South Downs
National Park Authority

Small Scale Renewable Energy

Technical Advice Note

April 2022

SOUTH DOWNS LOCAL PLAN

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Cover photo: Wallands Primary School, Lewes. Image courtesy of OVESCO, 2022

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1 Introduction

1.1 Climate change is having a fundamental effect on biodiversity, agriculture and water resources. The South Downs National Park is already experiencing more unpredictable weather events causing drought, soil erosion and flooding. Responding to the climate emergency is central priority of the National Park Authority and its Corporate Plan identifies actions to reduce greenhouse gas (GHG) emissions and adapt to existing climate change to help make local communities and businesses more resilient.

1.2 In March 2020 the SDNPA adopted a Climate Change Strategy and Action Plan which sets a target for all activities and properties within the National Park to reach Net Zero carbon emissions by 2040. We are working with our partners to reach this target including communities, businesses and organisations across the National Park, who will need to dramatically reduce GHG emissions to meet this ambition. Reducing demand for energy and improving efficiency through measures such as improved insulation are the first steps in addressing GHG emissions from buildings. There is also a need generate power from renewable energy sources. In addition, with energy bills steeply increasing and fuel poverty rising, alternative and local supplies of energy are increasingly important. The SDNPA Climate Change Action Plan includes the objective to work specifically with local communities to develop community energy schemes within the National Park, to support the transition to a low-carbon future whilst minimising the impact on the South Downs landscape.

1.3 The purpose of this Technical Advice Note (TAN) is to help applicants (householders, community organisations or local businesses) to make successful planning applications for small-scale renewable energy schemes in the South Downs National Park (SDNP) as part of the drive to achieve zero carbon emissions. For the purposes of this TAN, small-scale renewable energy is defined as a proposal designed to serve an individual building i.e. 'microgeneration' (mainly covered by permitted development rights) or larger scale technology to serve multiple buildings and is part of a project designed and led by the local community. This can include commercial schemes but importantly, they will be of a scale that meets local energy needs and have local buy-in. The TAN does not cover large-scale proposals for renewable energy in the National Park or proposals within the setting of the National Park.

1.4 The key issues that this Technical Advice Note seeks to address are:

- Identifying appropriate renewable technologies given the need to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Park
- When you need planning permission for community-led renewable energy in the National Park and how to make an application
- Guidance on addressing the policy requirements for proposals which require planning permission

1.5 This TAN was approved by the Planning Committee of the SDNPA on 10 February 2022. It is a material consideration that will be taken into account by decision makers at the Authority and the host authorities when determining planning applications for small scale renewable energy and associated development in the National Park.

1.6 Technical terms in **bold** are explained in the glossary.

2 Community-led renewable energy in the South Downs National Park

2.1 There is growing interest in community-led renewable energy projects within the National Park. These are projects which are:

- Community driven renewable energy projects that are led by people, groups and organisations in the communities that the projects are based in.
- A community-led project can that comprises domestic renewable energy to serve individual households or larger scale technology to serve multiple buildings / consumers.
- Generating renewable energy in the community and are designed to meet local energy needs.
- Helping people that are at risk of being in 'fuel poverty'.
- Renewable energy installations that may be community owned by the community with local people buying shares and earning interest.
- Renewables energy projects that are managed by community energy companies that are not-for-profit organisations such as Co-operatives or Community Benefit Societies.

2.2 All proposals for community-led renewable energy should be supported by evidence of the current carbon footprint for the parish or business, and the impact the renewable energy proposal will have on reducing this. Reference can made to the IMPACT tool or similar carbon calculator.

Examples of community-led renewable energy

2.3 Community-led renewable energy projects can range in scale and technology; the key characteristic being that they are designed to meet local energy needs. This could include a project to install air source heat pumps to replace oil-based heating systems for homes, or rooftop PV panels installed on a school to generate electricity locally.

Support for Community-led Renewable energy in the South Downs National Park

2.4 The SDNPA has partnered with Community Energy South (CES) to provide support to help establish new community energy groups and projects locally. This support includes providing resources and information on setting up a community energy group, as well as networking and training opportunities. CES are also able to provide advice on contacting local installers. Further information is available on the CES website.

3 Appropriate renewable energy in the South Downs National Park

3.1 The South Downs National Park was designated as a national park in recognition of its exceptional natural beauty, for the opportunities to learn about and appreciate its **special qualities** and as a landscape of national importance. It has the highest level of landscape protection under the National Planning Policy Framework.

3.2 All forms of development are expected to conserve and enhance the landscape character in the National Park. To achieve this, development is required to take a **landscape-led approach to design**, which for renewable energy projects means using an understanding of landscape (which includes buildings) to inform the choice of renewables, the location and the design of technology proposed.

3.3 This requires an understanding of **landscape character**, both the positive characteristics and the sensitivities, to identify the constraints and opportunities for renewable energy development. The South Downs Landscape Character Assessment (LCA) provides a starting point for understanding landscape character in the National Park. The LCA identifies, describes and maps landscape character types across the National Park. It also describes the key sensitivities to change that may exist within specific landscape character types, which should inform the type and form of development proposals.

