

SUPPORTING POLICY STATEMENT

Town and Country Planning Act 1990

Planning and Compulsory Purchase Act 2004

Localism Act 2011

Summary of International and National Policy in relation to Climate Change and move towards renewables : Update 29th March 2023

On Behalf Of:

Anglo Renewables

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Supporting Policy Statement

Summary of International and National Policy in relation to Climate Change and move towards renewables

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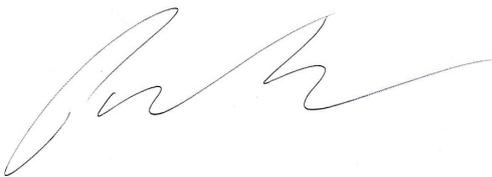


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1.0 INTRODUCTION

- 1.1 This Supporting Policy Statement (**'SPS'**) has been prepared by Harris Lamb Planning Consultancy (**'HLPC'**) on behalf of Anglo Renewables (**'the applicant'**) to support a planning application for a new Battery Energy Storage Site (**'BESS'**); the document has been updated to reflect the most recent policy announcements regarding the country's energy strategy, which includes further emphasis on the need to invest in renewable energy sources.
- 1.2 Renewable energy generation in the UK has been growing consistently over the last 20 years with National Grid confirming that in total the country was powered coal-free for over 5,147 hours in 2020, compared with 3,666 hours in 2019, 1,856 in 2018 and 624 in 2017. Coal generated only 1.6% of the electricity mix in 2020, compared with almost 25% five years ago. This demonstrates the significant contribution that renewable energy is making to the supply of energy within the UK at the present. In 2020, renewable energy from a mix of wind, solar, bioenergy and hydroelectric sources accounted for 43% of the UK's energy. Zero-carbon sources continue to outperform traditional fossil fuel generation by providing 48.5% of the electricity used in 2022, compared to 40% from gas and coal power stations.
- 1.3 During April 2023 National Grid ESO confirmed 46% of generation came from zero carbon sources. Coal contributed only 0.1% to the mix, with 461 consecutive coal free hours. The country achieved a new low carbon intensity record of 33g/kWh on 10th April due to high levels of wind and solar, and the application development should assist increasing further.
- 1.4 The demand for renewable energy is only going to increase with the transition to electrification such as electric cars and the move to electric heating/boilers. Both will place significant additional demands on the supply of electricity that will need to be met through renewable sources.

- 1.5 The demand for renewable energy is only going to increase with the transition to electrification such as electric cars and the move to electric heating/boilers. Both will place significant additional demands on the supply of electricity that will need to be met through renewable sources.
- 1.6 In light of increase in generation that is now occurring and the increase in demand that is envisaged, new infrastructure is going to be required to manage the storage and distribution of this energy so that it is available when needed. A BESS is one such means of regulating the storage of electricity that has been generated from various means, but principally from renewable sources, so that it can be stored and then exported back to the grid at times of high demand/low generation. As the electricity that is generated from renewable sources is subject to peak and troughs depending on climatic conditions the BESS is able to store electricity when generation is high and then act a typical battery cell to supply energy when less electricity is being generated or when there are additional or higher demands on the grid.
- 1.7 Similarly, a BESS is also able to regulate changing energy use patterns, where historically, energy generators would have been paid to turn down generation or users would be paid to use excess energy. A BESS allows excess energy from renewables to be stored and then distributed when needed.
- 1.8 In light of the growing awareness of the implications of climate change both at an international level and increasingly so at a national level, there is a greater impetus to generate more of the UK's energy from renewable sources. This was most endorsed by the publication of the British Energy Security Plan and Powering Up Britain (March 2023) documents.
- 1.9 As a result of the intermittent nature of renewable energy generation BESSs provide a solution to balancing the UK's energy needs and as such are becoming an integral part of the UK's energy strategy. The application that this SPS supports proposes to increase the capacity of battery storage

within the National Grid (NG), thereby enabling a greater proportion of the country's overall energy demands to be met from renewable sources. Battery storage is, therefore, a key part of the energy strategy and provides NG with balancing services to help accommodate the increasing level of renewable energy generation that is taking place within the country.

