a capacity study will not reflect such distinction.

### Structure of the SPD

1.1.9. This SPD has been split into 'Parts'. Part 1 is this introduction, whilst Part 2 relates to resource use and Part 3 contains policies for the assessment of renewable energy generation proposals. Part 4 relates to developer considerations, specifically in relation to renewable energy generation schemes.

# Part 2: Resource Use

## 2.1 Points System

2.1.1 Part (A) of Policy LP14 of the Local Plan states that:

> *"The Council will expect all development of one dwelling or more, or 100 sq m or more for non-dwellings, to explicitly demonstrate what reasonable contribution the development will make towards minimising resource consumption above and beyond what is required by Building Regulation and/or other standard Planning Policies.*
>
> *To meet this policy requirement will be a matter for negotiation. However, in order to assist developers in meeting the 'reasonable contribution' test, the Council will prepare and maintain a Resource Use based SPD which will set out a cost effective and viable set of options for the developer. "*

2.1.2 To meet this 'reasonable contribution' policy requirement, a planning proposal for new residential (one dwelling or more) or non-residential development (100sq m floor space or more) could deliver measures from either List 1 or List 2 below, or a combination of measures from both lists. It is anticipated that proposals would need to commit to deliver a minimum of ten points to meet the 'reasonable contribution' requirement of policy LP14 (in the case of dwellings, this is ten points per dwelling). Developers may also identify other measures which could meet the 'reasonable contribution' requirement of Policy LP14: the Council will be happy to discuss these alternatives. Any additional measures identified post adoption of this SPD will be featured on the Council's website.

2.1.3 Where an applicant chooses to deliver measures from List 1 and/or List 2 in order to meet the 'reasonable contribution' requirement of Policy LP14, it would be helpful if a statement detailing the measures that have been included in the proposal is submitted as part of the application.

2.1.4 It should be noted that demonstration that a proposal will deliver measures from List 1 or 2 does not necessarily mean that the application will be granted planning permission: rather it will be one factor in assessing a proposal.

2.1.5 While a minimum of ten points is desirable, developers are strongly encouraged to consider the potential economic, social and environmental benefits that could be derived through delivering additional measures (i.e. more than ten points) in relation to their specific proposal.

2.1.6 List 1 contains 'small' scale measures: it is considered that these measures could be delivered at relatively low cost and could be integrated easily into most new residential and non-residential development proposals.

2.1.7 List 2 contains 'more substantial' measures: these measures would be more costly to deliver, but have the potential to deliver a more significant contribution towards minimising resource consumption.

2.1.8 It is strongly advised that should developers choose to implement one or more of the measures featured in List 1 or 2 in order to satisfy the ‘reasonable contribution’ element of policy LP14, that the integration of the measure/s are considered from an early stage to ensure that the measure/s are fully integrated into the scheme in order to derive maximum benefit and design quality.

List 1*

| ITEM | MEASURE | CONTRIBUTION TOWARDS MINIMISING RESOURCE CONSUMPTION | POINTS |
|---|---|---|---|
| **1** | For dwellings, install at least one raised, ready to use fruit/ vegetable planting bed within the garden (minimum footprint 1m² per bedroom). | Enables habitants to grow their own food, potentially reducing the fruit and vegetables that people buy from shops which, by comparison, would have a greater carbon footprint due to packaging and transportation. | 3 |
| **2** | In flat developments, provide window boxes. | Enables habitants to grow their own food, potentially reducing the fruit and vegetables that people buy from shops which, by comparison, would have a greater carbon footprint due to packaging and transportation. | 2 |
| **3** | For dwellings, install a water butt (could be attached to main dwelling or garage/ outbuilding). | Recycles rain water and reduces consumption of treated water which has a greater carbon footprint. | 3 |
| **4** | For dwellings, install a composting bin/ facility within the garden of the dwelling. | If occupiers use the facility to compost suitable food and garden waste this could reduce the amount of waste being sent to landfill sites. Direct benefits include less landfill site space being used by waste food, less waste being transported to landfill sites, and the occupier getting compost from their waste rather than purchasing compost which has a greater carbon footprint. | 3 |
| **5** | For non- residential developments, use motion sensitive lighting where appropriate (e.g. in corridors, and large open plan office spaces where sections of the office may not be in use and thus not require lighting all the time). | Reduce energy consumption. | 3 |

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|---|---|---|---|
| **6** | For dwellings without garages, provide a secure bike storage area which can accommodate a minimum of two adult bikes. | Encourages people to make journeys by cycle rather than car: if people choose to cycle rather than drive they can reduce their greenhouse gas emissions and consumption of fossil fuels. | 4 |
| **7** | For non-residential developments which would result in people travelling to the site on a regular basis (e.g. staff to offices, hotels, etc.), provide secure, covered bike storage in a prominent overlooked location and internal locker space. The level of provision should reflect the scale and nature of the development. | Encourages people to cycle thus may result in people making journeys by bike rather than car which ultimately reduces greenhouse gas emissions and consumption of fossil fuels. | 4 |
| **8** | For non-residential developments which would result in visitors / customers visiting a building, provide bike storage in a prominent, overlooked position. The level of provision should reflect the scale and nature of the development. | Encourages visitors/ customers to cycle to the premises rather than travel by car, which ultimately reduces greenhouse gas emissions and consumption of fossil fuels. | 3 |
| **9** | In dwellings, include an electric car charging point within the garage or in a suitable external position.<br><br>In non- residential developments which include car parking, include electric car charging points. The level of provision should reflect the scale and nature of the development. | Makes the use of electric cars a viable option for motorists: electric cars produce lower greenhouse gas emissions compared to petrol and diesel cars. | 4<br>(or 7 if connected to an active solar technology source) |
| **10** | Include electricity metering and display technology within the dwelling or non-residential development:<br>• at least one meter for a one bed dwelling;<br>• at least two meters for dwellings with two or more bedrooms;<br>• at least one meter per floor for non-residential developments. | Promotes awareness of energy consumption and may result in lower energy consumption. | 2 |

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|---|---|---|---|
| **11** | Use species native to the UK and include drought resistant plants in the landscaping of the site. Native species that will benefit wildlife such as pollinating insects are particularly encouraged in order to deliver biodiversity benefits. | Non- native plants may require additional watering during periods of low rainfall and drought resistant plants would not require additional watering during periods of low rainfall, thus this measure could effectively reduce water consumption. | 2 |
| **12** | Provide evidence of investment in carbon reduction measures or schemes (such as retrofitting for example) or payment to an initiative/ charity which specialises in combating or adapting to climate change (e.g. carbon offsetting). In the case of the latter, where possible, it is desirable that local initiatives/ charities are supported in order to derive direct benefits for Fenland.<br><br>NOTE: Eligible initiatives/ charities are those which focus on delivering measures to reduce resource consumption in order to adapt to or combat climate change (general environmental institutions/ charities/ projects would not meet the requirements of this item). Developers should demonstrate the eligibility of their chosen initiative/ charity by outlining how the investment will be used to address resource consumption. | Reduced consumption of fossil fuels, energy or water, depending on the nature of the measures or schemes deployed. | 1 per £100 per dwelling/ 100 sq m (Maximum of 5 points) |

*Please check the Fenland District Council website for details of any measures which have been added or deleted post adoption of this SPD. Items will only be deleted if such measures become a compulsory national standard (for example, through Building Regulations).

