Local Plan Review Topic Paper

Climate Change and Sustainable Buildings

April 2021

Contents

Introduction

This topic paper has been prepared to inform the review of the Peak District National Park Local Plan. Its focus is *Climate Change and Sustainable Buildings.*

Its purpose is to:

- assess the performance of existing policy
- examine the latest research, guidance and evidence that will impact on new policy
- highlight gaps in knowledge and generate areas of further research

It is one of a suite of documents setting out the National Park's planning policy position. It gives an overarching approach to climate change followed by a focus on sustainable buildings. Climate change impacts on all aspects of planning so the issues are also addressed in the other topic papers listed:

- Economy
- Health and Well-being
- Heritage and Built Conservation
- Housing
- Landscape, biodiversity and nature recovery.
- Minerals (pending)
- Recreation and Tourism
- Shops and Community Facilities
- Spatial Strategy
- Sustainable Transport and Infrastructure
- Utilities

Summary

"I hope we all understand the need to move from solemn declarations to concrete actions and initiatives that are commensurate to the level of present and future challenges." Bocchit Edmond[1]

Climate change will result in drier summers, a wetter climate and extreme weather events that will challenge our National Park landscape, its heritage and its communities. We need to increase our efforts to mitigate and adapt to climate change to meet the UK's commitment to net zero greenhouse emissions by 2050 and one way to do this is through the planning system.

The government wants National Parks to be at the forefront of this effort. We need to be pioneers of innovation and change, conserving and enhancing special qualities but with climate change 'central to [national park] objectives'.

Current local plan policies support appropriate low carbon and renewable energy development and encourage *all* development to contribute to climate change mitigation and adaptation.

Large-scale low carbon and renewable energy development is not appropriate in the national park. However there is potential for small-scale development providing it is sensitively located, does not contribute towards a greater cumulative impact and does not conflict with the purposes of the national park. The Landscape Strategy identifies the landscape character types that could facilitate them.

Evidence shows a steady rate of planning applications and approvals for appropriate, small-scale renewable/low carbon installations. However the Authority has on one occasion granted permission for wind turbines 'contrary to policy', determining that socio-economic factors outweighed acknowledged landscape harm. The same issue is noted in several other cases recorded in annual monitoring reports as 'raising significant policy issues'.

The use of renewable/low carbon technologies in new development has been variable, reflecting the government's position at that time and people's appetite to make changes. Updates to Building Regulations will improve the energy efficiency of new buildings and there will be opportunities to do more. The Residents Survey (2019) identified the 'potential for the PDNPA and its partners to encourage more residents to take this action, and that there may be appetite from residents to undertake more environmentally friendly actions to their homes.'

Retrofitting the National Park's existing built stock with energy efficiency measures will be key to meeting the 2050 target. Some of this will be achieved through permitted development, but it is anticipated planning permission will be required for some alterations affecting Listed Buildings and Conservation Areas. Whichever route required, a revised Design Guide will be a key driver in helping people to make changes which are sensitive to the National Park landscape.

[1]*Bocchit Edmond, the minister for foreign affairs of Haiti* https://www.globalcitizen.org/en/content/best-un-climate-change-quotes/

Part 1: Context

1.1 National Park Context and National Policy and Guidance

1.1.1 The Peak District National Park was the first national park to be designated under the National Parks and Access to Countryside Act (1949) in 1952. The Environment Act (1995) sets out our purposes and duty in managing the national park:

(i) to conserve and enhance the natural beauty, wildlife and cultural heritage of the national parks; and

(ii) to promote opportunities for the understanding and enjoyment of the special qualities [of the parks] by the public.

1.1.2 In pursuing these purposes, there is also a duty on National Park Authorities to seek to foster the economic and social well-being of our local communities. Where there is conflict between the purposes, the first purpose will take precedent.

The Climate Change Act (2008)[2]

1.1.3 Sets out the UK's commitment to climate change. The UK was the first nation to establish a legally binding target to reduce greenhouse emissions by at least 80% in 2050 from 1990 levels to keep global warming below 2 degrees Celsius. To achieve this the Act includes carbon budgets to ensure the UK delivers on its commitment of net zero greenhouse emissions by 2050.

The Paris Agreement (2015)[3]

1.1.4 A historic agreement in which 195 countries (including the UK) have committed to keeping national targets for global temperature rise below 2 degrees centigrade.

English National Parks and the Broads, UK Government Vision and Circular (Defra, March 2010)[4]

1.1.5 This circular champions national parks as pioneers of innovation and change to tackle climate change. Climate change should be 'central to [national park] objectives' with communities taking a central role in pushing forward sustainable development and low carbon technologies, whilst conserving its special qualities. It states that our 'primary responsibility is to deliver their statutory purposes. In doing so, they should ensure they are exemplars in achieving sustainable development, helping rural communities in particular to thrive.'

1.1.6 Environmental management is key to responding to climate change. National parks need to support innovation that delivers the purposes and duty, for example, modern farming practices that are resilient, aid production and

[2] https://www.legislation.gov.uk/ukpga/2008/27/contents
[3] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/221086/pb13387-vision-circular2010.pdf

reduce emissions where feasible and support community initiatives for renewable energy.

1.1.7 Climate change will lead to difficult decisions relating to national park special qualities to ensure the park's future 'Assumptions about the value of the traditional appearance of the countryside may have to be challenged as the needs which shape its future may be different from those which have shaped its past.'[5]

1.2 National Planning Policy Framework (NPPF, 2019)[6] and Planning Practice Guidance[7]

National Planning Policy Framework

1.2.1 The NPPF sets out the government's position on planning for England. All Local Plans must be in conformity with this framework. The NPPF states 'The purpose of the planning system is to contribute to the achievement of sustainable development.'

1.2.2 The NPPF supports the UK's response to climate change stating 'The planning system should support the transition to a low carbon future in a changing climate' (NPPF 2019, para 148). To do this it states that local plans should take a proactive approach to mitigating and adapting[8] to climate change' and that 'Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.' (NPPF 2019, para 150). The NPPF supports measures to reduce greenhouse emissions in new development and proposals for renewable and low carbon energy and heat.