- 1.10 Clearly in seeking to increase the proportion of energy generated from renewable sources this is intended to reduce the production and release of greenhouse gases into the atmosphere which would typically have come from the burning of fossil fuels used in traditional gas or coal powered power stations. By reducing the amount of greenhouse gases into the atmosphere the Government is seeking to meet its commitments to reducing global warming. The reduction in the emission of harmful greenhouse gases to the atmosphere from energy generation is one of a number of ways that the Government is looking to respond to climate change and as such, the incorporation of new BESSs within the Country's energy infrastructure will have a positive impact on slowing down and hopefully reversing global warming.
- 1.11 The need to achieve net zero and continue with ambitious targets for looking to reverse climate change has recently been restated by the Government on the 20th April 2021, who confirmed that it was going to cut carbon emissions by 78% by 2035, bringing forward the date by 15 years to do so by. Furthermore, the COP26 conference in Glasgow and subsequent meeting Cairo in 2022, saw a global effort to try restrict any further global warming to within 1.5 degrees of pre-industrial levels. There is now a very strong imperative from Government to achieve this and the proposed development is intended to help contribute to meeting these critical national and international carbon emission reductions. More recent announcements by the Intergovernmental Panel on Climate Change (IPCC) in March 2023 also highlight the stark need for Governments to act now if we are to avert a major catastrophe.

1.12 Finally, the global rise in the price of gas and oil, and the spike in prices brought about by the war in Ukraine has also led the Government to consider ways in which the Country can become less reliant on fossil fuels and to switch the focus to renewables to meet its energy needs. The Energy Security Strategy published in 2022 identifies a number of ways in which the Country can become more self sufficient in the energy it generates and uses, these will have implications for both how energy is generated but also how it is stored.

2.0 NATIONAL ENERGY POLICY AND STRATEGY CONTEXT

- 2.1 Climate change and global warming were initially identified as an emerging global environmental issue in the 1980s, although it could be argued that the causes date back much further. However, in the late 1980s and early 1990s growing awareness at an international level of the implications of climate change and the impact of human's activity on the planet led to the first notable example of global collective action to try and redress this balance.
- 2.2 It took the form of the United Nations Conference on Environment and Development (UNCED), also known as the 'Earth Summit', which was held in Rio de Janeiro, Brazil in June 1992. This global conference, held on the occasion of the 20th anniversary of the first Human Environment Conference in Stockholm, Sweden in 1972, brought together political leaders, diplomats, scientists, representatives of the media and Non-Governmental Organisations (NGOs) from 179 countries in order to focus on the impact of human socio-economic activities on the environment.
- 2.3 The primary objective of the Rio 'Earth Summit' was to produce a broad agenda and a new blueprint for international action on environmental and development issues that would help guide international cooperation and development policy in the twenty-first century. One of the key achievements of the Earth Summit was the signing of the United Nations Framework Convention on Climate Change (UNFCCC).
- 2.4 The UNFCCC acknowledged that change in the Earth's climate and its adverse effects are a common concern of humankind and that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect and that this will result 'on average' in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind.

- 2.5 Following the signing of the UNFCCC there have been further international agreements and signing of treaties with the expressed intention of seeking to reduce greenhouse gas emissions and address climate change. Key treaties include the Kyoto Protocol signed in 1997 which was the first international treaty that committed industrialised countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets.
- 2.6 More recently the Paris Agreement was signed in 2015, which is a legally binding international treaty on climate change, which seeks to limit global warming to well below 2°C compared to pre-industrial levels. The Paris Agreement is a landmark agreement in the multilateral climate change process because, for the first time, a binding agreement brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects.
- 2.7 Climate change is, therefore, now well and truly on the international political agenda and is considered to be the most important global environmental issue that needs to be addressed. The impetus at the international level is beginning to make its way down to the national level and the Government has been instrumental in pushing the climate change agenda.
- 2.8 The explicit need to introduce a step change in how the country deals with climate change has been recognised by the UK Government. On 1st May 2019 an Environmental and Climate Change Emergency was declared following the finding of the Intergovernmental Panel on Climate Change. In order to avoid more than 1.5°C rise in global warming, global emissions would need to fall by around 45 per cent from 2010 levels by 2030, reaching net zero by around 2050.
- 2.9 In June 2019, the UK became the first major economy in the world to pass laws to end its contribution to global warming by 2050. The Climate Change Act 2008 (2050 Target Amendment) Order 2019 sets a legally binding target to bring all greenhouse gas emissions to net zero by 2050, compared with

