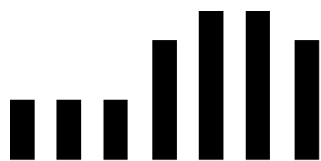




PROPOSED DEVELOPMENT OF A BATTERY ENERGY STORAGE SYSTEM, ASSOCIATED INFRASTRUCTURE, EARTHWORKS, LANDSCAPING AND ACCESS ON LAND AT RADWELL BURY FARM, OFF NEWNHAM ROAD, BALDOCK, HERTFORDSHIRE

PLANNING, DESIGN AND ACCESS STATEMENT

Prepared for



BALANCEPOWER

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1.0 INTRODUCTION AND SCHEME OVERVIEW

1.1 Introduction

- 1.1.1 This Planning and Design and Access Statement (PDAS) has been prepared in support of a full planning application made by Balance Power Projects Limited (hereafter referred to as 'the Applicant') to construct and operate a Battery Energy Storage System (hereafter referred to as 'BESS' or the 'Proposed Development') associated infrastructure, earthworks, landscaping and access on land at Radwell Bury Farm, off Newnham Road, Baldock, Hertfordshire (hereafter referred to as 'the Site').
- 1.1.2 The location and extent of the Site is illustrated on the 'Location Plan' and the 'Proposed Plan' which form part of the planning application drawing package. The Site lies wholly within the administrative area of North Hertfordshire District Council (NHDC).
- 1.1.3 This document constitutes the PDAS, which has been prepared to accompany the planning application. Following on from this introduction, Section 2.0 provides a description of the Site, its surroundings, and its planning history. Section 3.0 provides a detailed description of the BESS. Section 4.0 addresses the need for and benefits of the BESS; Section 5.0 considers a range of environmental matters and reports the assessment work carried out. Section 6.0 sets out the planning policy context and provides an associated appraisal. Finally, Section 7.0 provides a summary and draws a concise conclusion regarding the acceptability of the BESS in planning terms.

1.2 Scheme Overview

- 1.2.1 A detailed description of the BESS, including its construction and operation, is provided in Section 3.0 of this PDAS. The 'Proposed Plan' illustrates that the BESS, is proposed to be accommodated in two separate compounds, so as not conflict with the existing overhead power lines. Each compound has been described in turn below.
- 1.2.2 The northern compound would include a:
- Distribution Network Operators (DNO) Room;
 - Control Room and Welfare;



- Private Substation;
- 132kV Substation Area (including transformer, and other electrical infrastructure set within its own fenced compound); and
- Pair of Transformers.

1.2.3 The southern compound would include:

- 48 No. Prefabricated containerised modular BESS, grouped into fours and arranged in several rows;
- 12 No. Inverter / transformer modules
- A Storage Room; and
- Construction laydown area.

1.2.4 The compounds would be surfaced in gravel and secured by fencing and gating with associated CCTV security cameras and downward lighting. An access road would connect the compounds to Newnham Road. There would also be a second emergency access. The compounds would be off set from the existing field boundaries to protect and enhance existing landscape and biodiversity features.

1.2.5 The grid connection cable route from the BESS would be installed underground by a statutory undertaker and thus does not form part of the planning application. The cable route would run from the Site to the UK Power Networks (UKPN) Letchworth Grid Substation off the B656 Baldock Road within Letchworth Garden City.

1.2.6 The BESS would provide a flexible back-up power source to the electricity transmission network / the Grid through critical active power services (responding rapidly to variations that result from local and national energy demand) and reactive power services (balancing voltages to maintain stability and efficiency of the transmission system). These services are vital to National Grid (NG) especially as the transmission network will become more constrained as future renewable energy schemes connect into the system on route to reaching NGs aim of operating a zero-carbon electricity system by 2025 ¹, in response the Government's net zero target by 2050 ². Accordingly, the BESS would contribute towards ensuring that there is a

¹ <https://www.nationalgrideso.com/future-energy>

² <https://www.legislation.gov.uk/ukdsi/2019/9780111187654>

reliable and constant supply of electricity across the Grid in a cleaner and more cost-effective manner than the existing situation. Full details regarding the operation and need for the BESS is contained within Sections 3.0 and 4.0 of this PDAS respectively.