Planning Practice Guidance

1.2.3 This guidance supports the NPPF. It reiterates Section 19 of the Planning and Compulsory Purchase Order Act 2004[9] which requires local planning authorities to include in their Local Plans "policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change".

[5] Para.49. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/221086/pb13387-vision-circular2010.pdf

[6] https://www.gov.uk/government/publications/national-planning-policy-framework--2

[7] https://www.gov.uk/guidance/climate-change

[8] Climate change adaptation: Adjustments made to natural or human systems in response to the actual or anticipated impacts of climate change, to mitigate harm or exploit beneficial opportunities.
Climate change mitigation: Action to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions. (NPPF, 2020, Annex 2, Glossary)

[9] http://www.legislation.gov.uk/ukpga/2008/29/section/182

1.3 Local Plan and Local Policy and Guidance

Peak District National Park Landscape Strategy and Action Plan (2009-2019)[10]

1.3.1 The Peak District National Park Landscape Strategy and Action Plan divides the Peak District National Park landscape into Regional Character Areas based on broad areas of landscape with similar natural and cultural characteristics. These landscapes are the White Peak, Dark Peak, Derwent Valley, Eastern Moors and South West Peak.

1.3.2 Climate change is predicted to result in drier summers and seasonal water flows. It could lead to a change in farming practices from pastoral to arable or a need for more agricultural buildings to protect livestock. So, as well as protecting valued characteristics of the Peak District, the strategy proposes changes to these character areas to make them more resilient to climate change, for example new woodlands, rewilding, and rewetting moorland to protect blanket bog. The National Park's peat moorland has an important role to play in mitigating climate change in that it absorbs and stores CO_2 and acts as a water store, slowing the flow of water and preventing flooding downstream in urban areas.

1.3.3 The strategy acknowledges opportunities for small-scale renewable energy for local needs such as solar power, ground source heat pumps, anaerobic digesters, water and food fuel schemes and identifies the landscape character types that could facilitate them.

Peak Sub-Region Climate Change Study (July 2009)[11]

1.3.4 The Peak Sub Region Climate Change Study spanned Derbyshire Dales, High Peak and the PDNPA area of the East Midlands. It was commissioned to assess the likely energy capacity across the region up to 2026 to inform the respective Local Plans. Table 1 below indicates a low energy capacity for the Peak Sub Region, due to the constraints of national park designation on the development of large scale renewable energy generation. It recognises the positive effect small scale renewable energy schemes could have. The study split the total energy generation across the area into the respective local planning authority areas. Overall, the technologies suitable for the National Park were considered to be biomass, hydro, heat pumps, solar thermal, photo voltaic and small micro wind.'

> *'The National Park area contribution is approximately 12GWh/y by 2026…..The main technology contributors are small scale hydro and biomass.' (Peak Sub Region Climate Change Study (July 2009) p.8).*

It estimated that carbon savings arising from these renewable energy contributions could be as much as 4,353 tonnes of CO_2. See table 2 below.

[10] https://www.peakdistrict.gov.uk/__data/assets/pdf_file/0016/46600/landscapestrategyandactionplan.pdf
[11] https://www.peakdistrict.gov.uk/__data/assets/pdf_file/0019/46153/climatechangestudy.pdf

Table 1: Renewable Energy capacity for each Local Planning Authority (Peak Sub Region Climate Change Study, July 2009)

Technology	Quantification of potential GWh/y				Target to 2026 GWh/y				East Midlands Targets to 2026 GWh/y	% of EM targets
	PDNP	HPBC	DDDC	Sub Region	PDNP	HPBC	DDDC	Sub Region		
Biomass	92.9	5.9	23.2	**122**	4.64	0.29	1.16	**6**	77	8
Energy Crops	0	0	735	**735**	0	0	37	**37**	1114	3
Anaeorobic Digestion				**#**	0	0	0	**0**	72	0
Hydro	6	3.4	3.8	**13.2**	6	3.4	3.8	**13.2**	73	18
Heat Pumps	6	669	155	**830**	0.4	50	12	**62**	na	na
Micro Solar Thermal	93	3	49	**145**	0.6	0.02	2.8	**3.4**	na	na
Micro PV	9	2.84	6.96	**18.86**	0.57	0.18	0.44	**1.19**	1018	1
Onshore wind										
Large	0	0	0	**0**	0	0	0	**0**	–	
Medium	0	0	20	**20**	0	0	10	**10**	–	
Small	0.125	0.125	0.75	**1**	0.125	0.125	0.75	**1**	–	
Total Wind	0.125	0.125	20.75	**21**	0.125	0.125	10.75	**11**	460	2.3
Micro wind	11.61	25.85	21	**58.46**	*			**0.5**	1832	0.03
TOTAL	**218**	**710**	**1014**	**1943**	**12.21**	**50.49**	**65.85**	**128.79**	**8339**	**1.5**

Table 2: Carbon Dioxide Savings to 2026 (Peak Sub Region Climate Change Study, July 2009)

Technology	Carbon Dioxide Savings to 2026 (tonnes)			
	PDNP	HPBC	DDDC	Sub Region
Biomass	1136.8	71	284.2	**1492**
Energy Crops	0	0	9065	**9065**
AD	0	0	0	**0**
Hydro	2580	1462	1634	**5676**
Heat Pumps	98	12250	2940	**15288**
Solar thermal	142.1	4.9	686	**833**
PV	245.1	77.4	189.2	**511.7**
Onshore wind				
Large	0	0	0	**0**
Medium	0	0	4300	**4300**
Small	53.75	53.75	322.5	**430**
Micro wind				**215**
TOTAL	**4353.75**	**13919.05**	**19420.9**	**37908.7**

1.3.5 Whilst the Authority has reported new renewable energy development in Annual Monitoring Reports, it has not reported the capacity of these developments and compared the energy production and CO_2 savings to assess whether it is meeting the predictions given in this study. The issue for

the national park is not capacity, but the impact on the landscape. Core Strategy policy was influenced heavily by the assessment of what types of renewable technology are acceptable in the PDNP and where.