the previous target of at least 80% reduction from 1990 levels. In response to this requirement, the Government has set out a clear policy framework for the delivery of facilities to meet the UK's future energy demands. This section briefly describes that framework, and subsequently identifies the clear benefits of BESSs and their ability to contribute towards meeting the aims of Government energy policy.

National Policy Statement for Energy (EN-1) (July 2011)

- 2.10 In July 2011, the Department of Energy and Climate Change (DECC) published the overarching National Policy Statement (NPS) for Energy EN-1 7. NPS EN-1 sets out national policy for energy infrastructure and states at paragraph 1.2.1 that:

“[it] is likely to be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended).”

- 2.11 At paragraph 2.2.5 it confirms that the UK economy is reliant on fossil fuels whilst at 2.2.6 it states that:

“the UK needs to wean itself off such a high carbon energy mix; to reduce greenhouse gas emissions, and to improve the security, availability and affordability of energy through diversification.”

- 2.12 Paragraph 2.2.11 states that:

“This NPS also sets out how the energy sector can help deliver the Government’s climate change objectives by clearly setting out the need for new low carbon energy infrastructure to contribute to climate change mitigation.”

2.13 In terms of energy security, paragraph 2.2.20 states that:

“It is critical that the UK continues to have secure and reliable supplies of energy as we make the transition to a low carbon economy...”

2.14 At the time of writing the NPS noted that:

“Electricity cannot be stored so demand for it must be simultaneously and continuously met by its supply.”

2.15 In addition, the NPS recognises that a flexible approach to energy generation is required in order to provide backup supply for renewable energy sources, by stating:

“the more renewable generating capacity we have the more generation capacity we will require overall, to provide back-up at times when the availability of intermittent renewable sources is low.” (paragraph 3.3.11)

2.16 The NPS identifies that the overall capacity of the grid will require additional resources to meet future demands. This is reinforced by paragraph 3.3.12, which states:

“...we need more total electricity capacity than we have now, with a larger proportion being built only or mainly to perform back-up functions.”

Planning Our Electric Future: A White Paper for Secure, Affordable and Low Carbon Energy (July 2011)

2.17 In July 2011 DECC published the White Paper ‘Planning our Electrical Future: A White Paper for Secure, Affordable and Low-Carbon Electricity’

under its Electricity Market Reform agenda. The White Paper set out the Government's commitment to transforming the UK's electricity system to ensure that future electricity supply is secure, low-carbon and affordable. The reforms seek to ensure that, by 2030, the UK will have a flexible, smart and responsive electricity system, powered by a diverse and secure range of low-carbon sources of electricity. It recognises that, in order to ensure continued international competitiveness, a number of unprecedented challenges need to be addressed, namely:

- Security of supply is threatened as existing generating plants close, noting that over the current decade around a quarter (20GW) of existing generation capacity will be lost as old plants close;
- Decarbonising electricity generation to transform the UK permanently into a low carbon economy to meet renewable energy targets;
- Accommodating increased demand for electricity, noting that despite improvements in domestic and non-domestic energy efficiency, overall demand for electricity is likely to double by 2050; and
- Managing electricity costs, noting that whilst the UK is likely to experience short term fluctuations in power prices, it is likely that there will in the long-term be overall increases in wholesale costs arising from the carbon price, stricter environmental policies and major investment in new large-scale infrastructure.