1.3 Scope of the Planning Application

- 1.3.1 The Infrastructure Planning (Electricity Storage Facilities) Order 2020 ³ (the Order) came into force in December 2020. The Order amended the Planning Act 2008 ⁴ by removing electricity storage facilities ⁵ from the category of '*generating stations*'; whose construction or extension requires development consent as a nationally significant infrastructure project. This means that developers of electricity storage projects above 50 megawatts (MW) in England can apply to the relevant Local Planning Authority (LPA) instead of having to apply to the Secretary of State for a Development Consent Order. Accordingly, planning permission is being sought from the LPA, which in this instance is NHDC.
- 1.3.2 A formal Pre-application Advice Request was submitted to NHDC in early March 2024 (**Appendix 1-1**). The request was assigned reference: 24/00516/PRE and a response was provided in August 2024, see **Appendix 1-2**. This PDAS is considered to include all the necessary assessment work required to support the determination process in line with the advice provided in the response.
- 1.3.3 Battery storage projects are not specifically defined in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ⁶. However, the Government have accepted that they are a subset of energy generation ⁷ in the planning system. As such, from an Environmental Impact Assessment (EIA) perspective BESSs are generally defined under Schedule 2, Part 3 'Energy Industry' Section (a) '*Industrial installations for the production of electricity, steam and hot water*' to which the specified threshold is: "*the area of development exceeds 0.5 hectares.*" even though this relates to '*generation / production*' rather than '*storage*'. The project exceeds the

³ <https://www.legislation.gov.uk/ukdsi/2020/9780348209846/contents>

⁴ <https://www.legislation.gov.uk/ukpga/2008/29/contents>

⁵ except for pumped hydroelectric storage facilities

⁶ <https://www.legislation.gov.uk/uksi/2017/571/contents/made>

⁷ BEIS 'Proposals regarding the planning system for electricity storage confirms the Government considered electricity storage facilities to be a form of electricity generating station for planning purposes.

<https://www.gov.uk/government/consultations/the-planning-system-for-electricity-storage-follow-up-consultation>

threshold and therefore a Screening Request (see **Appendix 1-3**) was submitted to the NHDC. A Screening Opinion was issued by NHDC in April 2024 (see **Appendix 1-4**). This confirmed that EIA is not necessary and therefore the application has been prepared on this basis.

- 1.3.4 The red line boundary covers an area of 3.5 hectares (ha) although much of this is soft landscaping with the BESS compounds occupying an area of circa 1.0 hectare (ha). As such, it falls into the 'Major' development category as specified in the Development Management Procedure (England) Order 2015 ⁸. On this basis the statutory determination period is 13 weeks.

1.4 The Applicant

- 1.4.1 Balance Power Projects Limited has been helping the UK transition to a decarbonised grid since the company was founded. Specialising in solar, battery storage, and peaking technologies, Balance Power works nationally with landowners, communities, and local authorities to bring about a fundamental shift in how the UK produces and uses power, in line with national targets. Its tailored energy solutions help balance demand as the UK moves to a greener, more flexible energy system.
- 1.4.2 Balance Power have secured planning consent for 33 projects and delivered 452 megawatts (MW) of generating capacity, with further 1,919 MW capacity under development / in the planning system. The Applicant has recently obtained permission for BESS projects in Cornwall, Hampshire, West Devon, Rugby, Wychavon, South Staffordshire, East Ayrshire and South Gloucestershire; noting that the latter four were in the Green Belt. Their website ⁹ provides greater detail on a variety of topics and illustrates their project portfolio.

1.5 Pre-Application Consultation

- 1.5.1 Balance Power have sought to consult with the local community prior to the application being submitted. A Statement of Community Involvement (SCI) is contained in **Appendix 1-5** and outlines the Applicant's approach to consultation,

⁸ <https://www.legislation.gov.uk/uksi/2015/595/contents/made>

⁹ <https://www.balancepower.co.uk>

for example a leaflet providing information on the project, contact details, the option to complete a feedback form and link to the project specific website: <https://balancepower.co.uk/consultation/radwell-bury-farm> was posted to local residents. The SCI also identifies who else has been consulted and how points raised by consultees have been addressed in designing the project and preparing the planning application.