Local Development Framework

1.3.6 The Local Development Framework (LDF) is the spatial planning strategy for the Peak District National Park. It consists of a suite of planning policy documents which deliver the planning strategy; from high level strategic policy (Core Strategy) to detailed policies on new development and amenity issues (Development Management Policies). It also includes Neighbourhood Plans that have been adopted and Supplementary Planning Guidance which support policy delivery set out in the Core Strategy and Development Management Policies plan.

Core Strategy (2011)[12]

1.3.7 The Core Strategy sets out the spatial strategy for the Peak District National Park. It details what the important landscape characteristics are that make up its special qualities and how we will manage development, to ensure we conserve and enhance the national park, in accordance with the purposes and duty set out in the Environment Act (1995).

1.3.8 Policy GSP 1: *Securing national park purposes and sustainable development* is an overarching policy for all development within the national park affirming the legislative duty to conserve and enhance as set out in the Environment Act (1995).

1.3.9 Policy CC1: *Climate change mitigation and adaptation*, requires development to make the most efficient and sustainable use of land, buildings and natural resources. It sets out an energy hierarchy and requires new development to meet specific sustainability standards. This supported the government's Code for Sustainable Homes environmental assessment method that had been introduced in 2006. However the Code was withdrawn in 2015 and some of the standards were incorporated into building regulations.

1.3.10 Policy CC2: *Low carbon and renewable energy development*, supports proposals for low carbon and renewable energy development provided they can be accommodated without adversely affecting landscape character, cultural heritage assets, other valued characteristics, or other established uses of the area.

1.3.11 *Policy CC3: Waste management*, states the National Park Authority will work with the Waste Collection and Disposal Authorities and local communities to promote sustainable management of waste through the waste hierarchy. New small scale waste facilities may be considered acceptable that serve local communities only.

1.3.12 Policy CC4: *On-farm anaerobic digestion of agricultural manure and slurry*, is supportive of these systems on singe farm units or for a group of farms

[12] https://www.peakdistrict.gov.uk/planning/policies-and-guides/core-strategy

located within the national park providing they only accept waste created for the purposes of farming and it is most cost effective and less harm to the environment than single farm units.

1.3.13 Policy CC5: *Flood risk and water conservation*, ensures that new development doesn't adversely impact on the functionality of floodwater storage or surface water conveyance corridors and supports the use of sustainable urban drainage systems.

The Climate Change and Sustainable Building Supplementary Planning Document (2013) [13],

1.3.14 The document supports the delivery of Core Strategy policies CC1, 2 and 5. It promotes the positive role that sustainable buildings, low carbon and renewable energy can play in reducing greenhouse gas emissions. It provides guidance on climate change adaption and mitigation methods that respect the special qualities of the national park, backed up with lots of case study examples.

1.3.15 The above document is supported by Annex 1 - Landscape Sensitivity Assessment and Guidance for Wind Turbine Applications[14], which provides guidance on the location and dimensions for wind turbines within the national park landscape.

Design Guide (2007)[15]

1.3.16 The Design Guide includes commentary on sustainable design. For new buildings it focuses on their siting, energy efficiency, water conservation and waste disposal. For existing homes it focuses on retrofitting energy efficiency measures including insulation, renewable energy schemes, and it advises on the use of materials, for example wood (FSC certified) or cast metal, rather than Upvc for windows and gutters.

[13] https://www.peakdistrict.gov.uk/__data/assets/pdf_file/0021/63507/3401-EF-Sustainable-Planning-Doc.pdf
[14] https://www.peakdistrict.gov.uk/__data/assets/pdf_file/0026/55439/SPD-Landscape-Sensitivity-Asessment-and-Wind-Turbine-Guidance.pdf
[15] https://www.peakdistrict.gov.uk/__data/assets/pdf_file/0016/46204/designguide.pdf

Part 2: Performance of Policy

2.1 What are we judging policy against?

Core Strategy Spatial Objectives

2.1.1 The spatial objectives for climate change planning policies are set out in the Core Strategy (pages 44-47).

2.1.2 For the National Park these are:

- support measures that conserve the landscape whilst mitigating the impacts of climate change
- support design and construction techniques that help reduce carbon emissions but also respects the built tradition and character of settlements
- support development that takes account of the energy hierarchy to reduce the need for energy and to use energy more efficiently
- support sensitively sited small-scale low carbon and renewable energy development.

2.1.3 For the Dark Peak and Moorland Fringes these are:

- support work to protect peatland and promote its role as a carbon sink
- support work to manage floodplain landscapes to increase flood storage and enhance biodiversity
- protect open skylines, long views and semi-natural moorland expanses
- support work to protect peatland and promote its role as a carbon sink

2.1.4 For the White Peak and Derwent Valley it is:

- support work to manage floodplain landscapes and enhance biodiversity

2.1.5 For the South West Peak these are:

- support work to manage floodplain landscapes and enhance biodiversity
- support work to protect peatland and promote its role as a carbon sink

Peak District National Park Management Plan (2018-2023)[16]

2.1.6 This plan sets out the issues and priorities for conserving and enhancing the special qualities of the national park and a delivery plan of actions to address these. With regard to climate change the specific actions are to 'undertake a climate change vulnerability assessment on the special qualities of the National Park and produce a mitigation/ adaption plan setting out priority actions.'

It also sets out the PDNP's 7 special qualities:

- Beautiful views created by contrasting landscapes and dramatic geology
- Internationally important and locally distinctive wildlife and habitats

[16] https://www.peakdistrict.gov.uk/looking-after/strategies-and-policies/national-park-management-plan

- Undeveloped places of tranquillity and dark night skies within reach of millions
- Landscapes that tell a story of thousands of years of people, farming and industry
- Characteristic settlements with strong communities and traditions
- An inspiring space for escape, adventure, discovery and quiet reflection
- Vital benefits for millions of people that flow beyond the landscape boundary.

The National Park Management Plan background paper: Landscape and Natural Resources

2.1.7 The background paper sets out the following aspirations.

- Better understand and quantify greenhouse gas emissions and climate change impacts within and 'downstream' of the Peak District National Park Authority.
- Reduce emissions of greenhouse gases from all sources (and flow pathways).
- Within the Peak District National Park there is significant potential for greenhouse gas emissions to be reduced and sequestration promoted through the protection and restoration of degraded natural ecosystems and better management of production forests and agricultural ecosystems. There is opportunity and need for a step change in ecosystem based climate change mitigation.