Upgrading our Energy System: Smart Systems and Flexibility Plan (July 2017) and Progress Report (October 2018)

- 2.18 In July 2017, the Department for Business Energy and Industrial Strategy (BEIS) and Ofgem published a policy paper entitled: 'Upgrading our Energy System: Smart Systems and Flexibility Plan'. The Executive Summary identifies that the:

“...plan is an important part of the Government’s Industrial Strategy, the forthcoming Clean Growth Plan, and a core component of Ofgem’s future-facing work to enable the energy system transition.”

2.19 The plan set out 29 actions that seek to remove barriers to smart technologies (such as storage which includes batteries as illustrated within the case studies); enable smart homes and businesses; and improve access to energy markets for new technologies and business models. The actions are designed to support clean growth, reduce the cost of the energy system and keep energy bills low for consumers. As set out in the conclusion to the plan, it seeks to enable the development of a smart, flexible energy system that will reduce costs for consumers and industry and support the growth of innovative new businesses. The objective of this approach is to upgrade the regulatory and market framework, open up new opportunities for consumers / market participants, and provide conditions in which innovation can flourish. Finally, it recognises:

“As a core part of the Industrial Strategy, it is an opportunity to increase productivity at home, and put the UK in a leading position to export smart energy technologies and services to the rest of the world.”

2.20 A progress update was published in October 2018. This confirmed that at the date of publication, 15 actions had been implemented with the commitment to delivering the remaining 14 actions by 2022. It also set out nine new actions in addition to those previously identified. These include actions to ensure that the network connections process is appropriate and does not present any undue burdens to storage.

Clean Growth Strategy (October 2017)

2.21 The Clean Growth Strategy was published in October 2017. The strategy outlines the ambition of delivering a:

“diverse electricity system that supplies our homes and businesses with secure, affordable and clean power.”

2.22 It goes on to state that this:

“... means upgrading our electricity system so it is smarter (using data to provide greater control), more flexible (providing energy when it is needed) and takes advantage of rapidly developing technologies such as energy storage...” (page 95)

2.23 Page 96 identifies that one possible clean growth pathway (to 2032) could see power emissions fall by 80 per cent compared to today and it goes on to identify that:

“This could be achieved by:

- Enabling a smarter, more flexible system, unlocking significant expansion of interconnection, electricity storage, and demand side response, the first steps of which are set out in the Smart Systems and Flexibility Plan...”

2.24 The Clean Growth Strategy also highlighted the Government’s commitment to investing in research and development which

“which will help to reduce the cost of electricity storage, advance innovative demand response technologies and develop new ways of balancing the grid, for example using EVs.” (page 100)

Building a Britain Fit for the Future (November 2017)

2.25 The 'Building a Britain Fit for the Future' White Paper was published by the Department for BEIS in November 2017. Whilst the Government withdrew the document it has some useful references. It sets out the long-term plan to help businesses create better, higher paying jobs with investment in the skills, industries and infrastructure of the future.

2.26 The plan is supported by five foundations of productivity (ideas, people, infrastructure, business environment and places) which align with the Government's vision for a transformed economy. It also defines 4 No. 'grand challenges', one of which is the aim of:

“maximising the advantages for UK industry from the global shift to clean growth.” (page 10)

2.27 The Government identifies that:

“The move to cleaner economic growth – through low carbon technologies and the efficient use of resources – is one of the greatest industrial opportunities of our time...” (page 42).

2.28 The strategy goes on to identify that the Government:

“...will take action to establish and extend UK leadership in the following priority areas . . .”

2.29 This approach, which amongst others includes developing:

“...smart systems for cheap and clean energy across power, heating and transport” (page 44)

2.30 Page 45 of the Strategy recognises that:

“Smart systems transform our ability to use clean energy cost-effectively...we are setting ourselves the challenge of remodelling it [the national electricity grid] so it can handle many different sources of clean energy, and use new technologies to store energy and manage demand...”