3.4 **Table 1** lists all the landscape character types within the SDNP. Key sensitivities of each landscape type are described. The table provides a very broad indication of the suitability of different renewable technologies for each landscape character type. The table is indicative only and does not indicate whether planning permission will or will not be granted for any particular technology in a location. Applicants and case officers will need to consider technology-specific requirements as well as location-specific considerations such as the presence of Listed Buildings, local landscape features and character, or protected species or habitats.

3.5 It is possible to look up which landscape character type a site is within by entering a postcode or address into the Landscape Character Assessment Interactive Map.

3.6 In summary:

- Sensitively designed schemes for roof top Solar Panels are likely to be suitable in most areas. Making use of existing roof space is strongly encouraged
- Air Source Heat Pumps are likely to be suitable in most areas
- Farm-based anaerobic digestion, at an appropriate scale, siting, and using local waste product, is also likely to be suitable in most areas
- Whilst biomass boilers are a form of low carbon energy suitable in most areas, they are also a potential source of air pollution. Measures are necessary to protect air quality and wood fuel should be locally sourced and sustainably managed
- As a below ground technology, Ground Source Heat Pumps are suitable in most areas, subject to impacts on historic landscapes, trees and archaeology
- Other than for domestic use, or at a very small scale, ground mounted solar panels result in a significant change to landscape character which is unlikely to be suitable in most areas
- Wind resource capacity varies across the National Park. This was evidenced in a high level assessment conducted in 2012 and a more detailed assessment will be undertaken as evidence for the Local Plan Review. Whilst wind turbines may be suitable in some

areas this needs to be weighed against visual impact and impacts on tranquillity and a sense of remoteness
- There may be some suitability for small-scale hydropower on watercourses within the National Park which will need to be balanced against impacts on water flow, water quality and biodiversity

3.7 The technology for renewable energy generation is rapidly developing and this TAN will be updated accordingly to take account of any significant changes or developments in technology.

Table 1: Renewable technology by landscape character type

Key:

Landscape Character Type	Key Sensitivities for this landscape type	Rooftop solar	Free-standing solar array	Air Source Heat pump	Ground source heat pump	Biomass heating (wood fuel)	Farm-scale anaerobic digestion	Hydro-electric power	Wind turbine
A. Open Downland	Open uninterrupted skylines Iconic views Sense of tranquillity and remoteness Unimproved chalk grassland and chalk heath	*Green*	*Amber*	*Green*	*Green*	*Amber*	*Green*	*Red*	*Red*
B. Wooded Estate Downland	Large areas of ancient woodland Intact hedgerow network Chalk grassland	*Green*	*Yellow*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Yellow*
C. Clay Plateau	Deciduous woodlands Intact hedgerow network Historic parklands	*Green*	*Yellow*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Yellow*
D. Downland Mosaic	Prominent skyline of open ridge Chalk grassland Deciduous woodland Intact hedgerow network	*Green*	*Amber*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Red*
E. Chalk Valley Systems	Chalk rivers and associated springs, meanders riffle and pools Floodplain meadows and areas of wet woodland	*Green*	*Amber*	*Green*	*Green*	*Yellow*	*Green*	*Yellow*	*Red*
F. Major Chalk River Floodplains	Flat open valley floors Meandering channels Floodplain meadows, trees ponds and other wetland habitats	*Green*	*Amber*	*Green*	*Green*	*Yellow*	*Green*	*Yellow*	*Red*
G. Major Chalk Valley Sides	Steep valley sides, in some areas cliffs An upper slope of chalk grassland and lower slope woodland and hedgerows	*Green*	*Red*	*Green*	*Green*	*Yellow*	*Green*	*Red*	*Amber*

Landscape Character Type	Key Sensitivities for this landscape type	Rooftop solar	Free-standing solar array	Air Source Heat pump	Ground source heat pump	Biomass heating (wood fuel)	Farm-scale anaerobic digestion	Hydro-electric power	Wind turbine
H. Wealden River Floodplains	Flat open character Meandering channels and network of tributaries. Floodplain meadows, bankside trees and other wetland habitat	*Green*	*Amber*	*Green*	*Green*	*Yellow*	*Green*	*Yellow*	*Red*
I. Major Scarps	Steep prominent scarp slopes Large swathes of open chalk grassland with areas of hangar woodland and scrub Prominent, open and undeveloped skyline very sensitive to any form of development	*Red*	*Red*	*Red*	*Red*	*Red*	*Red*	*Red*	*Red*
J. Scarp Footslopes	Undulating topography with small fields bounded by intact hedgerow network and woodlands Views from adjacent higher land	*Green*	*Yellow*	*Green*	*Green*	*Yellow*	*Green*	*Red*	*Yellow*
K. Greensand Terrace	Prominent view of greensand scarp Ancient hangar woodlands connected by thick hedgerows Open and semi natural grasslands Sunken lanes	*Green*	*Yellow*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Yellow*
L. Mixed Farmland and Woodland Vales	Unimproved grasslands, woodlands and thick hedgerows with trees Historic parklands	*Green*	*Yellow*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Amber*
M. Wealden Farmland and Heath Mosaic	Mix of heathland, oak/birch woodland and acid grasslands Unenclosed commons	*Green*	*Yellow*	*Green*	*Green*	*Yellow*	*Green*	*Red*	*Red*