- 1.5.2 During the preparation of the planning application the Applicant has engaged with the Hertfordshire Fire Service, this engagement has helped to develop the design of the proposed development including modifying the access junctions and internal road layout to better accommodate fire service vehicles. The engagement also confirmed a range of queries set out by the officer contained in the letter from the fire service is contained in **Appendix 1-6**.
- 1.5.3 A meeting between the applicant and Caldecote & Newnham Parish Council was set up to understand and address any questions that Parish Councillors may have about the proposal. During this, several questions were raised and subsequently addressed by the applicant. These related to noise, site location, visual impact, traffic impact and fire safety. All of these concerns have been addressed in relevant assessment reports within the Appendices.

2.0 THE SITE AND ITS CONTEXT

2.1 The Site and its Surroundings

- 2.1.1 As illustrated by the 'Site Location Plan', the BESS is proposed to be located on land to the north of Newnham Road set within the south eastern corner of an agricultural field that forms part of the wider Radwell Bury farmstead.
- 2.1.2 The Site is located circa 750 m to the southwest of the village of Newham, circa 1 km northeast of the village of Radwell, circa 1.7 km east of Stotfold and circa 2.5 km north of Baldock. Circa 400 m west of the Site is Baldock Services (situated off Junction 10 of the A1(M)). More specifically the Site is surrounded by agricultural fields with overhead power lines (supported by metal pylon towers) oversailing part of the Site.
- 2.1.3 The Site comprises part of a much larger agricultural field which is partially screened by vegetation along its eastern and southern boundaries. It's northern and western boundaries are open and extend across the wider agricultural field. As illustrated by the topographical drawing, the surrounding land undulates, and the Site is in a slight bowl which falls south to north.
- 2.1.4 Access is proposed to be achieved from Newnham Road which connects to Junction 10 of the A1(M) via the A507. A new junction off Newnham Road would be constructed to enable the temporary construction traffic and periodic routine maintenance and emergency vehicles. The emergency access track will enable an alternative point of access to the compound in the unlikely event of a fire. There are no public rights of way within the Site, the nearest (ref: Caldcote and Newham 006) traverses through the agricultural field immediately to the east of the Site.
- 2.1.5 The closest residential properties are situated circa 450 m north of the Site (Radwell Grange). Other properties are located off Newnham Road and Ashwell Road to the northeast of the Site at a greater distance. It is also worthy of note that a hotel operates within the services circa 550 m to the west of the Site.
- 2.1.6 In terms of heritage assets, the closest listed building is 'Radwell Grange' (Grade II) with separately listed 'Barn at Radwell Grange' (Grade II) circa 50 m northwest of the



property. A Scheduled Monument 'Ring Ditch and Enclosure' is located circa 570 m northeast of the Site, on the edge of Newnham village. The village is designated as a conservation area and includes ten Grade II listed buildings and the Grade II* Listed Church of St Vincent.

- 2.1.7 The Site is located on land at lowest risk of flooding (Flood Zone 1) and is at low risk from surface water flooding. It straddles the boundary of a source protection zone (zone three 'outer'). It is remote from ecological designations, the nearest being 'Stotfold Mill Meadows' Local Nature Reserve located circa 1.5 km west of the Site. Thereafter 'Ivel Springs' Local Nature Reserve is situated circa 2 km south of the Site.
- 2.1.8 The Site is not located in the Green Belt, but its boundary extends to the south beyond Newnham Road. A review of the agricultural land classification maps illustrate that the site and large parts of the surrounding area are located on Grade 2 (Very Good) land. Furthermore the predictive best and most versatile land assessment maps illustrate that the site has a high likelihood of being best and most versatile land. Further consideration of this is provided in Section 5.0 of this PDAS.

2.2 Planning History

- 2.2.1 A review of the NHDC online planning register has not identified any relevant planning application(s) relating to the Site itself.