Single Department Plan (June 2019)

- 2.31 In June 2019, the Department for BEIS published 'The Single Department Plan'. The plan identifies five overarching objectives, one of which included ensuring that: 'the UK has a reliable, low cost and clean energy system'. This objective is broken down into the following sub-objectives:
- 2.32 1) Set out a vision for the energy system consistent with the Government's 2050 climate goals, with concrete actions that the Government will take up to 2030 – to be achieved by (amongst others):
- delivering an ambitious Energy White Paper addressing the transformation of the GB electricity system, including proposed legislation where appropriate; and
 - further developing carbon capture, use and storage deployment, to support decarbonisation and meet our legally binding carbon budgets, including potential 'net zero' by 2050.
- 2.33 2) Support clean growth and promote global action to tackle climate change – to be achieved by (amongst others):
- working with business...to deliver the Clean Growth Strategy, our legally binding greenhouse gas emissions reductions targets;
 - becoming the first major economy to legislate for net zero. Maintain the UK's position as a global leader in cutting emissions while growing the

economy and develop world leading sectors to drive clean growth across the UK; and

- continuing to decarbonise the power sector by running the next Contracts for Difference allocation round to secure new renewable capacity.

2.34 3) Ensure our energy system is reliable and secure – to be achieved by (amongst other):

“ensuring reliable supplies of electricity and gas, including for example through...industry to reinstate the capacity market and undertaking a statutory 5- year review of the capacity market.”

2.35 4) Deliver affordable energy for households and businesses – to be achieved by:

“continuing to implement the Government and Ofgem’s ‘Smart Systems and Flexibility Plan’ by 2022, removing barriers to smart technologies, enabling smart homes and businesses, and improving access to markets for new technologies and business models.”

Renewables, recovery, and reaching net zero (August 2020)

2.36 New modelling shows how sharp falls in the cost of renewable generation mean that Britain should aim for renewables to meet two thirds of electricity needs by 2030 and that this can be delivered at the same overall cost as meeting only half of total demand by that date.

2.37 It is key that, alongside deploying renewables, the UK continues to drive innovation in the power sector to effectively build a flexible electricity system. Storage technologies, flexible demand, efficient interconnectors and other innovations are also needed to support renewables and maintain the security of the electricity system.

2.38 To achieve this increased ambition, the (Infrastructure) Commission recommends that government should set out a pipeline of annual contracts for difference auctions with estimated budgets that offshore wind, onshore wind and solar can all compete in. The government has a ready-made policy instrument to deliver renewable power, the Contracts for Difference (CfD) auctions. A CfD is a government guaranteed contract that gives the awarded generator a fixed revenue stream for the electricity it generates. The CfD has been a successful policy instrument over the last five years, playing a significant role in reducing the cost of renewables.

Powering our Net Zero Future – the Energy White Paper (December 2020)

2.39 The Energy White Paper 2020[71] has set within it a target to achieve net zero within the UK by 2050 in efforts to halt progress of Climate Change. The UK government aim to do this by:

- Investing heavily in renewable energy sources with a goal set of 40GW (about 60% of the UK's energy consumption) of offshore wind by 2030.
- Getting a large scale nuclear project to the investment stages.
- Grow the rate at which electric heat pumps are installed.
- Support the deployment of CCUS
- Establishing a new UK emissions system
- Debating whether to end connections to the gas grid for new homes.

2.40 As part of the Government identified a 10 point plan; one of which is carbon capture, usage and storage (CCUS). The Government's intention is to capture 10Mt of carbon dioxide a year by 2030 and to invest up to £1 billion to support the establishment of CCUS. The £1 billion net zero innovation fund identifies energy storage and flexibility as one of its priority areas. Battery storage is seen as an opportunity to provide the flexibility needed to match supply to demand at peak hours, or when renewables output is low. To achieve this the Government will publish a Smart Systems Plan to

include a new framework for monitoring flexibility across electricity markets as well as legislating to define electricity storage in law, removing another barrier to flexibility.