Landscape Character Type	Key Sensitivities for this landscape type	Rooftop solar	Free-standing solar array	Air Source Heat pump	Ground source heat pump	Biomass heating (wood fuel)	Farm-scale anaerobic digestion	Hydro-electric power	Wind turbine
N. Valley Farmland	Neat hedgerows with trees Remnant woodlands and commons Openness of landscape due to low proportion of woodland cover	*Green*	*Yellow*	*Green*	*Green*	*Yellow*	*Green*	*Red*	*Yellow*
O. Greensand Hills	Large areas of ancient deciduous woodland. Remnant heathlands, thick hedgerow boundaries. Enclosed character. Views from key viewpoints Sense of remoteness and tranquility	*Green*	*Amber*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Yellow*
P. Low Weald	Irregular mosaic of fields, hedges, ancient woodlands and wood pasture. Strong hedgerow network Visibility of the area from the higher adjacent landscape	*Green*	*Yellow*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Yellow*
Q. Wooded Claylands	Large areas of ancient woodland. Deer parks Remnant areas of heathland	*Green*	*Amber*	*Green*	*Yellow*	*Yellow*	*Green*	*Red*	*Red*
R. Upper Coastal Plain	Wetland habitats, springs and streams Strong network of hedgerows and small woods Historic parklands	*Green*	*Yellow*	*Green*	*Green*	*Yellow*	*Green*	*Yellow*	*Amber*
S. Shoreline	Flint shingle beaches Steep chalk cliffs Unsuitable for most forms of development	*Red*	*Red*	*Red*	*Red*	*Red*	*Red*	*Red*	*Red*

This table is indicative only and does not indicate whether planning permission will or will not be granted for any particular technology in a location.

Refer to the South Downs Landscape Character Assessment maps for your local character type. Settlements in the National Park all fall within Landscape Character Areas so refer to your local character type.

4 Technology specific considerations

4.1 For each renewable energy technology, there are considerations which will make them more or less suitable for a location. Some of these considerations are listed below (not intended to be an exhaustive list):

4.2 Air Source Heat Pumps

- Size and location of units
- Noise impact

4.3 Farm-scale anaerobic digestion

- Development located within existing farmstead and not visually intrusive
- Appropriate scale to use onsite waste (does not import fuel) and designed to serve onsite energy need
- Uses locally sourced materials in construction
- Odour management
- Transport of fuel and vehicle movements

4.4 Biomass boilers

- Efficiency and air pollution standards e.g. Ecodesign standard
- Type of wood fuel - ensuring it is dry enough and immediately ready to burn
- Source of wood fuel and whether this is sustainably managed
- Transport of wood fuel
- Access to site
- Onsite storage of fuel

4.5 Ground Source Heat Pumps

- Impact on historic landscapes and archaeology
- Loss of best and most versatile agricultural land
- Sterilization of land for other purposes, e.g. tree planting
- Soil management – handling, storage and reuse or disposal to ensure soils are conserved during the works and natural drainage is not impeded
- Safeguarding existing trees / hedgerows during construction and operation
- Licences required from the Environment Agency for vertical GSHP

4.6 PV Solar panels

- Rooftop panels have the advantage of no loss of land which can be put to other uses. There are many large buildings (including farm buildings) where panels could be placed with little impact on the landscape
- On Listed buildings or non-designated heritage assets, and in Conservation Areas, where a solar array may detract from the character and appearance of the building or area, careful design and siting may mean these locations are suitable. Solar tiles are also available as a more discreet alternative to panels.
- Use of monochrome, non-reflective PV materials
- Regular, rhythmic pattern for multiple arrays

- Use of brownfield land or land within former quarries
- Ability to restore land to original condition
- Where ground mounted solar panels are proposed, land can also be managed to create valuable habitat e.g. wildflower meadows for pollinators

4.7 Hydropower

- Location of equipment – within existing building or appropriately sized / design of new building
- Impact on river flow and water quality
- Ensure river wildlife is not detrimentally affected