List 2*

| ITEM | MEASURE | CONTRIBUTION TOWARDS MINIMISING RESOURCE CONSUMPTION | POINTS |
|---|---|---|---|
| **1** | Dwellings:<br>Go beyond what is required by the Building Regulations in force at that point in time in terms of meeting the relevant sections of the Code for Sustainable Homes by achieving a level above that currently required. | Can derive varying benefits in relation to:<br>- energy efficiency and greenhouse gas emissions;<br>- internal and external water saving;<br>- material sourcing;<br>- flood risk reduction;<br>- waste recycling;<br>- insulation and heating. | 10 |
| **2** | Non-residential developments:<br>Achieve BREEAM rating above that currently required by building regulations. | Can derive varying benefits in relation to:<br>- operational energy and greenhouse gas emissions;<br>- transport related greenhouse gas emissions;<br>- water consumption and efficiency;<br>- impacts of building materials;<br>- waste, including construction resource efficiency and operational waste management and minimisation;<br>- external air and water pollution;<br>- ecology. | 10 |
| **3** | Install and connect a wind turbine for the use of the associated dwelling/ building. | Reduces consumption of non-renewable energy (consequently reduces greenhouse gas emissions). | 8 |

| | | | |
|---|---|---|---|
| **4** | Install and connect active solar technology upon the roof space of the dwelling/ building, for use by said dwelling/ building. | Reduces consumption of non-renewable energy (consequently reduces greenhouse gas emissions). | 8 |
| **5** | Non- residential developments:<br>Provide shower and changing facilities for staff. Showers should feature water saving fittings. The level of provision should reflect the scale and nature of the development. | Further encourages people to cycle to work: thus may result in people using a bike to get to work rather than a car which can reduce their consumption of fossil fuels and greenhouse gas emissions. | 4<br>(or 8 if in conjunction with suitable cycle storage facilities) |

*Please check the Fenland District Council website for details of any measures which have been added or deleted post adoption of this SPD. Items will only be deleted if such measures become a compulsory national standard (for example, through Building Regulations).

# Part 3: Renewable Energy

## 3.1 Introduction

3.1.1 Under the Town and Country Planning Act 1990, local planning authorities are responsible for considering renewable and low carbon energy development proposals of an installed capacity of 50 megawatts or less. Developments over 50 megawatts capacity will be considered by the Secretary of State for Energy under the Planning Act 2008: the local planning authority will be a statutory consultee in such instances.

## 3.2 Permitted Development Rights

3.2.1 Domestic and non-domestic micro-generation equipment which meets certain specific criteria may fall under *The Town and Country Planning (General Permitted Development) (England) Order 1995, as amended in 2011 and 2012:* commonly referred to as 'permitted development rights'. As such, domestic and non-domestic wind turbine developments, active solar technology and biomass facilities which meet the specified criteria may not need planning permission.

3.2.2 Full details of the Town and Country Planning (General Permitted Development) (Amendment) Order 1995 and amendments can be found at: www.legislation.gov.uk

## 3.3 Context - Planning Policy and Guidance

3.3.1 In addition to the national and local guidance and policy outlined in Part 1, the following guidance and documents have also been taken into consideration during the preparation of this SPD and should be referred to as necessary during the preparation and determination of development proposals.

**Planning Practice Guidance: Renewable and low carbon energy**

3.3.2 In relation to renewable and low carbon energy, the Planning Practice Guidance (Ref ID 5-001-20140306) states:

> *"Increasing the amount of energy from renewable and low carbon technologies will help to make sure the UK has a secure energy supply, reduce greenhouse gas emissions to slow down climate change and stimulate investment in new jobs and businesses. Planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable."*

3.3.3 The Guidance advises on the factors that should be considered in relation to the development of renewable energy. In particular, it highlights the following.

3.3.4 In relation to identifying suitable areas for renewable energy-

> *"There are no hard and fast rules about how suitable areas for renewable energy should be identified, but in considering locations, local planning authorities will need to ensure they take into account the requirements of the technology and, critically, the potential impacts on the local environment, including from*

*cumulative impacts. The views of local communities likely to be affected should be listened to."* (Ref ID 5-005-20140306)

3.3.5 In relation to policy criteria-

*"In shaping local criteria… it is important to be clear that:*

- *The need for renewable or low carbon energy does not automatically override environmental protections;*
- *Cumulative impacts require particular attention…*
- *Great care should be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting…*
- *Protecting local amenity is an important consideration…"* (Ref ID 5-007-20140306)

3.3.6 In relation to buffer zones and separation distances-

*"Local planning authorities should not rule out otherwise acceptable renewable energy developments through inflexible rules on buffer zones or separation distances. Other than when dealing with setback distances for safety, distance of [sic] itself does not necessarily determine whether the impact of a proposal is unacceptable. Distance plays a part, but so does the local context including factors such as topography, the local environment and near-by land uses."* (Ref ID 5-008-20140306)

3.3.7 Furthermore, the Guidance outlines the factors to consider in relation to active solar technology (Ref ID 5-012-20140306); large scale ground mounted solar photovoltaic farms (Ref ID 5-013-20130306); and wind turbines (Ref ID 5-014-20140306).

**Onshore Wind- Call for Evidence, Part A- Community Engagement and Benefits (Department of Energy and Climate Change, 2012)**

3.3.8 The document emphasises that following the publication of the NPPF (2012), local planning authorities are encouraged to put a positive strategy in place to promote energy from renewable and low carbon sources. The document identifies that community benefits can be delivered outside the planning system and that in many cases benefits are being provided on a voluntary basis. It also recognises that while such benefits can be perceived as 'cultivating acceptance' of a scheme, they *"have the potential to support lasting improvements in the areas around wind farms"* (page 19). The current means of delivering community benefits from onshore wind developments are identified as:

- Community funds (including an annual payment per megawatt; a lump sum payment; a payment based on the revenue generated)
- Supporting local energy efficiency initiatives
- Wider environmental and social benefits
- Provision of cheaper electricity

**Natural England Technical Information Note TIN049, Agricultural Land Classification: protecting the best and most versatile agricultural land**

3.3.9 The Agricultural Land Classification (ALC) provides a method for assessing the quality of agricultural land. The ALC is a five-grade system (although it should be

noted that Grade 3 is subdivided into 3a and 3b): Grades 1, 2 and 3a are defined as the best and most versatile land.

3.3.10 TIN049 advises that *"where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of higher quality"*. Furthermore, it highlights that the ALC *"helps underpin the principles of sustainable development"*. The document also notes that the Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) statutorily requires Natural England to be consulted on proposals involving the 'best and most versatile land'.

**Cambridgeshire Flood and Water Supplementary Planning Document**

3.3.11 Cambridgeshire County Council, in collaboration with the constituent Cambridgeshire Authorities, is preparing a county wide Flood and Water Supplementary Planning Document (SPD). Once adopted, this SPD should be duly considered (alongside this SPD and the Fenland Local Plan) by developers when preparing development proposals.

## 3.4 Proposals which will directly benefit a local community

3.4.1 Policy LP14 of the Local Plan states:
*"Renewable energy proposals which will directly benefit a local community in the medium and long term and/ or are targeted at residents experiencing fuel poverty will be particularly supported".*

**COM1: Proposals which will directly benefit a local community**

To demonstrate that a proposal will directly benefit a local community in the medium and long term and/ or is targeted at residents experiencing fuel poverty (and thus benefit from the Local Plan commitment to 'particularly support' such proposals), a proposal should:

- Detail the anticipated economic, social and environmental benefits to the local community/ communities (for example, creation of employment opportunities; opportunity for lower fuel bills) in both the medium and longer term; and/or
- Outline how the proposal will benefit households experiencing fuel poverty and how residents have been targeted.

Community led renewable energy proposals will be particularly supported. Such proposals should demonstrate (by evidence of community engagement and consultation) that their preparation has included significant community involvement from an early stage.

## 3.5 Wind Turbines

### Introduction

3.5.1 Policy LP14 Part (A) states:

> *"Renewable energy proposals will be supported and considered in the context of sustainable development and climate change. Proposals for renewable energy technology, associated infrastructure and integration of renewable technology on existing or proposed structures will be assessed both individually and cumulatively on their merits taking account of the following factors;*
>
> - *The surrounding landscape, townscape and heritage assets*
> - *Residual and visual amenity*
> - *Noise impact*
> - *Specific highway safety, designated nature conservation or biodiversity considerations*
> - *Aircraft movements and associated activities*
> - *High quality agricultural land."*

3.5.2 The purpose of this section is to help applicants make successful applications for wind turbine proposals by providing more clarity as to how proposals will be assessed against these factors.

3.5.3 As noted in 3.2, wind turbine development which falls under The Town and Country Planning (General Permitted Development) (England) (Order) 1995 does not require planning permission. This section therefore only applies to wind turbine development which is subject to planning consent.

### Map of existing turbines and key landscape characteristics

3.5.4 Fenland District Council has produced a map of existing turbines and key landscape characteristics.

3.5.5 The map is for information purposes only and does not form part of the Fenland Local Plan. Therefore the map will not inform the determination of planning applications.