Transitioning to a net zero energy system Smart Systems and Flexibility Plan (2021)

- 2.41 The Plan confirms that energy storage and flexibility is one of the priority areas under the £1bn portfolio, with at least £100 million of innovation funding. It goes on to reiterate the importance of being able to regulate supply by storing electricity which has been generated through renewables when it is sunny or windy and to use this when demand is higher. Key to achieving this was the opening up of a £68 million competition to accelerate the commercialisation of first-of-a-kind longer duration energy storage. Five projects successful winners were announced in February 2022.

Climate Change 2022 Impacts, Adaptation and Vulnerability - Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (February 2022)

- 2.42 The Working Group II report examines the impacts of climate change on nature and people around the globe. It explores future impacts at different levels of warming and the resulting risks and offers options to strengthen nature's and society's resilience to ongoing climate change, to fight hunger, poverty, and inequality and keep Earth a place worth living on – for current as well as for future generations.
- 2.43 Working Group II introduces several new components in its latest report: One is a special section on climate change impacts, risks and options to act for cities and settlements by the sea, tropical forests, mountains, biodiversity hotspots, dryland and deserts, the Mediterranean as well as the polar regions. Another is an atlas that will present data and findings on observed and projected climate change impacts and risks from global to regional scales, thus offering even more insights for decision makers.

2.44 Key findings include:

- Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. Some development and adaptation efforts have reduced vulnerability.
- Global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans. The level of risk will depend on concurrent near-term trends in vulnerability, exposure, level of socioeconomic development and adaptation. Near-term actions that limit global warming to close to 1.5°C would substantially reduce projected losses and damages related to climate change in human systems and ecosystems, compared to higher warming levels, but cannot eliminate them all.
- Beyond 2040 and depending on the level of global warming, climate change will lead to numerous risks to natural and human systems

2.45 The report clearly states Climate Resilient Development is already challenging at current warming levels. It will become more limited if global warming exceeds 1.5°C (2.7°F). In some regions it will be impossible if global warming exceeds 2°C (3.6°F). This key finding underlines the urgency for climate action, focusing on equity and justice. Adequate funding, technology transfer, political commitment and partnership lead to more effective climate change adaptation and emissions reductions.

“The scientific evidence is unequivocal: climate change is a threat to human wellbeing and the health of the planet. Any further delay in concerted global action will miss a brief and

rapidly closing window to secure a liveable future,” Hans-Otto
Pörtner, IPCC working Group II Co Chair

British Energy Security Strategy (April 2022)

- 2.46 The Government’s British Energy Security Strategy sets out how Great Britain will accelerate the deployment of wind, new nuclear, solar and hydrogen, whilst supporting the production of domestic oil and gas in the nearer term – which could see 95% of electricity by 2030 being low carbon.
- 2.47 The strategy will see a significant acceleration of nuclear, with an ambition of up to 24GW by 2050 to come from this safe, clean, and reliable source of power. This would represent up to around 25% of our projected electricity demand.
- 2.48 In addition, offshore wind will generate up to 50GW by 2030 – more than enough to power every home in the UK – of which 5GW would come from floating offshore wind in deeper seas.
- 2.49 Solar is also envisaged to grow by 5 times by 2035 and to double to up to 10GW of low carbon hydrogen production capacity by 2030, with at least half coming from green hydrogen and utilising excess offshore wind power to bring down costs. The strategy does still contain elements that rely on fossil fuels but the general shift is towards renewables and nuclear.
- 2.50 Whilst the publication of the Energy Security Strategy appears to have been hastened by current world events such as the war in Ukraine, it does indicate the Government’s intention to move towards a greater reliance on renewable energy and nuclear energy. As part of the overall strategy there is a move to ensure that sufficient storage is available and that by doing so, the energy generated through renewable means can be used flexibly at times of excess production/or times of peak demand. Battery storage will be key in helping to balance out the demand and supply of energy.