4.8 Wind Turbines

- Landscape and visual impacts – Landscape Visual Impact Assessment will be required with reference to SDNPA View Characterisation & Analysis Study which identifies important views and landmarks and the likely ranges of visibility within, to and from the National Park.
- Ecological impacts will need to considered, including impacts on birds and bats. Reference should be made to the following guidance on assessing and monitoring the impacts of wind turbines as well as mitigation options. Although this guidance refers to larger turbines and wind farms, the principles will be relevant to all wind turbine development:
  - Wild birds: surveys and monitoring for onshore wind farms
  - Bats and onshore wind turbines - survey, assessment and mitigation
- Listed Building and Conservation Area impact
- Noise implications
- Blade glint – reflection of light from a turbine blade can be an issue at certain times of the day and can be a potentially distract drivers
- Flicker – can require mitigation by limiting the operating hours of a turbine
- Proximity to transport network and access – can the turbine be delivered to site?
- Telecommunication impacts – turbines can potentially interfere with radio, television and telecommunication signals
- Aeronautical and defence impacts – consult with MoD and nearby airport authorities
- Ground conditions – are these suitable for locating the foundations and access roads

Battery Storage

4.9 Electrical batteries help make the most of renewable electricity generated from solar PV panels, a wind turbine or a hydroelectricity system. They store electricity generated, for example, from PV panels during the day, to then be used at peak times such as the early evening. A battery can also be used to store electricity bought from the grid at cheaper times of the day, with dynamic energy tariffs that vary in price throughout the day. Alternatively spare electricity can be converted into heat that is then stored in the form of hot water that can be used later in the day.

4.10 Battery storage solutions can be attractive to farmers and rural businesses protecting their operations from fluctuating energy costs. The battery size will depend on energy usage and the size of the renewable energy technologies installed. Some, but not all, battery storage systems can be installed outdoors. Where planning permission is required for battery storage, the following matters will be taken into consideration:

- Location and design of the structure, that the batteries are to be stored in
- Fencing, substation and any other structures / cables associated with the storage system
- Access and maintenance arrangements
- Noise impact

Can you connect to the grid?

4.11 You will need to apply to the UK Power Network (UKPN) to connect renewable electricity for anything but small domestic size installations. Grid connection can be expensive especially for large or remote sites. Check grid connection in the SDNP through UK Power Network. Consideration will need to be given to the capacity of existing infrastructure, as well as the location and additional infrastructure which might be required to make a connection

5 The application process

Do I need planning permission?

5.1 It is always advisable to seek advice from us at the earliest opportunity and we offer a free advice service in regard to queries about whether planning permission is required or not. More information is available on our website: Do I need planning permission? - South Downs National Park Authority

Permitted development

5.2 Permitted Development (PD) rights refer to work that can be carried out without the need for planning permission. Information on what constitutes PD can be found on the Planning Portal website: Permitted Development Rights | Planning Permission | Planning Portal

5.3 It is the applicant's responsibility to check that a development can be undertaken under PD rights.

5.4 The General Permitted Development Order (GDPO) allows for microgeneration of renewable energy on domestic and in some cases non-domestic properties, provided certain conditions are met. These are set out in Part 14 of the GDPO. This includes solar panels, ground source heat pumps, air source heat pumps and flues for biomass heating systems. Wind turbines for microgeneration do not have permitted development rights in National Parks. Part 2 of the GDPO also allows for electric vehicle charging infrastructure, with some restrictions.

5.5 Several of the PD rights set out in Part 14 of the GDPO do not apply to Listed Buildings or land / buildings within their curtilage. Furthermore, regardless of the need for planning permission, listed building consent is likely required for any alterations. There are also restrictions in the GDPO which relate to Conservation Areas. Applicants should seek tailored advice for proposals affecting heritage assets.

5.6 It is always a good idea to check and as stated above, if in doubt fill out and submit a Do I Need Planning Permission (DINPP) form to the relevant authority who deals with planning in your area of the South Downs National Park.

Pre application advice

5.7 Once it has been confirmed that planning permission is required, we would always advise seeking pre-application advice. Again further information is available on our website at Pre-application advice - South Downs National Park Authority

5.8 Pre-application advice provides an opportunity for an applicant to receive a professional opinion from the local planning authority on a potential application, and highlight from a planning perspective, any concerns or potential issues the application may have. This can help smooth out any potential issues at an early stage.

5.9 **The SDNPA is offering free pre-application advice for community-led renewable energy proposals.**

6 Submitting a planning application

6.1 The best way to submit a planning application in the National Park is online through the Planning Portal website: Applications | Planning Portal. Applications will be automatically forwarded to the correct authority. The planning portal website has both interactive forms that can be completed online and forms that can be printed and posted in. The SDNPA website provides information on all aspects of making an application including how applications are decided and how long it will take to decide an application[1].