PDNPA Climate Change Summit

2.1.8 The PDNPA held a Climate Change Summit in Buxton in October 2019 as part of its ongoing work with partners to deliver the PDNPA Management Plan. The summit focused on carbon emissions from transport, agriculture and land management and measures to reduce these to meet Net Carbon Zero by 2050 for the National Park. Climate change actions were transposed into the PDNPA management plan delivery plan and included sustainable travel; peatland restoration; regenerative agriculture, carbon storage in grasslands and integrating more trees into the landscape.

2.2 Evidence: Annual Monitoring Reports

2.2.1 The most effective way to analyze existing policy is through assessing the annual monitoring reports (AMR)[17]. Over the course of the Core Strategy life time there has been a steady level of planning consents for renewable/low carbon initiatives. There will be many more unaccounted for as from 2012 most solar photovoltaic, solar thermal and biomass installations were permitted development.

2011/12

2.2.2 In 2011/12, the AMR report noted that farm shed roof and ground based solar arrays were becoming more popular as discrete alternatives to wind turbines, which are difficult to locate sensitively within the White Peak, Dark Peak and Derwent Valley (see Landscape Sensitivity Assessment and Guidance for Wind Turbine Applications) . However, a number of turbines were successful, particularly in the more varied topography of the South West Peak.

2013 - 14

2.2.3 During the 2013/2015 monitoring period, the Authority's Climate Change SPD was redesigned and promoted with case studies, videos and business cards produced pointing to the guidance and good practice. Two farm advisors were employed by the PDNPA to work closely with a range of farms to promote and encourage the use of energy efficient practices and renewable energy to help cut costs and carbon emissions.

2.2.4 There was a good level of renewable and low carbon development (24 applications supported). Good numbers of approvals were demonstrated by the data, i.e. 24 instances of stand-alone renewables and low carbon development supported. The Authority was still receiving applications for wind turbine applications predominantly in the more open landscapes of the White Peak plateau but used policy to encourage alternatives that integrate more effectively, such as solar arrays on farm shed roofs and ground arrays.

2.2.5 Changes to national policy were introduced to reduce the perceived burden on developers. As such many planning gains, e.g. the requirements for affordable homes and increased sustainability standards were removed making the ability to negotiate higher sustainability standards harder but no less important.

2015/16

2.2.6 In 2015/16 two applications for anaerobic digesters were received and fifteen approvals for stand-alone renewables and low carbon development were approved.

[17] https://www.peakdistrict.gov.uk/planning/policies-and-guides/supporting-documents

2016/17

2.2.7 During 2016/17, a further 8 approvals of stand-alone renewables and low carbon development were granted and the two anaerobic digesters received during the last AMR period received permission.

Core Strategy *Policy CC1 Buildings Emissions Rate*

2.2.8 There have been no successes in securing the policy CC1 requirement for 100% of non-residential development over 1000m^2 to achieve Building Emissions rate at least 10% less than Target Emissions Rate.

Core Strategy Policy CC5

2.2.9 With regards to policy CC5 (flood risk and water conservation), in 2012-13 there were no granted permissions for new build housing or employment land in Zone 2 or Zone 3. There were 46 applications in Zone 2, and 38 in Zone 3 which increased the footprint of a building or developed an impermeable structure over the ground.

2.2.10 In 2013/15 there was no development that had a significant impact on the flood zone area. In 2015/16, 37 developments were deemed to have a significant impact as a result of being developed in the flood zone (creating impermeable flooring). During 2016/17, 5 applications were deemed to have a significant impact, 4 were house extensions and 1 related to development at existing industrial units.

Contrary to Policy

2.2.11 In addition to general monitoring of policies, the AMRs report on planning applications that were approved contrary to policy or that raised significant policy issues. This identifies areas of policy weakness or where greater clarity is required to interpret policy correctly. Tables 3 and 4 below demonstrate wind turbines have caused the biggest threat to the national park's landscape quality and ecology.

Table 3: Planning applications approved contrary to policy

Application reference, description and address	Policies	Reason
2012/13 NP/DDD/0412/0434 Erection of two wind turbines on land adjacent to Hill Top Farm, Parwich	Core Strategy CC2, LC1	Both the Planning Committee and the Authority resolved to approve the application as they considered that socioeconomic benefits of the proposal outweighed acknowledged landscape harm. In reaching this conclusion members took account of the fact that the applicant operates a dairy farm.

Table 4: Applications raising significant policy issues

Application reference, description and address	Policies	Reason
2011/12 NP/DDD/0911/0933 Erection of one wind turbine on land adjacent to Hill Top Farm, Parwich	Core Strategy CC2, LC1	Considered that landscape harm outweighed any socio-economic benefits of the proposal. (NB. Subsequent application for 2 x 33.5 metre turbine submitted and approved December 2012)
14/00224/FUL 15/00041/INQUIRY Erection of 5 wind turbines with height to blade tip of up to 100 m (hub height 59 m) and associated substation building, new and upgraded access tracks from Manystones Lane and B5056, hardstandings, temporary compounds and associated works, Land At Manystones Lane Brassington Derbyshire	NPPF and Environment Act (1995) Sec 62. Outside of the National Park.	Appeal Dismissed (Derbyshire Dales DC) Impact on ecology. Impact on setting of designated and non designated heritage assets. Visual impact on the National Park landscape.
15/00370/FUL Erection of wind turbine 77 meters to blade tip (50m to hub), with associated access track, crane hardstanding, electrical cabinets and cable run, Hoben International Limited Brassington Works Manystones Lane Brassington Derbyshire DE4 4HF	NPPF and Environment Act (1995) Sec 62. Outside of the National Park.	Application Refused (Derbyshire Dales DC) Visual impact on the National Park landscape.
2016/17 Two schemes at Griffe Grange and Hoben, a scheme of 5 turbines and a single a turbine close to the boundary but both in Derbyshire Dales.	NPPF and Environment Act (1995) Sec 62. Outside of the National Park.	The District Council refused permission for both schemes. Visual impact on the National Park landscape.