3.0 THE PROPOSED DEVELOPMENT

3.1 Introduction

- 3.1.1 This section describes the proposed BESS, together with details regarding its construction and operation. When reading this section, reference should be made to planning application drawings, particularly the 'Proposed Plan'.

3.2 Description of the Proposed Development

- 3.2.1 The BESS is proposed to be located within two compounds. The reason for two separate compounds is the constraints imposed by the overhead power lines which traverse part of the Site. For the purposes of this section the compound located closest to Newnham Road is referred to as the south compound, with the other referred to as the north compound. Both compounds have also been off-set from the pylon towers, field boundary vegetation and surface water flooding areas to the north of the site.
- 3.2.2 Both compounds would be surfaced in gravel and secured by 2.4 m high paladin fencing with matching double leaf gates. CCTV would be set on free standing poles alongside downward facing lighting, circa 3.4 m high, located at various points within the compounds.
- 3.2.3 The northern compound would extend to circa 82 m long by circa 46 m wide upon which the following infrastructure would be installed:
- Distribution Network Operators (DNO) building measuring circa 9.1 m long by 4.1 m wide by 4.0 m high. It would be of GRP construction and would include access doors;
 - Control room and welfare building measuring circa 17.0 m long by 4.1 m wide by 4.0 m high. It would be of GRP construction and would include access doors;
 - 132 kV Substation Area set within its own fenced compound extending to circa 57.7 m long by 25.0 m wide (1,442 sqm). The sub-area would include a transformer, and other electrical infrastructure); and
 - Private Substation building measuring circa 15.6 m long by 4.0 m wide by 4.0 m high. It would be of GRP construction and would include access doors;

- Two transformers each set within concrete surfaced compounds (4.1m long by 3.7 m wide) that are secured by palisade fencing extending to a height of 2.5m.
- 3.2.4 The southern compound would extend to circa 81 m long by circa 73 m wide upon which the following infrastructure would be installed:
- 48 No. Prefabricated containerised modular BESS measuring circa 9.4 m long by 1.8 m wide by 2.3 m high. The BESS would be grouped into fours and arranged in several rows;
 - 12 No. inverter / transformer modules measuring circa 6.1 m long by 2.5 m wide by 2.9 m high.; and
 - A storage room building measuring circa 12.3 m long by 3.5 m wide by 4.0 m high. It would be of GRP construction and would include access doors.
- 3.2.5 The drawings illustrate that the ancillary buildings would be finished in a recessive green colour, while the BESS will be finished in a white colour. However, the exact colour specifications of ancillary buildings could be controlled via a suitably worded planning condition, if necessary. The BESS units are unable to be painted alternative colours.

3.3 Access

- 3.3.1 The new access junction off Newnham Road would be utilised to accommodate the temporary construction traffic and periodic vehicles for routine maintenance and operation. As demonstrated in the TS (**Appendix 5-5**), the proposed construction access junction benefits from suitable viability in both directions in accordance with the relevant standards and allows for the two-way movement of vehicles.
- 3.3.2 A stone access track would connect the junction to the compounds. The tracks would be formed by removing the existing top-soil (circa 300 mm), laying a geotextile membrane on which a hardcore surface would be laid to a width of circa 5 m. On this basis the track would be entirely permeable. To facilitate access for emergency vehicles there would also be secondary access tracks as illustrated on the layout plan. These routes would be constructed from grasscrete.

3.4 Earthworks

- 3.4.1 It would be necessary to undertake earthworks to create the platforms upon which the BESS compounds would be installed. The compounds would be benched into the site to create a platform with the limited material retained on-site.