3.5.6 The map of existing turbines and key landscape characteristics (which the Council will aim to update quarterly), available at www.fenland.gov.uk, includes details of:

3.5.7 Turbines:

- Existing turbines
- Approved turbines (turbines with full planning permission. It should be noted that, for whatever reason, the turbine schemes shown as 'approved' may not necessarily be built).

3.5.8 Built environment:

- OS map background (details the existing built environment).
- Residential nodes (settlements as listed in Local Plan Policy LP3)

3.5.9 Land designations:

- International and national protected sites for wildlife or geology.
    - International designations include Special Areas of Conservation (SAC); Special Protection Areas (SPA); Ramsar Sites;
    - National designations include Sites of Special Scientific Interest (SSSI); National Nature Reserves.

3.5.10 Other:

- 1km radius of residential nodes
- 2km radius of residential nodes
- Operational airfields

**Assessing Wind Turbine Proposals**

**Surrounding Landscape, Townscape and Heritage Assets**

3.5.11 Policy WT1 outlines the factors that will be taken into consideration when assessing wind turbine proposals in relation to the surrounding landscape, townscape and heritage assets. When considering a proposal against these factors, the individual impacts of the proposal will be taken into consideration, but also the likely cumulative impacts of the proposal. Proposals should also meet the relevant criteria in Policy LP16, *Delivering and Protecting High Quality Environments across the District*, of the Local Plan.

3.5.12 In relation to heritage assets, as stated in the preamble to Policy LP18 *The Historic Environment* of the Local Plan, advice on designated assets and undesignated historic environment evidence should be sought from the Cambridgeshire Historic Environment Record based in Cambridgeshire County Council.

**WT1: Surrounding landscape, townscape and heritage assets**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

<u>Landscape and townscape impact considerations</u>

a) Development which would result in adverse impact (individual or cumulative) upon the landscape/ townscape, either in terms of direct impacts or impacts upon the character of the landscape/ townscape, should be avoided. Direct impacts are those which effect the physical landscape/ townscape and include, for example, the removal of established vegetation or road modifications for turbine installation. Effects on character relate to the way in which and the extent to which the proposed development, alongside existing renewable energy developments, will affect the characteristics of the receiving landscape/ townscape.

In instances where it is not possible to wholly avoid adverse impact, applicants should demonstrate that they have minimised the potential for adverse impact on the landscape/ townscape through consideration of both the direct effects and the effects upon the character of the landscape/ townscape: suitable mitigation measures should be proposed as necessary.

b) Proposals should address the following safety considerations:

i) Proposed turbine/s should not be within falling distance*, plus 10%, of buildings. This safety separation distance may be relaxed where the building is solely for agricultural use and it would otherwise be appropriate to do so. This separation distance is also desirable for well used public open space and bridleways.
ii) In most instances, the separation distance between turbines and overhead power lines will need to be falling distance* plus a contingency margin, as advised by National Grid and/or the relevant Distribution Network Operators in relation to the site specific circumstances.

** Falling distance defined as the height of the turbine to the tip of the blade.*

Considerations in relation to heritage assets

c) Further to Policy LP18 *The Historic Environment* of the Local Plan, development on a heritage asset (designated or undesignated) or within its setting which would adversely impact upon the significance of the heritage asset (for example, by detracting from its established character or appeal, or by causing irreversible physical damage) should be avoided.

In accordance with the NPPF, development must not lead to harm to or total loss of significance of a heritage asset, unless the tests set out in section 12 of the NPPF are met.

**Residential and Visual Amenity**

3.5.13 Policy WT2 outlines considerations in relation to residential and visual amenity that will be taken into account when assessing wind turbine proposals. When considering a proposal, both the individual and cumulative impacts will be taken into account.

**WT2: Residential and visual amenity**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

Design principles

a) The colour of turbines should broadly be between the range of off-white and light grey.

b) Aesthetically, turbine designs should respond to and be in keeping with any existing or approved wind turbine developments which are in relatively close proximity to the application site.

c) A three bladed wind turbine with a solid, tapering tower is generally considered the most elegant form and is most in keeping with existing turbines in the Fenland district, though other designs will be considered on their merits.

d) No name, sign, symbol or logo should be displayed on any external surfaces of the turbines or any external ancillary equipment except those required to meet statutory health and safety requirements.

e) Significant visual ‘overlapping’ of rotating blades (commonly referred to as ‘clashing blades’) should be avoided in order to prevent detrimental visual impact. This includes the ‘overlapping’ of blades within the proposed development if more than one turbine is proposed, as well as between a proposed turbine and an existing turbine.

f) Where a proposed turbine would be viewed alongside another turbine/s in a direct line of sight, consideration should be given to the rotation speed of the blades of the proposed turbine in relation to that of the other turbine/s. In order to minimise undesirable visual annoyance, the siting of turbines with considerably different blade rotation speeds within a direct line of sight should be avoided.

g) Ancillary equipment relating to the turbine/s should be housed within the turbine structure/s as far as possible. In the event that ancillary equipment cannot be housed within the turbine structure/s, external ancillary equipment should be well designed and not excessive. The applicant should demonstrate how the visual impact of the equipment will be mitigated.

h) For developments of 2 or more turbines, or in instances where the proposed turbine/s are an extension to an existing site or would be visually read as part of an existing group of turbines, where possible, turbines should be of the same size and appearance to create visual conformity and the layout of the turbines should be such to create visual order and conformity.

In instances where the applicant is unable to provide specific design details as part of their application, the above principles will be considered, as necessary, when determining planning conditions if the scheme is approved.

<u>Residential amenity and visual impact considerations</u>

i) A proposed turbine development which would (either alone or along with existing turbine developments) create an unpleasantly overwhelming and unavoidable presence in the main views from a dwelling or garden which, in association with other factors such as noise and shadow flicker, would render the property an unattractive and unsatisfactory place to live should be avoided.

j) Shadow flicker may occur within the area 130 degrees either side of north of a turbine, though it is unlikely to have a significant impact at distances greater than ten times the rotor blade diameter from the turbine (see Figure 2). The potential impact of shadow flicker upon residential dwellings, businesses or buildings of other important use (including, but not limited to, schools and hospitals) within the above parameter will be considered. In instances where a proposal may result in shadow flicker which impacts upon one or more of the properties listed above, applicants will be required to undertake a quantitative analysis of the anticipated impact: proposals should not result in unacceptable shadow flicker that cannot be suitably mitigated against.

k) Applicants should outline how they intend to prevent adverse reflected light from the proposed turbine/s: this may include measures such as the use of non-reflective, matt materials for example.

l) Where necessary, proposals should include landscape mitigation which is appropriate and proportionate to the proposed turbine development in terms of scale and design: this may include off site enhancements.

m) Cumulative visual impacts concern the degree to which proposed renewable energy development will become a feature in particular views or sequences of views. In order to prevent detrimental cumulative visual impacts it is desirable to either:

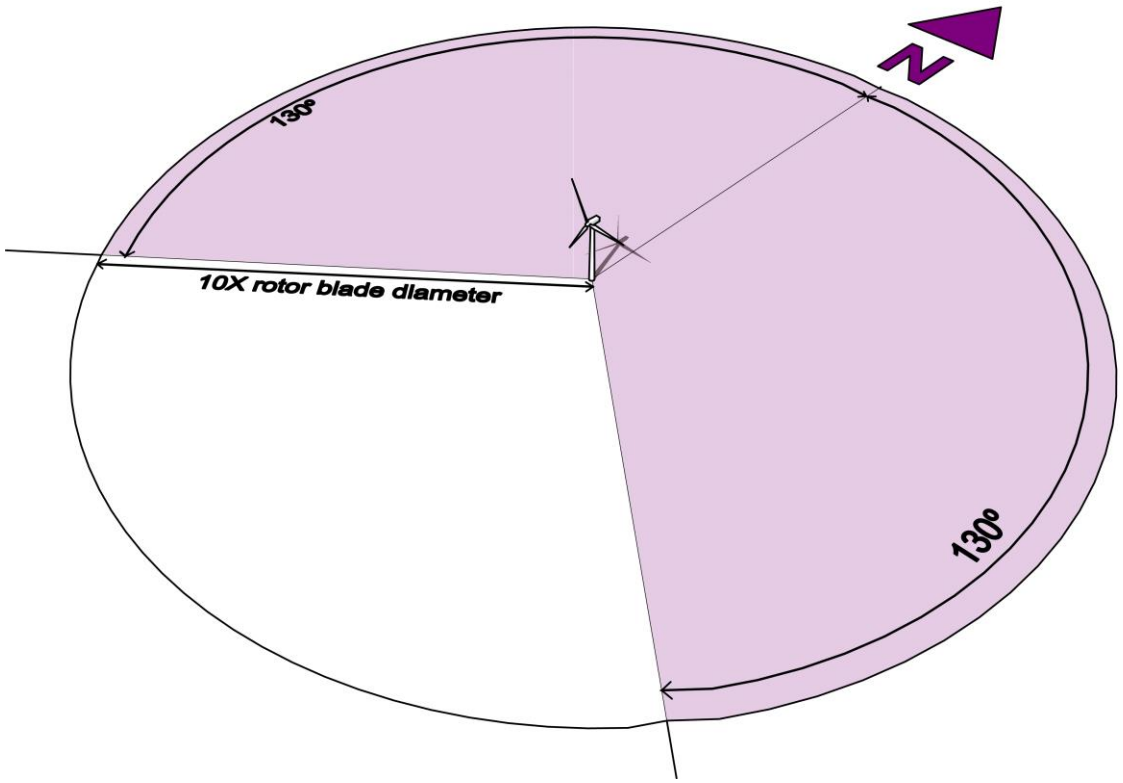
- confine new turbine development within the landscape by siting new developments close to existing or approved turbine developments, or
- site new turbine developments so that they are positively distinct from existing or approved turbine developments.