Supporting information

6.2 It is important that you send in all the necessary supporting information with your application. Both the national and local requirements are set out on the website. Our local validation list sets out what scaled plans of existing and proposed development plus supporting reports are required to support different scales and types of development. The level of detail for the supporting documents should be proportionate to the scale of the development. An indicative list of supporting information which likely will be required is:

- Landscape appraisal (all applications) – provide a contextual analysis which demonstrates how the choice of renewable technology and design have been developed to respect and enhance the landscape character
- Ecosystems Services Statement (all applications) – this needs to detail both positive and negative impacts of the proposal on ecosystem services and demonstrate an overall positive impact on ecosystem services
- Carbon Footprint Statement - it is recommended that all proposals for community-led renewable energy include a statement setting out the current carbon footprint for the parish and the impact proposal will have on reducing this. Reference can made to the IMPACT tool or similar community carbon calculator.
- Consultation Statement – detailing how the local community has been engaged in developing the proposal
- Heritage statement (all proposals affecting designated and undesignated heritage assets)
- Ecological Appraisal
- Aerodrome safeguarding statement (Wind Turbines)

- Noise assessment (Wind Turbines, Air Source Heat Pumps in some instances)
- Soils management plan (Ground Source Heat Pumps)
- Flood risk assessment & water quality statement (Hydropower)
- Biodiversity Net Gain Plan (all applications) – including biodiversity baseline study, habitat map and completed relevant Biodiversity Metric

Environmental Impact Assessment

6.3 Environmental Impact Assessment (EIA) is designed to safeguard the environment by providing local planning authorities with a detailed evaluation of a project that is likely to have a major effect on the environment. This enables planning authorities to be fully aware of the broader environmental picture when they decide whether to grant planning permission. EIA (Planning) may be required to be submitted as part of a planning application and all applications are routinely screened as part of the validation process. A proposal is required to provide additional environmental assessment if it is likely to have a significant impact on the environment. You can request a planning screening opinion from us as the local planning authority in writing, and we are happy to provide advice on the matter.

7 How are planning applications assessed?

7.1 The starting point for all decisions on planning applications is the Development Plan, which in the SDNP consists of the South Downs Local Plan (SDLP) along with Minerals and Waste Plans and any made (adopted) Neighbourhood Development Plan relevant to the area in which the application applies.

South Downs Local Plan (2014-33)

7.2 The SDLP is a landscape-led plan, putting the landscape and the delivery of **ecosystem services** at the centre of decision making.

7.3 Policy SD51 *Renewable Energy* supports the development of appropriate new renewable energy that will improve the quality of life for those living, working or visiting the National Park, whilst seeking to conserve and enhance the **special qualities**. It is important to note, that although SD51 is a key policy against which community-led renewable energy development will be assessed, the SDLP should be read as a whole as there will be other policies relevant to your proposal, the following lists the most relevant policies and documents:

Relevant Policies and Documents

SD2: Ecosystem Services

SD4: Landscape Character

SD5: Design

SD6: Safeguarding Views

SD9: Biodiversity and geodiversity

SD14: Climate Change Mitigation and Adaptation of Historic Buildings

SD42: Infrastructure

SD48: Climate Change and Sustainable Use of Resources

SD51: Renewable Energy

Partnership Management Plan (PMP)

Climate Change Adaptation Plan and Strategy

Sustainable Construction SPD

Design Guide SPD (emerging)

Neighbourhood Development Plans

7.4 Applicants should check our website to see if there is an emerging or made neighbourhood development plan (NDP) for the parish in which the proposal is located. Some NDPs contain parish specific policies on climate change and renewable energy.

Village Design Statements

7.5 A number of parish councils in the National Park have prepared village design statements, which have been adopted as supplementary planning documents (SPD) by the Authority. Applicants should check our website to see if there is an emerging or made village design statement for the parish in which the proposal is located.

Material Considerations

7.6 A material consideration is a matter that should be taken into account in deciding a planning application or on an appeal against a planning decision. These include Development Plan policies (as detailed above), Supplementary Planning Documents, Government policy and guidance, previous planning decisions (including appeal decisions), and numerous factors, which in the case of community-led renewable energy proposals, include:

- Visual impact – impact on immediate neighbours, also views from public rights of way (ProW), key views and highways (potential for glint/glare, flicker)
- Impact on landscape character, perceptual landscape, tranquillity (noise impacts)
- Scope for landscape enhancements e.g. removal of an oil storage tank
- Nature conservation
- Ability to provide biodiversity net gain
- Impact on heritage assets, including their setting and impacts on archaeology
- Impact on land use and management e.g. loss of agricultural land
- Relationship to existing buildings / structures
- Ease of access for maintenance and (for biomass) for fuel deliveries
- Traffic impact e.g. lorry movements associated with delivery of biomass
- Impact of associated infrastructure e.g. fencing, security
- Cumulative impact of multiple installations
- Engagement and consultation with local community
- Emissions reduction

7.7 Matters that are not considered material planning considerations include the loss of view or devaluation of a property.

Loss of agricultural land

7.8 Policy SD51 supports the development of appropriate new renewable energy subject to three criteria set out in the policy, which includes the protection of grades 1, 2 or 3a of agricultural land. The purpose of this criteria is protect the best and most versatile agricultural land from harmful development and manage soils in a sustainable way. This criteria is relevant to renewable energy schemes which involve land take i.e. freestanding solar arrays or Ground Source Heat Pumps (GSHP).