3.5 Drainage

- 3.5.1 As the BESS would not be permanently manned (periodic site maintenance) there is no requirement for foul drainage. However, it would introduce some new impermeable surfacing that could potentially increase surface water run-off, alongside areas of permeable gravel.
- 3.5.2 The 'Outline Drainage Strategy' drawing (submitted as part of the planning application drawing package) illustrates how the proposed compounds would be drained. This would be via a series of swales and underdrains which collect surface water before it is transported to the attenuation pond and thereafter ditch located on the eastern edge of the field. At this stage, the drainage strategy has been designed to be a fully sealed system with penstocks to control flows. The pond has been specifically sized to accommodate the 100 year +40 % climate change with a QBAR greenfield run-off of 2.4 l/s. As illustrated on the drawing an underground tank is proposed to be installed under the internal roadway of the northern compound to offer a reservoir of water in the event of emergency. In addition a cut-off ditch is also proposed around the edge of the site to intercept surface water from the wider field and direct it towards the existing field boundary ditch.
- 3.5.3 Whilst a solution can be achieved it is anticipated that the drainage design would be subject to confirmation on soakaway potential which will be undertaken in October 2024. However, initial geology indicates soakaways are likely to be viable and thereafter through detailed design this drainage method would be explored. These elements could be controlled via a suitably worded planning condition. Further details of the drainage design are contained in Section 5.0 of this PDAS.

3.6 Landscaping

- 3.6.1 The Landscape and Visual Appraisal (LVA, **Appendix 5-6**) has been undertaken. This appraisal alongside consideration of potential habitat creation by the project



ecologist and site constraints such as the presence of overhead power lines has resulted in range of proposed soft landscaping. The proposed landscaping is illustrated on the landscape plan (which forms part of the drawing package). In summary it includes:

- A belt of proposed native woodland located along the northern and western boundary of the application site.
- A hedge along the southern boundary with Newnham Road to assist in bolstering the existing broken hedge line.
- A species rich wet grassland within the proposed surface water attenuation feature.
- Additional pockets of native woodland planning on the eastern boundary of the site.
- Species rich grassland is proposed across the site.

3.6.2 Whilst a detailed design has been submitted, should it be necessary a design could be the subject of a suitably worded planning condition.

3.7 Fire Safety

3.7.1 An outline Fire Safety Management Plan (**Appendix 3-1**) has been prepared to support the planning application. The document sets out the safety features that BESS schemes could incorporate alongside the steps taken to reduce any potential risk to life, property, and the environment.

3.7.2 During the determination of applications for other BESSs, the Applicant has noted that in some instances consultees are concerned with the potential risk of fire. Specifically, should a battery overheat and combust it may be subject to discharging flammable and toxic gasses. Media articles relating to batteries and personal hardware have raised public concerns and, in some cases, overexaggerated the issue. It must be recognised that lithium-based batteries are a proven technology used extensively in mobile phones, laptops and tablets across the planet. Furthermore, there has only been a single recorded incident of a fire at a UK BESS site, back in 2020.

3.7.3 In terms of legislation, all Lithium-Ion batteries must be transported in accordance with UN 38.3 to which the UK is a signatory. Safe transportation ensures no damage



to the batteries prior to use. The BESS would be constructed in accordance with the International Electrotechnical Commissions standards for Electrical Energy Storage Systems. Details of these standards are listed below.

- Allianz Risk Consulting (ARC), Tech Talk Volume 26 (2019). Battery Energy Storage Systems (BESS) using Li-ion batteries.
- Institute of Engineering and Technology – Code of Practice for Electrical Energy Storage Systems (August 2017).
- The Energy Institute: Battery Storage Guidance Note 1 - Battery Storage Planning (August 2019).
- Safety requirements for grid-integrated EES systems — Electrochemical based systems. IEC 62933-5-2:20204 National Fire Protection Association (NFPA) 855, Standard for the Installation of Stationary Energy Storage Systems, 2020 edition5.
- UN ‘Recommendations on the Transport of Dangerous Goods’ – Section 38.3 covers Lithium-Ion Batteries.

3.7.4 There are numerous other schemes across the country which operate without incident, plus those either in construction or benefitting from planning permission, which clearly demonstrate that this matter can be suitably addressed through an automatic fire suppression system. Although there have been instances of fire at BESSs, occurrences are rare, and it should be noted that where fires have occurred, they have been safely extinguished.

3.7.5 It should be recognised that, compared to batteries found in devices such as mobile phones, the battery units used in battery storage systems are climate-controlled to maintain a safe operating range. All the battery units also have built-in alarms and fire suppression systems that can extinguish the fire automatically if needed. The infrastructure blocks are also set part so that there is no potential for fire to spread.