Turbines near residential properties

n) Proposals for a turbine located in a host dwelling garden or on an adjacent site within the control of the host dwelling will be carefully considered for their impact on the residential amenity of both the host and adjacent dwellings. From a visual perspective, particular care should be taken to avoid turbine development which would result in an unpleasantly overwhelming and unavoidable presence in any of the main views from a dwelling or garden, including the host dwelling.

o) More than one domestic-scale turbine or an industrial-scale turbine (i.e. with a primary purpose to export to the grid) is unlikely to be acceptable within such locations described in (n).

Figure 2: Shadow Flicker Diagram




This diagram indicates the area within which shadow flicker may occur (refer to Policy WT2, part j). The diagram is not to scale and is provided for information purposes only.

**Noise Impact**

3.5.14 Policy WT3 outlines principles for the assessment of wind turbine proposals in relation to noise impact.

3.5.15 The Planning Practice Guidance on renewable and low carbon energy (Reference ID 5-015-20140306) states that local planning authorities should use 'The assessment and rating of noise from wind farms' report (ETSU-R-97) to assess and rate noise from wind turbine developments. The ETSU-R-97 publication was prepared by the Department of Trade and Industry (DTI) and outlines a framework for the measurement of wind turbine noise and provides indicative noise levels which are thought to offer a reasonable level of protection to the neighbours of wind turbines. The Department of Energy and Climate Change endorses the good practice guidance on noise assessments of wind farms prepared by the Institute of Acoustics as a supplement to ETSU-R-97 (Planning Practice Guidance on renewable and low carbon energy, reference ID 5-015-20140306).

**WT3: Noise impact**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

a) Wind turbine development should not result in noise levels that would be unacceptable to occupiers and users of residential buildings and other noise sensitive properties in accordance with ETSU-R-97.

b) In instances where the proposed development would be within audible range of another wind turbine/ farm, the impact of the proposed development upon the cumulative noise levels should be taken into consideration (a cumulative noise impact assessment may be required). The proposed development should not result in the cumulative noise (i.e. that of the proposed development and of other turbines within the vicinity) exceeding a reasonable noise limit in accordance with ETSU-R-97.

   Noise limits for a proposed development will be determined (and imposed via condition/s) so as to prevent cumulative noise levels exceeding the total ETSU-R-97 noise limit.

Where necessary, applicants will be required to demonstrate how adverse noise impacts will be mitigated and managed: this could, for example, be demonstrated through a noise management plan.

**Specific Highway Safety, Designated Nature Conservation and Biodiversity Considerations**

3.5.16 Policy WT4 outlines the factors, in addition to the Local Plan, NPPF and other relevant guidance, that will be taken into consideration when assessing wind turbine proposals in relation to highway safety, designated nature conservation and biodiversity considerations. When considering a proposal against these factors, both the individual impacts of the proposal and the likely cumulative impacts of the proposal will be taken into consideration. The assessment of proposals will also be informed by formal representations received from consultees.

**WT4: Highway safety, designated nature conservation and biodiversity considerations**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

Highway safety considerations

a) Set back distance:
In relation to the public highway, a minimum set back distance of the turbine height plus 50m, or turbine height x 1.5 (whichever is the lesser) from the highway boundary will be sought[1]. This set back distance may be relaxed if it has been demonstrated by the applicant that a lesser distance is acceptable (demonstrated by the findings of a site specific assessment) and that no unacceptable risk would be posed.

b) Access:
Access to the site for construction, maintenance and decommissioning should be obtained via the local road network: direct connection to the strategic road network should be avoided[1].

c) Visual distraction:
The potential for turbines within close proximity of the carriageway to cause visual distraction should be minimised by ensuring, where possible, that the view of the wind turbine(s) gradually develops along the approach carriageway[1].

d) 'Icing':
In instances where 'icing' (the build-up of ice in certain weather conditions) could cause a highway safety issue (due to the proximity of the turbine/s to the highway), it is desirable that the turbine/s proposed includes technology that will prevent an issue arising, for example, technology that will shut the turbine down if there is potential for icing.

e) Construction:
A construction statement should be prepared by the developer which forecasts the vehicle trips that are likely to be generated during construction and the routes which are likely to be used, so that the probable impact of the development upon traffic and highway safety can be considered. Fenland District Council may require further detailed information, such as a traffic management plan, if necessary.

Nature conservation and biodiversity considerations

f) Further to Policy LP19 *The Natural Environment* of the Local Plan, applicants should demonstrate that due consideration has been given to the potential impacts of the proposal on local, national and international designated sites, including those outside the Fenland District. Where a proposal is likely to have adverse impacts, applicants should demonstrate how these potential impacts have been addressed in the proposal, with proposed mitigation measures being commensurate to the significance

[1] Informed by the Department for Transport Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development'.

of the designation, in relation to the local, national, international hierarchy. This applies to all proposals, regardless of scale.

In accordance with Policy LP19, in instances where a proposal would have an adverse effect on a protected habitat or species, the applicant should demonstrate that the need for and public benefits of the development clearly outweigh the harm caused, and that mitigation and/ or compensation measures can be secured to offset the harm and achieve, where possible, a net gain for biodiversity (see also paragraph 118 of the NPPF).

*Developers are encouraged to consider opportunities to achieve net biodiversity gains (i.e. gains in addition to any measures deployed to mitigate any adverse impacts that may result from the development), regardless of whether the proposal will result in adverse impacts in order to conserve, enhance and promote the biodiversity and geological interest of the natural environment throughout Fenland.*

In relation to the above:

g) Proposals should not compromise the objectives of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy (2011), and supporting Block Fen/ Langwood Fen Master Plan Supplementary Planning Document (2011).

h) The Planning Practice Guidance explains that evidence suggests that wind turbine blades pose a risk of bird and/or bat collision, and other risks, including disturbance and displacement, and potentially fatal barotrauma (lung expansion) in bats. Whilst these are generally a low risk, in some situations the risk is greater and the impacts on birds and bats should be assessed. Therefore, applicants will be required to undertake surveys and provide evidence as necessary in relation to the anticipated impacts of their proposal upon ecology: the Planning Practice Guidance on renewable and low carbon energy (Reference ID 5-018-20140306) advocates Natural England's advice on assessing the risks to ecology posed by wind turbine development. Post construction monitoring may be required by condition to any approval.

In instances where the evidence supplied includes uncertainty in relation to the anticipated impacts of a proposal, or in instances where there is a lack of evidence, a precautionary approach will be taken by Fenland District Council.

3.5.17 Note:
Proposals which have the potential to impact upon European sites require a Habitat Regulations Assessment, as per Regulation 61 of the Conservation of Habitats and Species Regulations 2010.