Core Strategy Policies CC1 (Climate change mitigation and adaptation) and CC2 (low carbon and renewables)

2.2.12 These policies require development to consider low carbon and renewable energy as part of development proposals. These policies are supported by the Climate Change and Sustainable Building SPD (2013). Uptake on this has not been consistent and Table 5 below demonstrates that whilst there has been some appetite to incorporate these technologies more could be done.

Table 5: Low carbon/renewable energy development delivered through the Development Management process*

	Mar 2015	May 2015	Apr 2016	Oct 2016	Apr 2017	Oct 2017
Total number of planning applications	70	84	72	44	50	59
Percentage of planning applications that could incorporate energy efficiency and micro renewables	53%	65%	35%	41%	58%	41%
Of the above, the percentage incorporating energy efficiency and micro renewables at application stage	32%	27%	56%	33%	48%	51%
Of the above, the percentage of approved permissions incorporating energy efficiency and micro renewables at decision stage	39%	40%	68%	50%	48%	51%

*Analysis of recent years' uptake will be available Summer 2021.

2.2.13 In early 2019, Planning Committee members noticed that policy CC1 was applied inconsistently. Therefore in September 2019 policy CC1 was added to the Local Validation List[18]. It is not known at the current time whether this has led to more planning permissions that include low carbon and renewable energy technology, but it will be reported late in 2021.

[18] Requiring developers to demonstrate how the policy has been taken into account in the submitted application

2.3 Other evidence and data

Residents' Surveys

2.3.1 In 2012, 2016 and 2019 the Peak District National Park conducted Residents' Surveys. The surveys tell the Authority what residents are happy with and what they'd like the authority to do more of.

2.3.2 In 2012, take-up of renewable and green energy products was low, with less than 10% of residents claiming to have sourced or installed such products. Younger people and households with children were more likely to use green and renewable energy.

2.3.3 In 2016, when asked about their purchasing habits in relation to renewable and green energy whilst living in the Peak District National Park, 10% stated that they installed a renewable energy measure in their home (7%, 2012). As in 2012, just over 1 in 10 sourced their electricity from a 'green' supplier or were on a 'renewable' tariff.

2.3.4 In 2019, the following was reported:

> *'The most popular environmentally friendly home-related action taken by respondents whilst living in the Peak District National Park was adding insulation (54%), with a much smaller proportion indicating that they had sourced their electricity from a 'green' or 'renewables' tariff (21%) or installed any renewable energy features (10%). However, the proportion who had sourced their electricity from a 'green' or 'renewables' tariff has increased from 10% in 2012, to 12% in 2016, to 21% in 2019.'*

2.3.5 It concluded that there is:

> *'potential for the PDNPA and its partners to encourage more residents to take this action, and that there may be appetite from residents to undertake more environmentally friendly actions to their homes.'*

2.4 Conclusion

2.4.1 Climate change policy and guidance on appropriate technology is informed by national park purposes to conserve and enhance landscape and cultural heritage. Evidence shows a steady rate of planning applications and permissions for *appropriate* renewable/low carbon installations. Policy has led almost exclusively to appropriate small-scale development that does not harm valued character. There is however recurring pressure for wind turbines in sensitive locations. The Authority has on one occasion granted permission for wind turbines 'contrary to policy', determining that socio-economic factors outweighed acknowledged landscape harm. The same issue is noted in several other cases recorded in annual monitoring reports as 'raising significant policy issues'.

2.4.2 The uptake and use of renewable/low carbon technologies in new development has been variable. This in part reflects government policy and people's appetite to make changes. Applicants have been receptive to the Authority's proactive approach and choosing technologies that cause least harm. The Authority hopes to increase uptake through the planning application validation process but it is too early to see what effect, if any, this will have.

2.4.3 There is a growing consensus that we need to do more as evidenced in the 2019 residents' survey and the number of planning applications that *have* approved low carbon/renewable technologies compared with the number of planning applications that *could* do so.

2.4.4 Many renewable/low carbon schemes can now be delivered using permitted development rights but there are still restrictions for listed buildings and in Conservation Areas. It is predicted that there will be an increase in applications to retrofit existing housing stock and we need to be ready to advise accordingly on what types of green technologies can be used that conserve the cultural and natural landscape.

Part 3: Issues and Evidence Driving New Policy

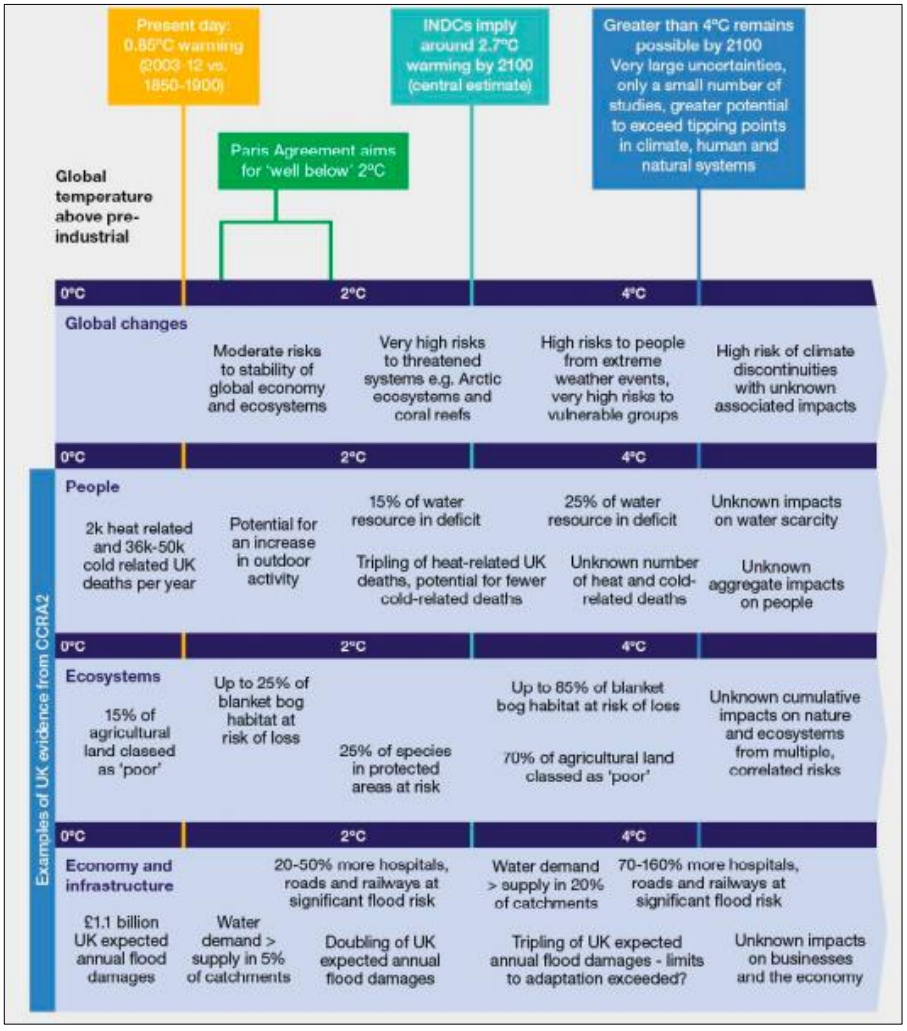
3.1 Issues and Evidence Driving New Policy