7.9 Agricultural Land Classification (ALC) assesses the quality of farmland to enable informed choices to be made about its future use within the planning system. There are five grades of

agricultural land, with Grade 3 subdivided into 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a. Maps providing an overview of ALC are available on the MAGIC website although these maps are not at a scale suitable or accurate for assessment of individual fields or sites. When it is proportionate to do so, a survey may be necessary to establish the classification.

7.10 Case officers will take a balanced view regarding the loss of agricultural land, weighing up the overall quantity of land loss, scope for agricultural use (e.g. other factors may make it unsuitable for agricultural use such as historic parkland), above ground impacts (minimal for GSHP) and the benefits of reducing GHG emissions. A pragmatic approach may be taken where the loss is of a very small amount of agricultural land and efforts are made to secure additional benefits e.g. biodiversity net gain.

Screening solar arrays

7.11 Part 2 of Policy SD51 refers to small-scale freestanding solar arrays, stating these should be suitably screened. This can be achieved by locating arrays within building complexes or by other landscape features such as hedgerows, walls or trees. However, any screening introduced needs to be context specific and integrate with the landscape. For example, where hedgerows are planted for screening, these should comprise locally native species providing suitable habitat and reinforce or restore historic field boundaries.

Biodiversity Net Gain

7.12 Biodiversity Net Gain (BNG) is an approach to development and associated land management that aims to leave biodiversity in a measurably better state than before. The Government made it a mandatory requirement for all development to achieve a 10% net gain for biodiversity through the Environment Act, and this will be implemented through forthcoming regulations. Policy SD9 of the SDLP requires development proposals to identify and incorporate opportunities for net gains in biodiversity. This applies to all forms of development, including proposals for renewable energy.

7.13 In line with the upcoming mandatory requirement from the Environment Act, we are seeking a minimum 10% net gain in biodiversity from development. Importantly, these measurable improvements to biodiversity need to contribute to nature recovery by being context-led (taking into account local ecology, landscape character, and function). BNG habitat creation or enhancement is expected to be delivered on site in the first instance. Examples of BNG for renewable energy proposals could be the planting of a wildflower meadow amongst solar panels or enhancements to a native hedgerow.

7.14 Planning applications are required to demonstrate measurable BNG by completing the relevant Biodiversity Metric. The Biodiversity Metric is an excel spreadsheet, which uses information about habitats present at a site before and post-development to measure improvements for biodiversity. There are two types of Biodiversity Metric:

- Small Sites Metric: for development where the site area is less than 0.5ha or floorspace less than 5000m2
- Biodiversity Metric 3.0: Any development on a site where priority habitat is present or where the site area is 0.5ha or greater, or floorspace is 5000m2 or greater.

7.15 Further information on BNG is available in our Biodiversity Net Gain Interim Guidance Technical Advice Note.

8 Funding opportunities

8.1 Community Energy South maintain a database of community energy funding, which includes national and local funds. See the CES website for further details.

Community Infrastructure Levy

8.2 The SDNPA charges a Community Infrastructure Levy (CIL) on some forms of development in the National Park, to fund a wide range of new infrastructure, which can include community and micro-generation renewable energy schemes. Once a year the SDNPA has a 'call for projects', inviting stakeholders to put forward projects for CIL funding. The funding is for infrastructure itself and requests for money to fund feasibility studies are unlikely to be successful. Further information on the call for projects is available at: Applying for CIL funds for an infrastructure project - South Downs National Park Authority

8.3 In areas where development has taken place, Parish / Town Councils will also receive direct CIL payment from the SDNPA, known as the 'Neighbourhood Portion', and have the ability to use this money on projects that are a priority for them. You can approach your local parish / town council for potential funding towards a community renewable energy project from this fund.

9 Case Studies

9.1 The following mini case studies give a flavour of what can be done, at a local scale to meet energy needs from renewable technology whilst protecting and conserving the special qualities of the National Park. Examples of the planning considerations and issues involved in the proposals are also provided.

Plumpton College – roof top PV panels

South Downs Landscape Character Area: Scarp Footslopes

Renewable energy scheme comprising of 2 x roof-top solar arrays installed on teaching block & winery building.

The panels have 99kwp capacity, produce 91,890kW/h electricity per year and reduce carbon emissions by 29 tonnes /yr

Planning considerations:

- Panels facing away from immediate neighbouring properties & flush to the roof such that panels do impact amenity of neighbours.
- Potential for glint / glare impact on motorists & other road users mitigated by hedge / tree screening.
- Although visible from ProW, black solar cells considered to mitigate glare effects

Depot Cinema Lewes – Ground Source Heat Pump & Rooftop PV solar array

South Downs Landscape Character Area: Major Chalk Valley Sides

Ground Source Heat Pump comprising 12 x 200m deep boreholes to create a geothermal heating and cooling system which serves the cinema underfloor heating and providing hot water to 60 degrees.