Intergovernmental Panel on Climate Change's Sixth Assessment Report (March 2023)

2.51 On 20th March 2023 the IPCC released the sixth instalment of the Intergovernmental Panel on Climate Change's Sixth Assessment Report, which draw on the findings of climate scientists and provides the most comprehensive and best available scientific assessment of climate change at the current time. The findings of which paint a bleak future of the devastating consequences of continued rising greenhouse gas emissions and the irreversible risks the world faces if a change in course cannot be secured. The main findings are summarised below:

- Human-caused climate change is already affecting many weather and climate extremes in every region across the globe – with widespread loss and damage to both nature and people.
- GHG emissions will lead to increasing global warming in the near term, and it's likely this will reach 1.5°C between 2030 and 2035.
- We are currently at around 1.1°C of warming and current climate policies are projected to increase global warming by 3.2°C by 2100.
- The IPCC has "very high confidence" that the risks and adverse impacts from climate change will escalate with increasing global warming.
- To keep within the 1.5°C limit, emissions need to be reduced by at least 43% by 2030 compared to 2019 levels, and at least 60% by 2035. This is the decisive decade to make that happen.
- Losses and damages will disproportionately affect the poorest and most vulnerable populations, particularly those in Africa and least-developed countries, creating more poverty.

- Prioritizing equity, social justice, inclusion and just transition processes would enable ambitious climate mitigation actions and climate-resilient development.
- Tracked climate finance for mitigation falls short of the levels needed to limit warming to below 2°C or to 1.5°C across all sectors and regions.
- Public and private finance flows for fossil fuels are still greater than those for climate adaptation and mitigation.
- Among other measures to ensure energy systems are net-zero CO₂ emitters, we need a "substantial reduction in overall fossil fuel use, minimal use of unabated fossil fuels, and use of carbon capture and storage in the remaining fossil fuel systems; energy conservation and efficiency; and greater integration across the energy system".

2.52 The conclusions of the IPCC are stark in that it states that there is a rapidly closing window of opportunity to tackle climate change and that actions undertaken over the next 7 years will be key in whether we are able to limit global average temperatures to less than 1.5° C.

National Grid Predicted Future Requirements

2.53 National Grid Electricity System Operator (NG ESO) publishes a suite of documents on the future of energy needs in the UK annually. Those considered to be of most relevance to the Proposed Development are the latest Future Energy Scenarios and System Operability Framework documents, both of which are considered below.

Future Energy Scenarios

2.54 The latest publication of the FES was published in July 2022. It contains four key messages:

1) *Policy and Delivery*

Significantly accelerating the transition to a decarbonised energy system can help to address security and affordability concerns at the same time as delivering Net Zero milestones.

2) *Consumer and digitalisation*

Consumer behaviour is pivotal to decarbonisation – how we all react to market and policy changes, and embrace smart technology, will be vital to meeting Net Zero.

3) *Markets and flexibility*

Reforming energy markets to improve price signals will help unlock the flexible solutions needed to integrate renewables efficiently.

4) *Infrastructure and whole energy system*

Strategic investment in the whole energy system is urgently required to keep pace with Net Zero ambitions and strengthen energy security.

Operational Strategy Report 2022

2.55 The annual Operability Strategy Report outlines the future operational challenges faced, driven by decarbonisation of the electricity system. It defines the operational requirements, future system needs, and capabilities required to enable a zero carbon electricity system by 2035. It also covers National Grid's progress towards meeting their ambition to be able to operate the network using 100% zero carbon electricity by 2025.

2.56 The importance of BESS is stressed in the document as a new dimension of operability has been added into the Operability Strategy Report this year. The operability challenge the document highlights is how to manage daily

peaks and troughs of supply demand lasting a few hours. The document defines this as 'Within-day flexibility' and describes it as the ability to move demand (and supply from storage) within a 24-hour period. This flexibility will be used to ensure energy balance between more variable sources of generation and inflexible demand.