Effects of Climate Change

3.1.1 We need to understand what will happen as world temperatures rise and how this will affect us directly. The UK commitment through the Climate Change Act (2008) and the Paris Agreement (2015) is for no more than a 2 degree Celsius global temperature increase, aiming for 1.5 degrees Celsius.

3.1.2 Table 6 below clearly illustrates these predictions. Evidence selected from wide-ranging sources and publications is then set out to show the link between climate change, national park purposes and its impact on planning policy.

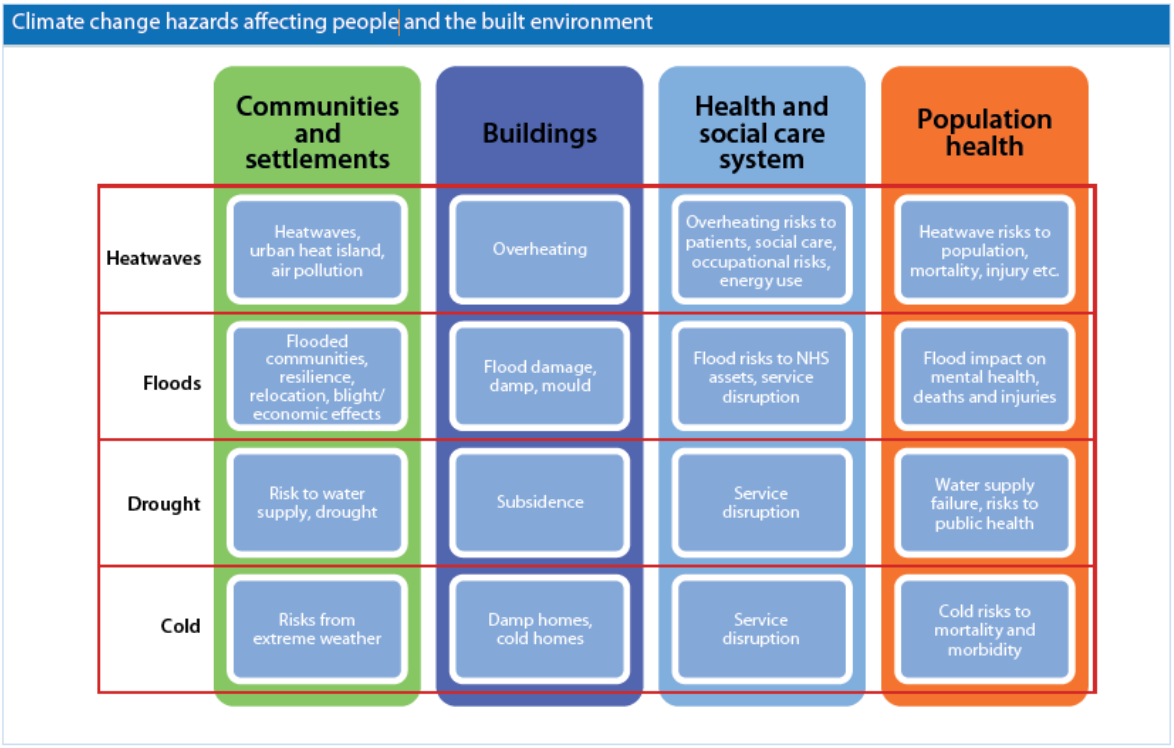
Table 6 Impacts of Increasing Temperatures on the UK[19]



[19] Source: Energy White Paper (publishing.service.gov.uk) referencing the Climate Change Commission 2017 Synthesis report - Climate Change Committee (theccc.org.uk)