This was combined with energy efficiency measures to reduce demand with double glazed curtain walling, automated and LED lighting, roof vents rather than air conditioning and shutters to regulate sunlight and heat-gain.

Solar panels were also installed on the pitched and flat roof of the cinema. A green roof was created with chalkland planting.

West Dean biomass district heating system

South Downs Landscape Character Area: Chalk Valley System / Wooded Estate Downland

Since the early 1980's West Dean College has had a woodchip-fired biomass boiler, providing heating for the college workshop, studios and student accommodation. The system is fuelled by sustainably sourced wood fuel from the West Dean Estate. In 2015, the system was updated and extended to heat a number of residential properties on the estate and the village church.

Planning considerations:

- Impact of the biomass facility on the amenity of neighbouring residential property to be mitigated through landscape screening and noise management plan
- Majority of underground piping network runs underneath existing carriageway and less likely to disturb potential archaeological interest. Pipe network was also designed to avoid tree root protection areas.

Annington Commercial Centre – ground mounted solar array

South Downs Landscape Character Area: Scarp footslopes

48 x 310W ground mounted solar photovoltaic modules, generating 14.88kWP

Planning considerations:

- Not visible from key view points on the escarpment
- Topography and lowered position of panels mean a reduced risk of glare
- Views from nearby ProW to be mitigated by planting additional hedgerow
- Adjacent to the commercial centre – urbanised character
- Considered roof top installation but not feasible due to the curved structure of the roof
- Scale & size of panels suitable to meet needs of the commercial centre

Glossary

Air Source Heat Pumps: are a type of renewable energy technology that take the warmth from the outside of a building to use to heat inside. Because the air is heated by the sun, the energy that the heat pump produces is still classed as 'renewable', even though the pump itself is powered by electricity which may or may not have a renewable source**.**

Anaerobic digestion: is a process through which bacteria break down organic matter in the absence of oxygen, to create biogas that can be used to generate heat and power

Ecosystem Services: are the benefits that people and society get from the natural environment, such as restoring grassland, using sustainable and locally sourced wood and materials, grey water harvesting, protecting soils from erosion and degradation. More information on Ecosystems Services can be found in Policy SD2 of the SDLP, and the Ecosystem Services Advice Note

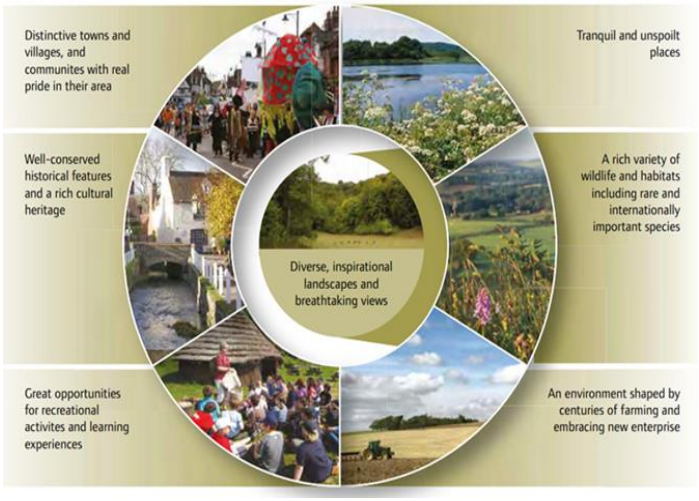
Ground Source Heat Pump: harnesses natural heat from the underground by pumping water through it in pipes. The heat pump then increases the temperature, and the heat can be used for space heating or hot water. The pipes are buried underground in either horizontal trenches (typically 2m deep) or a vertical borehole (15 to 150m deep).

Landscape character: What makes an area unique? It can be defined as a distinct, recognisable and consistent pattern of elements, be it natural (soil, landform) and/or human (for example, settlement and development) in the landscape that makes one landscape different from another, rather than better or worse.

Landscape-led approach to design – Design, which is strongly informed by understanding the essential character of the site and its context (the landscape), creates development which speaks of its location, responds to local character and fits well into the environment. It needs to conserve and enhance the natural beauty, wildlife and cultural heritage of the area and create sustainable and successful places for people.

Microgeneration: up to 50kW for electricity and up to 45kWth for heat

Special Qualities: National Parks have an aim and purpose to promote understanding and enjoyment of the 'special qualities' of their area. It is the combination of these special qualities that led to these areas being protected as national parks. The special qualities of the South Downs National Park are illustrated in the diagram below:



Appendix 1 Policy SD51: Renewable Energy

Development Management Policy SD51: Renewable Energy

1. Development proposals for renewable energy schemes, except those specifically addressed in Criterion 2, that contribute towards reducing greenhouse gas emissions and moving towards a carbon neutral National Park will be permitted where it is demonstrated through suitable site specific analysis that the proposal:

a) Makes provision for the removal of the facilities and reinstatement of the site, should it cease to be operational;

b) Ensures existing public access is not impeded; and

c) Does not result in the loss in use of Grades 1, 2 or 3a agricultural land.