3.7.6 There are several fire suppression systems that can be installed, these include:

- High-Pressure CO₂: CO₂ extinguishes a fire by removing the oxygen from the surrounding area whilst also removing the heat. The CO₂ is provided by a series of tanks linked to the fire alarm system, which are triggered in the event of a fire.
- Inert gaseous system: Inert gaseous fire suppression systems work by depleting oxygen in the area and extracting heat from the fire. In the event of a fire, the fire

suppression units automatically release argon or nitrogen, and propellant inert gases which effectively extinguish fires. This is likely to be the preferred method of fire suppression as it utilises an environmentally friendly clean agent system, with zero ozone depletion and negligible global warming potential.

- Mist system: Water mist fire suppression systems come as pre-packaged units including a water tank and booster nitrogen cylinders. The fire is extinguished using the properties of the water to cool the fire below ignition. The custom water mist systems use a combination of water and nitrogen to extinguish the fire.

3.7.7 One of these fire suppression systems would be installed prior to the operation of the BESS and would be in-situ and maintained thereafter. The exact suppression system to be used at the BESS would be established closer to the point of construction and will be dependent on appointed construction contractor preferences, specification of the batteries to be used and market availability at the point of construction. On this basis, officers, consultees and other local stakeholders should be reassured that the BESS will be safe for the entirety of its operation. Please also refer to the Outline Battery Fire Safety Management Plan contained in **Appendix 3-1**.

3.7.8 During the preparation of the planning application the Applicant has engaged with the Hertfordshire Fire Service, this engagement has helped to develop the design of the proposed development and confirm a range of queries set out by the officer. A copy of the letter from the fire service is contained in **Appendix 1-6**.

3.8 Battery Storage Facility (Construction and Operation)

3.8.1 The full period of construction is anticipated to take up to 12 months, with 5.5 construction days per week. Construction hours are anticipated to be between 08:00 – 18:00 weekdays and 08:00 – 13:00 on Saturday. No construction activities would take place on a Sunday or Bank Holiday. It is requested that a degree of flexibility is applied should it be necessary to transport a piece of infrastructure to the Site (such as transformer) outside of this time. It is requested that this could be agreed through the exchange of letter.

3.8.2 Peak construction activity (in terms of HGV vehicle numbers) would occur during the enabling works phase, when daily traffic levels are estimated to be in the region of 15 vehicles per day, including 5 HGV trips. This equates to in the region of 30 daily

two-way movements, which will include 10 two-way HGV movements per day. Such traffic levels are unlikely to give rise to any material issues on the local highway network. Moreover, such levels of HGV traffic would not be maintained over any lengthy period.

3.8.3 The BESS comprises basic construction techniques and materials, and is not anticipated to generate a significant number of daily construction vehicle movements. Therefore, the temporary construction phase is unlikely to result in a detrimental impact on the local highway network. Further details on vehicle movements are provided in sub-section 5.6 of the PDAS and within the TS (**Appendix 5-5**).

3.8.4 The construction phase is anticipated to be controlled through a Construction Environmental Management Plan (CEMP), via a suitably worded planning condition to any forthcoming planning permission. This would ensure that there would be no potential for pollution and / or nuisance to the surrounding environment or residential properties.

3.8.5 During the operational phase, the BESS would be controlled remotely as it is fully automated. It would only be necessary for a maintenance engineer to visit the Site on an occasional basis (i.e. monthly routine maintenance visit). As such the operational phase of the project would not generate any significant traffic impacts.

3.8.6 Planning permission for the BESS is being sought on a temporary basis for 40 years (at point when the BESS first becomes operational, i.e. energised). Following this timeframe, and the cessation of energy operations, the infrastructure would be removed, and the Site restored to its present use and condition. It is anticipated that this would be controlled through a suitably worded planning condition.

3.9 Deliverability and Decommissioning

3.9.1 The Applicant has a proven track record of bringing forward and developing BESS schemes. In terms of this application, a grid connection has been secured and connection timescales are known. Given the urgency of addressing the climate crisis (as set out in Section 4.0 below), that is a matter which lends significant support to the BESS.