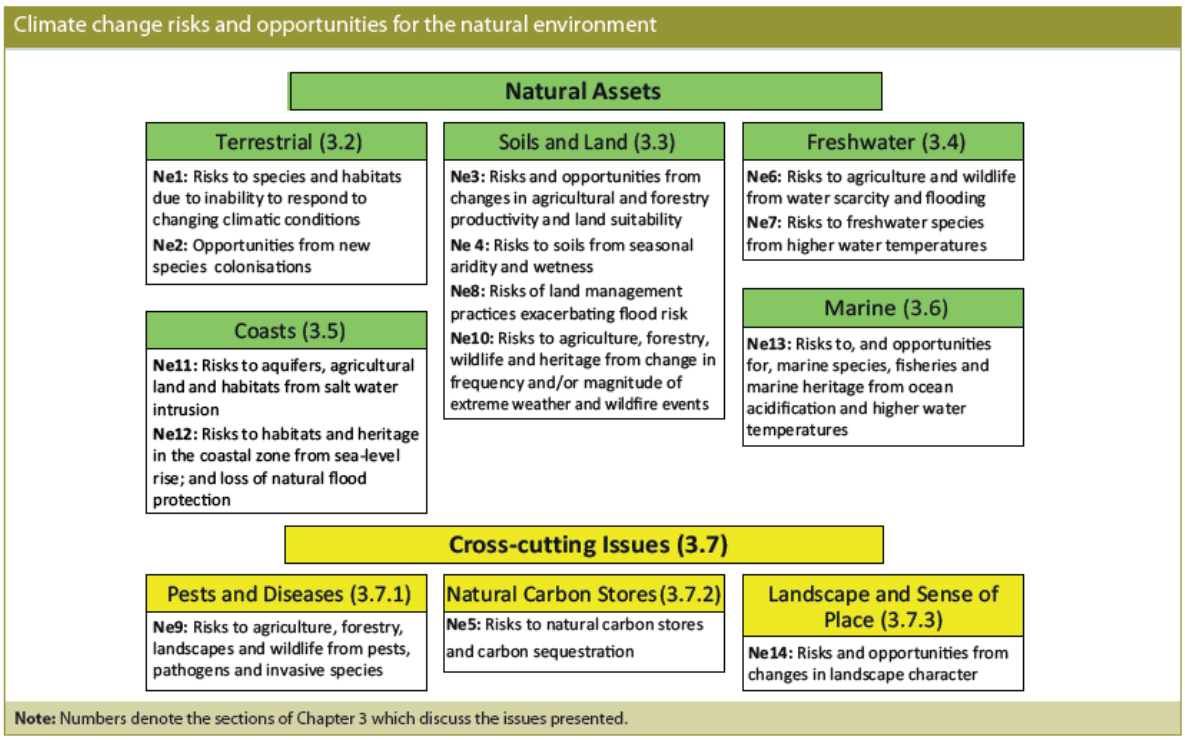
3.1.3 The following diagrams from the Climate Change Commission show how this will affect us directly. There are further helpful fact sheets available on the Climate Change Commission's website that cover business and infrastructure amongst others.

Table 7 Climate change hazards affecting people and the built environment[20]



[20] https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Ch5-People-and-the-built-environment-fact-sheet.pdf

Table 8 Climate change risks and opportunities for the natural environment [21] [22]



[21] https://www.theccc.org.uk/wp-content/uploads/2016/07/CCRA-Ch3-Natural-environment-and-natural-assets-fact-sheet.pdf

[22] the number references are to further detail in the UK Climate Change Risk Assessment (2017) Technical chapters - Climate Change Committee (theccc.org.uk)

Climate Change Vulnerability Assessment (Draft December 2020)

3.1.4 The report assessed the vulnerability of National Park special qualities to future climate change. The individual features that contribute towards a special quality were analysed and assessed for their vulnerability. The table below summarises the vulnerability of each special quality.

Special Quality	Overall vulnerability of special quality
Beautiful views created by contrasting landscapes and dramatic geology	This special quality is highly vulnerable to climate change. Of the 15 special quality features assessed, 13% have been rated as 'very high' and 73% were rated as 'high'. The rest have been rated as 'moderate', and no features were given a 'low' rating.
Internationally important and locally distinctive wildlife and habitats	This special quality is the most vulnerable special quality to climate change. This is because 23% of the 31 features assessed have been rated as 'very high' on our scale and almost 70% were rated as 'high'. The rest have been rated as 'moderate', and no features were given a 'low' rating
Undeveloped places of tranquillity and dark night skies within reach of millions	This special quality is highly vulnerable to climate change. Of the eight special quality features assessed, no features were rated as 'very high' on our scale, however 75% were rated as 'high'. A further 13% have been rated as 'moderate', and 13% were given a 'low' rating.
Landscapes that tell a story of thousands of years of people, farming and industry	This special quality is highly vulnerable to climate change. Of the 18 special quality features assessed, 6% have been rated as 'very high' on our scale and almost 70% were rated as 'high'. The rest have been rated as 'moderate', and no features were given a 'low' rating
Characteristic settlements with strong communities and traditions	This special quality is moderately vulnerable to climate change. Of the ten special quality features assessed, no features were rated as 'very high' on our scale and only 20% were rated as 'high'. Most features (70%) were rated as 'moderate', and 10% were given a 'low' rating.
An inspiring space for escape, adventure, discovery and quiet reflection	This special quality is moderately vulnerable to climate change. Of the 12 special quality features assessed, no features have been rated as 'very high' on our scale but 33% were rated as 'high'. The majority (58%) have been rated as 'moderate', and only 8% were given a 'low' rating.
Vital benefits for millions of people that flow beyond the landscape boundary	This special quality is highly vulnerable to climate change. Of the ten special quality features assessed, 10% have been rated as 'very high' on our vulnerability scale and 60% were rated as 'high'. 20% have been rated as 'moderate', and only 10% were given a 'low' rating.

3.1.5 The vulnerability assessment makes the following recommendations for buildings.

- Provide good information on appropriate materials and encourage building owners to carry out timely maintenance and repairs.
- Create/maintain strong partnerships with external organisations to ensure steady supply of appropriate materials.

- Adapt infrastructure for future conditions.
- Keep abreast of new research into the performance of alternative materials.
- Encourage the use and benefits of traditional materials.
- Review building design with the impacts of climate change in mind.

A Green Future: Our 25 Year Plan to Improve the Environment (2018)[23]

3.1.6 A commitment by the government to improve the environment through measures such as: reducing emissions; providing clean water; improving the natural environment including enhancing its beauty, heritage and engagement; using natural resources more sustainably and efficiently and minimizing waste. (Further information on this evidence is in the *Landscape, Biodiversity and Nature Recovery* Topic Paper.)

Landscapes Review: National Parks and AONBs (2019)[24]

3.1.7 The report states that these landscapes should be 'at the forefront of our national response to climate change' recommending that management plans are strengthened to respond to climate change through initiatives like tree planting and peatland restoration.