Powering Up Britain (March 2023)

- 2.57 This document sets out the Departments for Energy Security and Net Zero's approach to energy security and net zero, and acts as an introduction to Powering Up Britain: Energy Security Plan, and Powering Up Britain: Net Zero Growth Plan, both of which are complementary and should be read alongside each other.
- 2.58 The documents set out Energy security and net zero are two sides of the same coin. The energy transition and net zero are among the greatest opportunities facing the UK and the Government is committed to ensuring that the UK takes advantage of its early mover status. It sets out the opportunities opening up in technologies like Battery Storage, which will help reach net zero, and consolidate Britain's as a global leader in green energy.

Powering Up Britain Energy Security Plan (March 2023)

- 2.59 The Energy Security Plan builds on last year's Energy Security Strategy. The report announced a number of measures including: an extension of the ECO levy; new investment in heat pumps; An extension to the boiler upgrade scheme; establishment British Nuclear, a new independent body; government-backed renewable hydrogen projects; and £10bn with a focus on clean energy.
- 2.60 Perhaps significantly, and there was a lack of support for onshore wind which makes projects such as solar farms including the application development, more significant when contributing to the UK's generation of clean energy.

- 2.61 Amongst a number of commitments the document outlines the need for a revised energy National Policy Statements which underline the national need for new energy infrastructure, including infrastructure for storage, with the intention of expediting planning processes.

Powering Up Britain : The Net Zero Growth Plan (March 2023)

- 2.62 The document plans to decarbonise the power system by 2035, and the proposed development will assist in this commitment. In 2021, the share of generation from renewables reached 40%, including from bioenergy, wind and solar, and 15% from nuclear.
- 2.63 The documents seeks to secure, reliable, cost-effective, decarbonised power sector which it describes as critical for a modern industrial economy. Within the Net Zero Strategy, Government committed to have a fully low carbon power sector by 2035, subject to security of supply, to underpin our net zero ambitions. It highlights the CCC and Independent Review of Net Zero recognising the key role that low carbon electricity plays in delivering a low carbon economy consistent with net zero. To deliver on these goals the document sets out the need to mobilise significant private investment into low carbon technologies and their associated supply chains, across generation, networks, storage and flexibility, as is the case with this application proposal.

3.0 CONCLUSIONS

- 3.1 It is clear from the above that the Government is focused on addressing climate change and has implemented a number of policy objectives in order to effect a change in energy generation with a resulting reduction in climate change as a result. In April 2021 the Government made a further announcement stating that it was going to cut carbon emissions by 78% by 2035, bringing forward the date by 15 years to do so by.
- 3.2 Furthermore, the recent COP26 summit in Glasgow has resulted in renewed international cooperation to try and limit any further temperature increases to within 1.5 degrees of pre-industrial levels, indicating a renewed international approach to tackling global warming. Similarly, the most recent IPCC report confirms that the risks of not acting now to do something to tackle climate change has potentially catastrophic consequences.
- 3.3 Similarly, the war in Ukraine and the spike in global energy prices has led the Government to publish its own Energy Security Strategy, which looks at way that the Country can reduce its reliance on fossil fuels and be more self sufficient in its own energy generation and use. Renewable energy and storage will have key roles to play in this future strategy if it is to be achieved.
- 3.4 The proposed BESS schemes will, therefore, make a significant contribution to the Government's clear objective of seeking to tackle climate change and redress global warming by creating new energy infrastructure that will assist with the storage and distribution of energy generated by renewable means, whilst helping to reduce reliance on fossil fuels and increasing self reliance on our energy needs. BESS technology has the ability to store and capture renewable energy and to release this to the grid as and when it is needed in order to balance supply and keep the lights on.
- 3.5 The Government has acknowledged the importance of battery and energy storage and has made funding available for new projects via the Net Zero

Innovation Portfolio thus confirming the role and importance that battery and energy storage has to play in ensuring flexible and sustainable energy use going forward. Similarly, recent appeal decisions are also now factoring in the benefits that such developments can deliver with an Inspector affording such benefits “significant weight” in the planning balance.

- 3.6 The proposals are, therefore, in accordance with both national and international objectives of reducing greenhouse gas emissions and seeking to address and reduce global temperatures as well as delivering a clean, reliable and efficient energy system for the UK.