3.9.2 Permission is being sought on a temporary basis of 40 years ¹⁰. Following this timeframe, and the cessation of energy operations, the infrastructure would be removed, and the Site restored to its present condition. It is considered that is phase of the development could be controlled via a suitably worded planning condition.

¹⁰ At the point when the BSF first becomes operational / energisation (i.e. electricity connection becomes 'live')

4.0 NEED, BENEFITS AND LOCATIONAL REQUIREMENTS

4.1 Introduction

- 4.1.1 This section of the PDAS sets out the benefits of, and need for, BESSs in relation to national energy policy and strategy. It then sets out NG's suite of future energy need documents that seek to achieve the ambition of being able to operate a zero-carbon electricity system by 2025 ¹¹ and fully decarbonise by 2035 ¹². It also provides a reasoned justification as to why the BESS needs to be connected to a particular substation, and thereafter the Site's location to the substation.
- 4.1.2 From the outset it should be recognised that the UK Government's position is clear that BESS schemes fall within the category of renewable energy and associated infrastructure definition, even though the technology does not in itself produce renewable energy. The Government established a definition of electricity storage through the Energy Act 2023 ¹³ and clarified that electricity storage, such as BESSs, is a distinct subset of generation within the Electricity Act 1989 ¹⁴.
- 4.1.3 North Hertfordshire Council declared a climate change emergency in May 2019 ¹⁵. The Council commits to action beyond current government targets and international agreements through the adoption of the Council's Climate Change Strategy 2022-2027. This strategy includes targets such as achieving a Net Zero Carbon district by 2040 and ensuring all operations and services are resilient to the impacts of climate change. It also seeks to provide leadership and support for both businesses and residents when switching to renewable energy and adapting to the impacts of climate change.
- 4.1.4 Government data for electricity use within North Hertfordshire shows that as of the end of 2022 (latest available data) the District used a total of 451 GWh of electricity, based on sales of electricity made to domestic and non-domestic customers ¹⁶. The

¹¹ <https://www.nationalgrideso.com/news/zero-carbon-operation-great-britains-electricity-system-2025>

¹² <https://www.gov.uk/government/news/plans-unveiled-to-decarbonise-uk-power-system-by-2035>

¹³ <https://www.legislation.gov.uk/ukpga/2023/52>

¹⁴ <https://www.legislation.gov.uk/ukpga/1989/29/contents>

¹⁵ <https://www.north-herts.gov.uk/climate-change>

¹⁶ <https://www.gov.uk/government/statistics/regional-and-local-authority-electricity-consumption-statistics>

Government also collates data on renewable electricity generation by local authority area ¹⁷. This demonstrates that in the same year (2022), North Hertfordshire's installed electricity from renewable sources capacity was circa 40 MW ¹⁸. Whilst it is acknowledged that recent renewable permissions may have been granted in the district, it is clear that North Hertfordshire has a significant renewable electricity generation deficit to make up to achieve the Council's ambitious objective of achieving net zero across the district by 2040.

4.1.5 Calculations indicate that the proposed BESS could continuously power 26,767 houses and would reduce CO₂ emissions by 18,281 tonnes per annum¹⁹, which is equivalent to taking 13,115 cars off the road. More generally ²⁰, in 2022 BESSs saved the power sector circa 615,000 tonnes of CO₂ emissions, that is the same as circa 370,000 fewer cars or 28 million more trees planted. In addition to these figures the following sub-section sets out why the BESS is entirely consistent with the above commitments towards the achievement of net zero / carbon neutral.

4.1.6 Paragraph 164 of the NPPF explains that when determining planning applications, planning authorities should not require an applicant to demonstrate a need for low carbon or renewable energy projects, and should recognise that even small-scale projects can help reduce greenhouse gas emissions. The proposed changes to this paragraph ²¹ strengthen this point by amending the text to state: *"Local Planning Authorities should support applications for all forms of renewable and low carbon development...give significant weight to the proposals contribution to renewable energy generation and a net zero future."*

4.2 Benefits of Battery Storage

4.2.1 BESS schemes support renewable energy technologies, such as wind and solar power, by reducing supply issues associated with their intermittency. A BESS stores electricity generated when, for example, the sun is shining and / or the wind is

¹⁷ <https://www.gov.uk/government/statistics/regional-renewable-statistics>

¹⁸ This was generated from photovoltaics: 34.3 MW (circa 86%), anaerobic digestion: 2.7 MW (circa 6%), and landfill gas 3.1 MW (circa 8%).