2. Development proposals for small-scale individual wind turbines and freestanding solar arrays serving individual properties or small groups of properties will be permitted where:

a) They are suitably sited and screened and clearly associated with the buildings or properties that they are intended to serve;

b) They are appropriate in scale to the property being served; and

c) There is no unacceptable adverse impact on local amenity or conflict with public safety.

7.297 The purpose of Policy SD51 is to support the development of appropriate new renewable energy that will improve the quality of life for those living in, working in or visiting the National Park, while seeking to conserve and enhance the special qualities.

7.298 All renewable energy development proposals should address the criteria of Policy SD42: Infrastructure. Applicants should also note that major development is subject to Policy SD3: Major Development. Impacts on landscape, cultural heritage, wildlife habitats, tranquillity, access and recreation, air and water quality and highways should be considered against the relevant policies in this Local Plan.

7.299 In addition, when considering the appropriateness of local schemes potential applicants are referred to the SDILCA and to the Viewshed Characterisation Study. In view of the sensitivity of the landscape to renewable energy schemes, potential applicants are advised to consult the Authority at the earliest opportunity when considering schemes.

7.300 A Renewable Energy & Low Carbon Study was prepared as part of the evidence for the Local Plan. The Study sets out some of the key issues in assessing the appropriateness of the following different technologies within the National Park, which are reflected in Policy SD51.

WIND ENERGY

7.301 The majority of the South Downs National Park has sufficient average annual wind speed for commercial scale wind energy generation. Large scale wind presents by far the greatest opportunity for renewable energy generation in the Local Plan area. However, such schemes are unlikely to be granted planning permission in this nationally protected landscape as this would be contrary to the first purpose of the National Park and numerous Local Plan policies. There are likely to be additional ecological and historic constraints, such as bat fly-lines and the setting of conservation areas, which may also exclude deployment of wind energy technologies.

7.302 Small scale wind turbines are defined as having capacity of less than 100 kW and typically comprise single turbines. It may be appropriate in some areas of the National Park for individual

small scale wind turbines to come forward. These should be similar in scale to existing buildings and trees, set against a backdrop or suitably screened, in an appropriate colour, and be assimilated into the landscape. 107 South Downs Integrated Landscape Character Assessment (SDILCA) (LUC, 2005, updated 2011) 108 South Downs National Park: View Characterisation and Analysis (LUC, 2015) 109 South Downs National Park Renewable and Low Carbon Energy Study (AECOM, 2013) 7.

7.303 The potential for exploiting the wind resource in the National Park from small scale wind turbines is limited by the need to ensure that small-scale wind turbines do not detract from the statutory purposes to conserve the natural beauty, wildlife and cultural heritage of the National Park. Some landscapes, such as heath and downland, including in coastal locations, are particularly sensitive to intrusive development from vertical structures due to their open vistas and wild character.

7.304 In order to judge whether the potential impacts of a small scale wind turbine proposal are likely to be acceptable, applicants should consider the impacts of the wind turbine along with any required infrastructure, such as road access, on site-tracks, turbine foundations, hard standings, anemometer masts, a construction compound, electrical cabling and an electrical sub-station and control building. Applications should include any necessary supporting information regarding the assessment of impacts on landscape, wildlife, cultural heritage and other resources.

SOLAR ENERGY

7.305 Proposals for multiple ground-mounted solar arrays – or 'solar farms' that are sited in isolation away from existing built forms are likely to have significant impacts on landscape character and visual amenity, and are unlikely to be appropriate within the National Park.

7.306 Small-scale freestanding solar arrays that are well screened in enclosed gardens or closely linked to existing buildings with no or minimal visual impact may be acceptable. There may also be some circumstances where ground mounted solar arrays to serve groups of properties, community buildings, such as village halls, agricultural properties or other businesses are acceptable, where these are well screened within existing building complexes or by other landscape features such as hedgerows, walls or trees, and do not detract from any architectural or historic interest. However, freestanding arrays should be sensitively sited to avoid impacts on wildlife and land of high ecological interest.

HYDROPOWER

7.307 The Renewable Energy & Low Carbon Study confirms that significant hydropower development is not envisaged for the National Park. Notwithstanding this, advice on environmental protection for new hydropower schemes has been published by the Environment Agency.

BIOMASS

7.308 The Study highlights the opportunities from biomass due to the availability of woodfuel and other crops within the National Park. The Study recommends that the development of the biomass/woodfuel market should be supported in principle. Forestry is one of the key sectors of the National Park's economy.

HEAT NETWORKS & COMBINED HEAT AND POWER

7.309 The Study identifies that only larger settlements such as Lewes and Petersfield are suitable propositions for combined heat and power schemes.

GEOTHERMAL

7.310 Outside the Study, the former Department for Energy and Climate Change (DECC) assessed the potential for deep geothermal power generation in the UK. The South Downs National Park was not identified in the DECC Assessment as having potential for geothermal energy use.