**Aircraft Movements and Associated Activities**

3.5.18 Policy WT5 outlines principles for the assessment of wind turbine proposals in relation to aircraft movements and associated activities. When considering a proposal against these principles, the impacts of the individual proposal will be taken into consideration, but also the likely cumulative impacts of the proposal as a

result of existing and approved turbine developments within both the immediate and wider vicinity.

**WT5: Aircraft movements and associated activities**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

In relation to air traffic movements and associated activities, including air defence operations, wind turbine proposals should not adversely affect or interfere with:

- air traffic movement and safety;
- the operation of radar;
- seismological recoding equipment;
- communications facilities;
- established parachute activity.

In instances where there may be potential interference with radar, suitable mitigation measures should be proposed as necessary and should be relative to the significance of the radar operation and the anticipated impact.

3.5.19 Notes:
The relevant bodies and organisations (such as the Ministry of Defence (MOD), the Civil Aviation Authority, National Air Traffic Services (NATs) Safeguarding) will be consulted, as necessary, during the assessment of all formal planning applications for wind turbine development. The consultation zone around civilian air traffic radar is 15km, with a 30-32 km advisory zone. The statutory safeguarding consultation zone around MOD aerodromes is circa 15km.

3.5.20 However, the MOD's Wind Energy team advise applicants to consult them prior to submitting a formal planning application if a proposed turbine is 11 meters to blade tip or taller and has a rotor diameter of two meters of more. Developers are urged to consult the MOD Wind Energy team at the earliest possible stage and maintain contact throughout the process, so that any MOD concerns can be addressed. Applicants can initiate such consultation by completing a 'pre-application proforma'. Further details can be found at: www.gov.uk/mod-safeguarding

3.5.21 The Civil Aviation Authority (CAA) is responsible for providing aviation safety advice, with the Authority's Directorate of Airspace Policy (DAP) responsible for wind turbine related issues. While the CAA no longer provides voluntary involvement in the pre-planning process, it has produced guidance to assist wind turbine developers. Both the 'CAP 764 CAA Policy and Guidelines on Wind Turbines' and 'CAA Advice for Pre-Planning' guidance can be found at: www.caa.co.uk/default.aspx?catid=1959&pageid=10956

3.5.22 It should be noted that this information is correct at time of publication of this SPD. The MOD and Civil Aviation Authority may subsequently amend their advice following the publication of this SPD. Applicants should contact the MOD and Civil Aviation Authority for their latest advice with regards to wind turbine applications.

**High Quality Agricultural Land**

3.5.23 The NPPF (2012, paragraph 112) states:

*"where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality".*

3.5.24 The best and most versatile agricultural land (land in grades 1, 2 and 3a of the Agricultural Land Classification) should be protected in light of the positive contribution it makes to the character of the landscape and of the need to produce food locally due to climate change.

3.5.25 Policy WT6 outlines the considerations in relation to the best and most versatile agricultural land that will be taken into account when assessing wind turbine proposals. When considering a proposal, both the individual and cumulative impacts will be taken into account.

**WT6: High quality agricultural land**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

a) The advice as set out at paragraph 112 of the NPPF (2012).

b) If a proposal includes the best and most versatile agricultural land, where possible, turbine development should be sited so as to minimise the impact on agricultural operations during its operation and also during associated installation, maintenance and decommissioning works (including the establishment of access tracks for example). As such, where opportunity exists:

   i) Turbines should be sited at the periphery of fields rather than in central positions; or
   ii) Where it is not possible to locate on the periphery, due to physical constrains or another material consideration rendering such positioning unviable, turbines should be sited in a strategic position which avoids unnecessary disruption to agricultural operations.

c) At the end of the operational life of the turbine/s, all equipment should be removed in its entirety and the land restored to its former use.

## 3.6 Active Solar Technology

### Introduction

3.6.1 Policy LP14 Part (A) states:

> *"Renewable energy proposals will be supported and considered in the context of sustainable development and climate change. Proposals for renewable energy technology, associated infrastructure and integration of renewable technology on existing or proposed structures will be assessed both individually and cumulatively on their merits taking account of the following factors;*
>
> - *The surrounding landscape, townscape and heritage assets*
> - *Residential and visual amenity*
> - *Noise impact*
> - *Specific highway safety, designated nature conservation or biodiversity considerations*
> - *Aircraft movements and associated activities*
> - *High quality agricultural land"*

3.6.2 The purpose of this section is to help applicants make successful applications for active solar technology (photovoltaic and solar water heating) by providing more clarity as to how proposals will be assessed against these factors.

3.6.3 As noted in 3.2, solar development which falls under The Town and Country Planning (General Permitted Development) (England) (Order) 1995 does not require planning permission. This section therefore only applies to solar development which is subject to planning consent.

3.6.4 Tracker solar installations (those which move to follow the daily movement of the sun) may have additional impacts compared to static installations. All policies apply to both static and tracker installations: the criteria of each policy, where applicable, will be duly taken on board in relation to the specifics of a proposal.

3.6.5 While the majority of the policies within this section are applicable to all installations, some policies are only applicable to certain installations, such as ground mounted installations only. Where this is the case it is clearly indicated within the policies.

### Assessing Proposals for Active Solar Technology

### Surrounding Landscape, Townscape and Heritage Assets

3.6.6 Policy S1 outlines the factors that will be taken into consideration when assessing proposals for active solar technology in relation to the surrounding landscape, townscape and heritage assets. When considering a proposal against these factors, the individual impacts of the proposal will be taken into consideration, but also the likely cumulative impacts of the proposal. Proposals should also meet the relevant criteria in Policy LP16, *Delivering and Protecting High Quality Environments across the District*, of the Local Plan.

3.6.7 In relation to heritage assets, as stated in the preamble to Policy LP18 *The Historic Environment* of the Local Plan, advice on designated assets and undesignated historic environment evidence should be sought from the Cambridgeshire Historic Environment Record based in Cambridgeshire County Council.

**S1: Surrounding landscape, townscape and heritage assets**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

Landscape and townscape impact considerations

a) Development which would result in adverse impact (individual or cumulative) upon the landscape/ townscape, either in terms of direct impacts or impacts upon the character of the landscape/ townscape, should be avoided. Direct impacts are those which effect the physical landscape/ townscape and include, for example, the removal of established vegetation or road modifications. Effects on character relate to the way in which and the extent to which the proposed development, alongside existing renewable energy developments, will affect the characteristics of the receiving landscape/ townscape.

   Adverse impact upon the landscape/ townscape could be prevented or minimised by utilising the following principles:

   i) A proposal should not be a dominant feature of the local area which distracts from the street scene or spoils the character of the vicinity.
   ii) Solar installations are considered to be temporary installations and as such should not result in long term, irreversible impacts upon either the building they are mounted on, or the landscape/ townscape within which they are situated.

**In relation to building mounted (roof and wall) installations:**

   iii) In order to maintain the established visual integrity of an existing dwelling or building, the design, positioning, size and scale of a proposal should be carefully considered to ensure that building mounted installations are not visually intrusive upon the setting. Installations on a principal elevation in particular should be subservient in scale so as to not be an invasive, dominant feature of the building which detracts from the street scene.
   iv) Installations on new dwellings and buildings should be an integral part of the overall design concept.

**In relation to ground mounted installations:**

   v) Where possible, installations should be sited so that they are not readily seen from public highways or residential properties (other than the applicant dwelling, if applicable): where necessary, native vegetation for screening should be strategically incorporated in a proposal.
   vi) Security fencing should only be incorporated in a proposal where there is demonstrable need for security purposes and hedgerows would not provide a suitable level of security. The height of security fencing should be kept to a minimum and it should not form a solid visual barrier within the landscape (with the exception of sites within/ adjacent to residential areas): close welded mesh for example has a lower visual and landscape impact compared to solid wood fencing. Fencing should not restrict the movement of wildlife: there should be sufficient space at the base to allow wildlife to move freely. For proposals on sites adjacent to residential properties fencing should not be of an industrial appearance and should be appropriate to the site context.

Considerations in relation to heritage assets

b) Further to Policy LP18 *The Historic Environment* of the Local Plan, development on a heritage asset (designated or undesignated) or within its setting which would adversely impact upon the significance of the heritage asset (for example, by detracting from its established character or appeal, or by causing irreversible physical damage) should be avoided.

In accordance with the NPPF, development must not lead to harm to or total loss of significance of a heritage asset, unless the tests set out in section 12 of the NPPF are met.