[23] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

[24] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833726/landscapes-review-final-report.pdf

Climate Change Committee (CCC)

3.1.8 The government set up the Climate Change Committee (CCC) to advise it and other bodies on how to fulfil the UK's commitment to the Climate Change Act 2008. Their recent report '*Reducing UK emissions: 2020 Progress Report to Parliament'*[25] , sets out 5 clear investment priorities:

1. Low-carbon retrofits and buildings that are fit for the future
2. Tree planting, peatland restoration, and green infrastructure
3. Energy networks must be strengthened
4. Infrastructure to make it easy for people to walk, cycle, and work remotely
5. Moving towards a circular economy

The Clean Growth Strategy (2017)[26]

3.1.9 This sets out the government's targets for decarbonizing the UK economy over the next 10 years. Following public consultation in January 2020 and awaiting implementation, Building Regulations Part L *'The Conservation of Fuel and Power in Buildings'* aims to reduce heat loss and solar gain. The Future Homes Standard expects all new homes, from 2025, to produce 75-80 per cent lower CO2 emissions compared to current levels and be 'zero carbon ready', so that they are able to become zero carbon homes without the need for further costly retrofitting work. This will be delivered through Building Regulations.

The 10 Point Plan for a Green Revolution (2020)[27]

3.1.10 This sets out how the government will invest £12bn into funding green technology jobs to support the economy and 'harness nature's ability to absorb carbon by establishing new National Parks and Areas of Outstanding Natural Beauty, and making them even greater havens of biodiversity, with the aim of protecting 30% of England's countryside by 2030'.

Energy White Paper (2021) [28]

3.11 This provides clarity to the commitments made by the UK government with regards to moving away from fossil fuels to green energy technology. It acknowledges that current actions are not enough and that the world is on track for around an increase of 3 degree Celsius, not the maximum of 2 degrees Celsius as committed to in the Paris Agreement (2015). The Energy White Paper aim is to transform energy, support a green recovery and create a fair deal for consumers.

[25] https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/
[26] https://www.gov.uk/government/publications/clean-growth-strategy
[27] https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution/title
[28] Energy White Paper (publishing.service.gov.uk)

A Green Future: Our 25 Year Plan to Improve the Environment (2018)[29]

3.1.12 Sets out plans to improve the environment through measures such as reducing emissions, providing clean water, improving the natural environment; including enhancing its beauty, heritage and engagement with, using natural resources more sustainably and efficiently and minimizing waste. (Further information on this evidence is in the Bio-Diversity Topic Paper.)

The Landscapes Review: National Parks and AONBs (2019)[30]

3.1.13 This independent review states national parks and AONB[31] landscapes should be 'at the forefront of our national response to climate change' recommending that management plans are strengthened to respond to climate change through initiatives like tree planting and peatland restoration. (Further information on nature-based solutions for net zero, nature recovery strategies and bio-diversity net gain is available in the Landscape, Biodiversity and Nature Recovery Topic Paper.)

The National Design Guide (2019) [32]

3.1.14 This focuses on 10 characteristics that are considered to deliver good design: context, identity, built form, movement, nature, public spaces, use, homes and buildings, resources, and lifespan. All of which can be affected by climate change. By using sustainable building methods in addressing each characteristic, a development can adapt to and mitigate climate change, for example including sustainable urban drainage solutions, reducing the need to travel or use a car, planting trees and improving biodiversity.

Housing White Paper: Planning for the Future (MHCLG, July 2020) [33]

3.1.15 Proposals in the White Paper are influenced by the design guide and the commitments set out in the Climate Change Act (2008), and support the proposals in the Environment Bill (date) to improve biodiversity and deliver nature recovery.

3.1.16 It has a strong focus on design and sustainability stating that planning will:

- Ensure the planning system supports our efforts to combat climate change and maximises environmental benefits, by ensuring the National Planning Policy Framework targets those areas where a reformed planning system can most effectively address climate change mitigation and adaptation and facilitate environmental improvements.

[29] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

[30] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833726/landscapes-review-final-report.pdf

[31] Areas of Outstanding Natural Beauty

[32] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/843468/National_Design_Guide.pdf

[33] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907647/MHCLG-Planning-Consultation.pdf

- Facilitate ambitious improvements in the energy efficiency standards for buildings to help deliver our world-leading commitment to net-zero by 2050.

Carbon in the Built Historic Environment

3.1.17 Over recent years there has been a move towards understanding the carbon lifecycle of a building. This takes into account the carbon stored in the building and used in the build process, and operational carbon output used in day-to-day activities within the building. This supports a move away from a presumption in favour of demolition and rebuild, towards repurposing and retrofitting existing buildings for continued or new uses.

The Sustainable Traditional Buildings Alliance[34]

3.1.18 This is an online '*responsible retrofit knowledge centre'*. It shows how to assess a building's age, location, designation, orientation, and condition in order to promote successful retrofit, both in terms carbon reduction and any impact on the building and wider landscape.

The Sustainable Traditional Building Alliance (STBA)[35] *and the London Energy Transformation Initiative (LETI)*[36]

3.1.19 Excellent sources of information on the topic, including advice notes and case studies, on how to retrofit heritage/existing properties sustainably and the carbon savings in doing this rather than knock down and rebuild. LETI also has advice on meeting net zero carbon in their Climate Emergency Design Guide[37].

[34] http://responsible-retrofit.org/
[35] http://responsible-retrofit.org/
[36] https://www.leti.london/
[37] https://www.leti.london/cedg

Part 4: Requirements for Further Evidence and Questions Arising

4.1 Further Evidence

4.1.1 Technology has advanced since the publication of the Peak Sub Region Climate Change Study (2009). We need to know what new technology exists and if it is appropriate in the national park.

4.1.2 We need to judge the impact of the change to the planning application validation process to determine if this has led to an increase in the number of low carbon/renewable installations.

4.1.3 Our purpose is to preserve and enhance landscape. For this reason 'knock down and rebuild' is permitted if it is considered that this results in 'enhancement'. However the impact of embodied and operational carbon is not considered. Further research is recommended because any improvement to landscape resulting from 'knock down and re-build' may be marginal, but in terms of resources and carbon emissions there will be harm. Invariably retrofitting existing housing stock is better for the environment. This could significantly change our approach to what is considered an 'enhancement development'.

4.1.4 The Design Guide needs to be updated with a strong focus on climate change, sustainable building and retrofitting in line with the National Design Guide (2019) and the Climate Change Committee's *Reducing UK emissions: 2020 Progress Report to Parliament*.

4.2 Questions Arising

4.2.1 Do our planning policies still strike the right balance between purposes and enabling low carbon/renewable installations?

4.2.2 What new technologies exist and would they be appropriate in a national park?