**Residential and Visual Amenity**

3.6.8 Policy S2 outlines considerations in relation to residential and visual amenity that will be taken into account when assessing solar proposals. When considering a proposal, both the individual and cumulative impacts will be taken into account.

3.6.9 Applicants are encouraged to consider the use of solar tiles or slates as an alternative to solar panels, particularly on new builds, residential developments and other developments in residential areas: solar tiles or slates are economical because they can make better use of the available roof space.[2]

**S2: Residential and visual amenity**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

a) The design and positioning of active solar technology should be carefully considered to avoid the potential nuisance of glint and glare to neighbouring residents, passers-by and users of neighbouring offices and buildings of important use (including, but not limited to hospitals and schools).

b) Cumulative visual impacts concern the degree to which proposed renewable energy development will become a feature in particular views or sequences of views. In order to prevent detrimental cumulative visual impacts it is desirable to include landscape mitigation which is appropriate and proportionate to the proposed development in terms of scale and design, including off site enhancements where necessary.

**In relation to ground mounted installations:**

c) Installations should be uniformly arranged so as to create visual conformity.

d) Security lighting should only be incorporated into a proposal where there is demonstrable need. In instances where security lighting is necessary, the lighting and all fittings should be minimal and discrete; the height at which light fittings are mounted should be minimal; the lighting should be designed so as to minimise light pollution and 'spillage'; and light should be strategically directed so as to avoid

[2] Department of Energy and Climate Change, UK Solar PV Strategy Part 2: Delivering a Brighter Future (April 2014)

nuisance to the occupiers or users of nearby buildings and disturbance to wildlife.

**In relation to building mounted installations (where applicable):**

e) The size, scale and positioning of the installation should be proportionate to the roof and should not be overbearing or unbalanced. As such, where possible:
   - Installations should not overhang any part of the roof;
   - On pitched roofs, installations should not protrude higher than the highest ridge; should not be unnecessarily elevated above the roof plane; and should be positioned parallel to the roof slope (i.e. should not be raised at either end so as to position the installation at a greater or lesser angle than the roof pitch);
   - On flat roofs, especially in residential areas, it is desirable that solar installations be set back from the roof edge so as not to be visible/ minimise visibility from ground level.

f) In addition to the above, it is recognised that there is a lot of untapped potential for electricity generation from solar within the mid-size commercial rooftop sector and that this sector has notable advantages[3]: first, a good onsite match of the electricity generated and that used, and second, potentially fewer visual impacts than either domestic or ground mounted installations depending on the setting of the commercial premises. Proposals for active solar technology on mid-size commercial roof tops will therefore be particularly supported, provided the proposal complies with all other relevant policy criteria.

**Noise impact**

3.6.10 Noise may be emitted from the operation of active solar technology, for example from the operation of the associated invertors. Furthermore, 'tracker' solar technology which follows the daily movement of the sun may result in additional noise impact. Policy S3 outlines principles for the assessment of solar proposals in relation to noise impact.

**S3: Noise impact**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals for active solar technology should, as appropriate:

a) Be strategically sited so as to minimise the noise experienced by nearby residents and occupiers of business premises and important buildings (including, but not limited to hospitals and schools); and

b) In any instance, operate with minimal noise output to avoid undue disturbance to nearby residents, wildlife and livestock.

Where necessary, mitigation measures, such as the establishment of vegetation buffers for example, should be used to prevent adverse noise impact.

[3] Department of Energy and Climate Change, UK Solar PV Strategy Part 2: Delivering a Brighter Future (April 2014)

**Specific Highway Safety, Designated Nature Conservation and Biodiversity Considerations**

3.6.11 Policy S4 outlines the factors, in addition to the Local Plan, NPPF and other relevant guidance, that will be taken into consideration when assessing solar proposals in relation to highway safety, designated nature conservation and biodiversity considerations. When considering a proposal against these factors, both the individual impacts of the proposal and the likely cumulative impacts of the proposal will be taken into consideration. The assessment of proposals will also be informed by formal representations received from consultees.

**S4: Highway safety, designated nature conservation and biodiversity considerations**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

Highway safety considerations

a) The design and positioning of active solar technology should be carefully considered to avoid the potential nuisance of glint and glare onto high speed roads. Where vegetation is proposed as a form of mitigation against glint and glare, species which will provide effective screening all year round are preferable.

b) In relation to large scale ground mounted installations (commonly referred to as 'solar farms'), a construction statement should be prepared by the developer which forecasts the vehicle trips that are likely to be generated during construction and the routes which are likely to be used, so that the anticipated impact of the development upon traffic and highways safety can be considered. Fenland District Council may require further detailed information, such as a traffic management plan, if necessary.

Nature conservation and biodiversity considerations

c) Further to Policy LP19 *The Natural Environment* of the Local Plan, applicants should demonstrate that due consideration has been given to the potential impacts of the proposal on local, national and international designated sites, including those outside the Fenland District. Where a proposal is likely to have adverse impacts, applicants should demonstrate how these potential impacts have been addressed in the proposal, with proposed mitigation measures being commensurate to the significance of the designation, in relation to the local, national, international hierarchy. This applies to all proposals, regardless of scale.

In accordance with Policy LP19, in instances where a proposal would have an adverse effect on a protected habitat or species, the applicant should demonstrate that the need for and public benefits of the development clearly outweigh the harm caused, and that mitigation and/ or compensation measures can be secured to offset the harm and achieve, where possible, a net gain for biodiversity (see also paragraph 118 of the NPPF).

*Developers are encouraged to consider opportunities to achieve net biodiversity gains (i.e. gains in addition to any measures deployed to mitigate any adverse impacts that may result from the development), regardless of whether the proposal*

*will result in adverse impacts in order to conserve, enhance and promote the biodiversity and geological interest of the natural environment throughout Fenland.*

In relation to the above:

d) Proposals should not compromise the objectives of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy (2011), and supporting Block Fen/ Langwood Fen Master Plan Supplementary Planning Document (2011).

e) Applicants will be required to undertake surveys and provide evidence as necessary in relation to the anticipated impacts of their proposal.

In instances where the evidence supplied includes uncertainty in relation to the anticipated impacts of a proposal, or in instances where there is a lack of evidence, a precautionary approach will be taken by Fenland District Council.

3.6.12 Note:
Proposals which have the potential to impact upon European sites require a Habitat Regulations Assessment, as per Regulation 61 of the Conservation of Habitats and Species Regulations 2010.

**Aircraft Movements and Associated Activities**

3.6.13 Policy S5 outlines principles for the assessment of solar proposals in relation to aircraft movements and associated activities.

**S5: Aircraft movements and associated activities**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should demonstrate that the design and positioning of proposed solar installations have been carefully considered to avoid the potential nuisance of glint and glare to aircraft movements.

**High Quality Agricultural Land**

3.6.14 The NPPF (2012, paragraph 112), states:
*"where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality".*

3.6.15 The best and most versatile agricultural land (land in grades 1, 2 and 3a of the Agricultural Land Classification) should be protected in light of the positive contribution it makes to the character of the landscape and of the need to produce food locally due to climate change.

3.6.16 Policy S6 outlines the considerations in relation to the best and most versatile agricultural land that will be taken into account when assessing solar proposals. When considering a proposal, both the individual and cumulative impacts will be taken into account.

**S6: High quality agricultural land**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

a) The advice as set out at paragraph 112 of the NPPF (2012).

b) If a proposal includes the development of the best and most versatile agricultural land, where possible, solar development should be sited so as to minimise the impact on agricultural operations during its operation and also during associated installation, maintenance and decommissioning works (including the establishment of access tracks for example). As such, where opportunity exists:

    i) active solar technology should be sited at the periphery of fields rather than in central positions; or
    ii) where it is not possible to locate on the periphery, due to physical constraints or another material consideration rendering such positioning unviable, the development should be sited in a strategic position which avoids unnecessary disruption to agricultural operations.

c) At the end of the operational life of the installation, all equipment should be removed in its entirety and the land restored to its former use.

## 3.7 Dry Biomass and Anaerobic Digestion Facilities

### Introduction

3.7.1 Policy LP14 Part (A) states:

> *"Renewable energy proposals will be supported and considered in the context of sustainable development and climate change. Proposals for renewable energy technology, associated infrastructure and integration of renewable technology on existing or proposed structures will be assessed both individually and cumulatively on their merits taking account of the following factors;*
>
> - *The surrounding landscape, townscape and heritage assets*
> - *Residential and visual amenity*
> - *Noise impact*
> - *Specific highway safety, designated nature conservation or biodiversity considerations*
> - *Aircraft movements and associated activities*
> - *High quality agricultural land"*

3.7.2 The purpose of this section is to help applicants make successful applications for the development of dry biomass or anaerobic digestion facilities by providing more clarity as to how proposals will be assessed against these factors.

3.7.3 As noted in 3.2, development which falls under The Town and Country Planning (General Permitted Development) (England) (Order) 1995 does not require planning permission. This section therefore only applies to development which is subject to planning content.

3.7.4 It should be noted that proposals which include the generation of energy from waste are a County matter and as such will be dealt with by Cambridgeshire County Council. In such cases, The Location and Design of Waste Management Facilities Supplementary Planning Document (2011) will apply.

### Assessing Dry Biomass and Anaerobic Digestion Proposals

### Surrounding Landscape, Townscape and Heritage Assets

3.7.5 Policy B1 outlines the factors that will be taken into consideration when assessing dry biomass and anaerobic digestion proposals in relation to the surrounding landscape, townscape and heritage assets. When considering a proposal against these factors, the individual impacts of the proposal will be taken into consideration, but also the likely cumulative impacts of the proposal. Proposals should also meet the relevant criteria in Policy LP16, *Delivering and Protecting High Quality Environments across the District*, of the Local Plan.

3.7.6 In relation to heritage assets, as stated in the preamble to Policy LP18 *The Historic Environment* of the Local Plan, advice on designated assets and undesignated historic environment evidence should be sought from the Cambridgeshire Historic Environment Record based in Cambridgeshire County Council.

**B1: Surrounding landscape, townscape and heritage assets**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

Landscape and townscape impact considerations

a) Development which would result in adverse impact (individual or cumulative) upon the landscape/ townscape, either in terms of direct impacts or impacts upon the character of the landscape/ townscape, should be avoided. Direct impacts are those which effect the physical landscape/ townscape and include, for example, the removal of established vegetation or road modifications. Effects on character relate to the way in which and the extent to which the proposed development, alongside existing renewable energy developments, will affect the characteristics of the receiving landscape/ townscape.

   In instances where it is not possible to wholly avoid adverse impact, applicants should demonstrate that they have minimised the potential for adverse impact on the landscape/ townscape through consideration of both the direct effects and the effects upon the character of the landscape/ townscape: suitable mitigation measures should be proposed as necessary.

Considerations in relation to heritage assets

b) Further to Policy LP18 *The Historic Environment* of the Local Plan, development on a heritage asset (designated or undesignated) or within its setting which would adversely impact upon the significance of the heritage asset (for example, by detracting from its established character or appeal, or by causing irreversible physical damage) should be avoided.

   In accordance with the NPPF, development must not lead to harm to or total loss of significance of a heritage asset, unless the tests set out in section 12 of the NPPF are met.

**Residential and Visual Amenity**

3.7.7 Policy B2 outlines considerations in relation to residential and visual amenity that will be taken into account when assessing dry biomass and anaerobic digestion proposals. When considering a proposal, both the individual and cumulative impacts will be taken into account.

**B2: Residential and visual amenity**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations (where applicable).

a) Where necessary and where opportunity exists, micro-siting should ensure that the existing built environment and/ or existing vegetation is utilised for screening. In the event that no existing screening is present or that the existing screening is insufficient, the proposal should incorporate screening measures which are proportional to the nature and level of impact and which are sympathetic to the local setting.

b) Cumulative visual impacts concern the degree to which proposed renewable energy development will become a feature in particular views or sequences of views. In order to prevent detrimental cumulative visual impacts it is desirable to include landscape mitigation, where necessary, which is appropriate and proportionate to the proposed development in terms of scale and design, including off site enhancements where necessary.

c) Appropriate materials, colours and design finishes should be used to achieve high design standards.

d) All external flues should be unobtrusive in terms of size, design and position.

e) The operation of the proposed facility should not result in notable dust and/ or smoke which negatively impacts upon sensitive receptors, such as residential dwellings. As such:
   i) proposals should demonstrate that the prevailing wind direction at the site and the juxtaposition of the equipment in relation to any sensitive receptors surrounding the site have been duly considered; and
   ii) facilities which may generate dust from the deposition and/ or transfer of biomass within the site should aim to minimise the levels of dust expelled through design and micro-siting: for example, the drop off bay for biomass material could be closed rather than open air.

f) Proposals for commercial facilities should, as required, detail the measures that will be implemented in order to control air quality as well as the procedure for responding to any problematic air quality issues that arise.

g) The operation of the proposed facility should not result in odour which is unacceptable to sensitive receptors such as residential areas, recreational areas or businesses. Where applicable, developers should prepare an odour management plan which identifies measures to prevent adverse odour in the first instance and to mitigate against adverse odour in the second instance.

h) Security lighting should only be incorporated in a proposal where there is demonstrable need. In instances where security lighting is necessary, the lighting and all fittings should be minimal and discrete; the height at which light fittings are mounted should be minimal; the lighting should be designed so as to minimise light pollution and ‘spillage’; and light should be strategically directed so as to avoid nuisance to the occupiers or users of nearby buildings and disturbance to wildlife.

**Noise impact**

3.7.8 Policy B3 outlines principles for the assessment of dry biomass and anaerobic digestion proposals in relation to noise impact.

3.7.9 The Council's Environmental Health department will be consulted to assess the anticipated noise outputs of dry biomass and anaerobic digestion facilities and equipment in relation to relevant current guidance.

**B3: Noise impact**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals for dry biomass or anaerobic digestion equipment or facilities should:

a) Not result in noise levels which would be deemed unacceptable to occupiers of nearby residential buildings, schools, hospitals, business premises and well used public areas; and

b) Demonstrate how potential adverse noise impacts will be reduced and managed: this could, for example, be demonstrated through a noise management plan. Where necessary, mitigation measures, such as the establishment of vegetation noise buffers for example, should be used to prevent adverse noise impact.

**Specific Highway Safety, Designated Nature Conservation and Biodiversity Considerations**

3.7.10 Policy B4 outlines the factors, in addition to the Local Plan, NPPF and other relevant guidance, that will be taken into consideration when assessing dry biomass and anaerobic digestion proposals in relation to highway safety, designated nature conservation and biodiversity considerations. When considering a proposal against these factors, both the individual impacts of the proposal and the likely cumulative impacts of the proposal will be taken into consideration. The assessment of proposals will also be informed by formal representations received from consultees.

**B4: Highway safety, designated nature conservation and biodiversity considerations**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations (where applicable).

<u>Highway safety considerations</u>

a) Access:
Where possible, in relation to commercial/ staffed facilities, the primary access for deliveries and staff should avoid sensitive areas such as, but not limited to, residential areas and areas in close proximity to school entrances.

b) Site layout:
The site layout should allow for turning and manoeuvring of all delivery and staff vehicles to take place on-site: it should not be necessary for vehicles to utilise the public highway for turning.

c) Construction:
Where necessary, a construction statement should be prepared by the developer which forecasts the vehicle trips that are likely to be generated during construction and the routes which are likely to be used, so that the probable impact of the development upon traffic and highway safety can be considered.

d) Transport statement:
Where necessary, a transport statement should be prepared by the developer which forecasts the vehicle trips that are likely to be generated by the operation of the facility and the routes which are likely to be used so that the probable impact of the development upon traffic and highway safety can be considered. In instances where the impact upon the highway will be notable (for example, if the proposal is likely to generate a high volume of traffic), or in instances where the existing road network is unsuitable for the anticipated level, type or frequency of traffic, a detailed traffic management plan should also be prepared.

e) Parking:
Where necessary, sufficient staff and visitor parking should be provided onsite: in line with the parking standards outlined in the Local Plan (Appendix A), parking needs for a sui-generis use, such is a dry biomass or anaerobic digestion facility, will be assessed on the scheme's merits in relation to the demand for parking which is likely to be generated.

<u>Nature conservation and biodiversity considerations</u>

f) Further to Policy LP19 *The Natural Environment* of the Local Plan, applicants should demonstrate that due consideration has been given to the potential impacts of the proposal on local, national and international designated sites, including those outside the Fenland District. Where a proposal is likely to have adverse impacts, applicants should demonstrate how these potential impacts have been addressed in the proposal, with proposed mitigation measures being commensurate to the significance of the designation, in relation to the local, national, international hierarchy. This applies to all proposals, regardless of scale.

In accordance with Policy LP19, in instances where a proposal would have an adverse effect on a protected habitat or species, the applicant should demonstrate that the need for and public benefits of the development clearly outweigh the harm caused, and that mitigation and/ or compensation measures can be secured to offset the harm and achieve, where possible, a net gain for biodiversity (see also paragraph 118 of the NPPF).

*Developers are encouraged to consider opportunities to achieve net biodiversity gains (i.e. gains in addition to any measures deployed to mitigate any adverse impacts that may result from the development), regardless of whether the proposal will result in adverse impacts in order to conserve, enhance and promote the biodiversity and geological interest of the natural environment throughout Fenland.*

In relation to the above:

g) Proposals should not compromise the objectives of the Cambridgeshire and

Peterborough Minerals and Waste Core Strategy (2011), and supporting Block Fen/ Langwood Fen Master Plan Supplementary Planning Document (2011).

h) Applicants will be required to undertake surveys and provide evidence as necessary in relation to the anticipated impacts of their proposal.

In instances where the evidence supplied includes uncertainty in relation to the anticipated impacts of a proposal, or in instances where there is a lack of evidence, a precautionary approach will be taken by Fenland District Council.

3.7.11 Note:
Proposals which have the potential to impact upon European sites require a Habitat Regulations Assessment, as per Regulation 61 of the Conservation of Habitats and Species Regulations 2010.

**High Quality Agricultural Land**

3.7.12 The NPPF (2012, paragraph 112), states:
*"where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality".*

3.7.13 The best and most versatile agricultural land (land in grades 1, 2 and 3a of the Agricultural Land Classification) should be protected in light of the positive contribution it makes to the character of the landscape and of the need to produce food locally due to climate change.

3.7.14 Policy B5 outlines the considerations in relation to the best and most versatile agricultural land that will be taken into account when assessing dry biomass and anaerobic digestion proposals. When considering a proposal, both the individual and cumulative impacts will be taken into account.

**B5: High quality agricultural land**

To assist an applicant in meeting the requirements of Policy LP14 of the Local Plan, proposals should consider, and incorporate as appropriate, the following considerations.

a) The advice as set out at paragraph 112 of the NPPF (2012).

b) If a proposal includes the development of the best and most versatile agricultural land, where possible, development should be sited so as to minimise the impact on agricultural operations during its operation and associated installation and maintenance works. As such, where opportunity exists:
   i) equipment/ facilities should be sited at the periphery of fields rather than in central positions; or
   ii) where it is not possible to locate on the periphery, due to physical constraints or another material consideration rendering such positioning unviable, the development should be sited in a strategic position which avoids unnecessary disruption to agricultural operations.

# Part 4: Developer Considerations

## 4.1 Section 106

4.1.1 In some instances Section 106 developer contributions may be sought in order to make a proposal acceptable in planning terms. Further details on this process are available from the Council.

## 4.2 Community Benefits and Community Engagement

4.2.1 In addition to Section 106 contributions, it is at the discretion of the developer if they wish to consider and provide non-planning related community benefits as part of their proposed scheme. Any such community benefits cannot be secured through the planning system and will not be considered as a material consideration in the assessment of the proposal. However, developers may choose to provide community benefits for a variety of reasons, including, but not limited to:

- Delivering their commitments to corporate social responsibility;
- Providing compensation for the inconvenience caused by the construction process;
- Generating community buy in and support for the proposal, and subsequent community 'ownership' of the scheme. Such good, long term, relations can be of considerable benefit to both the developer and the community.

4.2.2 In instances where a developer opts to provide some form of community benefit as part of their proposal, the Council encourages the developer to liaise closely with members of the local community/ communities at the earliest appropriate stage. It is hoped that this will both facilitate open communication between developers and members of the local community, and also enable developers to explore the potential benefits which would be most beneficial to that specific locality and the needs of the local communities.

4.2.3 Community benefits can be financial, but this is not always the case. Examples of community benefits which developers may choose to provide include, but are not limited to:

- Community funds (examples include an annual payment to local parish councils per megawatt; a lump sum payment; a payment based on the revenue generated)
- Supporting local energy efficiency initiatives
- Provision of social benefits
- Provision of cheaper electricity
- Educational visits to local schools and colleges
- Site conservation and habitat creation

## Sources of Further Information

Outlined below are details of where the key documents referred to in this SPD can be found.

Fenland District Council Local Plan:
http://www.fenland.gov.uk/article/3041/Neighbourhood-Strategy-Planning-Policy

National Planning Policy Framework (NPPF, 2012):
http://www.communities.gov.uk/planningandbuilding/planningsystem/planningpolicy/planningpolicyframework/

Planning Practice Guidance on renewable and low carbon energy:
http://planningguidance.planningportal.gov.uk/blog/guidance/renewable-and-low-carbon-energy/

Details of permitted development rights can be found via:
http://www.legislation.gov.uk/

Useful information on permitted development rights can also be found at:
http://www.planningportal.gov.uk/permission/commonprojects/

Please note that permitted development rights are subject to change and that some dwellings may be exempt from permitted development rights. For more information on the permitted development rights of your property, please contact Fenland District Council's Planning Department.

Fenland District Council:

Fenland Hall,
County Road,
March
PE15 8NQ

info@fenland.gov.uk

01354 654321

# Glossary

| Word/ Term | Definition in the context of this SPD |
|---|---|
| Active solar technology | This terms includes:<br>- photovoltaic technology which generates electricity from solar power<br>- solar water heating technology |
| Cumulative landscape impacts | The effects of a proposed development on the fabric, character and quality of the landscape; it is concerned with the degree to which a proposed renewable energy development will become a significant or defining characteristic of the landscape. |
| Cumulative visual impacts | The degree to which proposed renewable energy development will become a feature in particular views (or sequences of views), and the impact this has upon the people experiencing those views. |
| Ground mounted (active solar technology) | Active solar technology not mounted on a building or other structure (e.g. car port). |
| Heritage asset | As defined by the NPPF (2012):<br>“A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets [defined by the NPPF, 2012] and assets identified by the local planning authority (including local listing).”<br><br>Note: the term ‘heritage asset’ includes sites, places, areas, landscapes, etc., that are of archaeological interest. |

| | |
|---|---|
| Principal elevation | As defined by the Permitted Development for Householders Technical Guidance (DCLG, 2013):<br>“In most cases, the principal elevation will be that part of the house which fronts (directly or at an angle) the main highway serving the house (the main highway will be the one that sets the postcode for the house concerned). It will usually contain the main architectural features such as main bay windows or a porch serving the main entrance to the house. Usually, but not exclusively, the principal elevation will be what is understood to be the front of the house.<br><br>There will only be one principal elevation on a house. Where there are two elevations which may have the character of a principal elevation (for example, on a corner plot), a view will need to be taken as to which of these forms the principal elevation." |
| Renewable and low carbon energy | As defined in the NPPF (2012):<br>“Includes energy for heating and cooling as well as generating electricity. Renewable energy covers those energy flows that occur naturally and repeatedly in the environment – from the wind, the fall of water, the movement of the oceans, from the sun and also from biomass and deep geothermal heat. Low carbon technologies are those that can help reduce emissions (compared to conventional use of fossil fuels).” |
| Rotor diameter | The diameter measurement of the area within which the rotor blades of a wind turbine rotate, i.e. the straight line distance from edge of the ‘circle’ in which the blades turn, to the centre point, to the opposite edge. |
| Shadow flicker | Under certain combinations of geographical position and time of day, the sun may pass behind the rotor blades of a wind turbine and cast a shadow. When the blades rotate, the shadow flicks ‘on’ and ‘off’; the impact is known as ‘shadow flicker’. Only properties within 130 degrees either side of north, relative to the turbines can be affected at these latitudes in the UK: turbines do not cast long shadows on their southern side. |
| Static (active solar technology) | Active solar technology installations which remain stationary. |
| Tracker (active solar technology) | Active solar technology which moves to follow the daily movement of the sun in order to maximise solar capture. |