¹⁹ Compared to gas peaking

²⁰ <https://modoenergy.com/research/8973>

²¹ https://assets.publishing.service.gov.uk/media/66acffddce1fd0da7b593274/NPPF_with_footnotes.pdf

blowing, and releases it later when consumers need it. NG state that BESSs are: *“essential to speeding up the replacement of fossil fuels with renewable energy.”*²²

- 4.2.2 BESSs therefore can provide balancing services to NG (who are the Electricity System Operator (ESO)) and also UK Power Networks (UKPN) (who are the Distribution Network Operator (DNO)) through both frequency response and reactive power services.
- 4.2.3 System frequency is a continuously changing variable that is determined and controlled by the second-by-second (real time) balance between system demand and total generation. NG's licence obligation²³ requires that they balance Grid frequency (within ± 1 % of nominal system frequency, which is 50 Hz). If demand is greater than generation, the frequency falls while if generation is greater than demand, the frequency rises. If the transmission system is not maintained within the required frequency tolerance system stress can result in widespread power supply issues and damage to network infrastructure. Frequency is currently managed by paying generators to cease generation (curtailment) and / or Demand Side Response (DSR). Through DSR services, businesses and consumers turn up / down, or shift demand in real-time to help balance the Grid.
- 4.2.4 Between 2015 and 2019, curtailment costs rose in line with wind output from £90 to £145 million per year. This cost doubled in 2020 as NG ESO faced a bill of £282 million linked to reduced demand associated with the pandemic – around £10 per household. Put another way, curtailment costs added £4 to each MW hour of wind energy generated²⁴. More recent news articles on this matter illustrate that the cost of wind curtailment hit a record high of £507 million in 2021²⁵, which translates to around £18 per household. Furthermore, it ponders that wind curtailment costs could be reduced by 80% annually if sufficient BESS schemes are developed²⁶. This is important as electricity generated from wind increased to more than a quarter of the UK's electricity in 2023, and renewable generation represented a record share of 47.3 %²⁷. The invasion of Ukraine, sharp rise and continuing level of living costs means

²² <https://www.nationalgrid.com/stories/energy-explained/what-is-battery-storage>

²³ NETs System Security and Quality of Supply <https://www.nationalgrideso.com/rules-which-were-governed>

²⁴ <https://reports.electricinsights.co.uk/q4-2020/record-wind-output-and-curtailment/>

²⁵ <https://www.current-news.co.uk/news/cost-of-wind-curtailment-hits-record-high-of-507m-in-2021>

²⁶ <https://www.current-news.co.uk/field-battery-energy-storage-could-slash-curtailment-costs-by-80-annually/>

²⁷ https://assets.publishing.service.gov.uk/media/6604304ff9ab410011eea3e1/Energy_Trends_March_2024.pdf

that households do not need further financial pressures. Clearly if curtailment costs can be reduced and more 'green' energy can be harnessed there are significant sustainable benefits.

- 4.2.5 Battery storage is a key part of the energy strategy and provides Grid balancing services to help accommodate the increasing variable levels of supply ²⁸ and demand. By importing excess intermittent renewable energy (for example on windless nights when there is no solar power) from the Grid and storing it, batteries can capture energy that would otherwise be lost. A point recognised in a news article ²⁹ which questions how we are going to keep the lights on. Furthermore, during situations when primary power sources (e.g. traditional power stations) are interrupted, BESSs can bridge the gap in production, thus avoiding potential blackouts. It should be noted that the UK electricity network is wholly interconnected and issues in one geographic location can have far reaching implications on the Grid. Accordingly, BESSs offer additional capacity to deal with system stress and any variations in frequency at both a local and national level.
- 4.2.6 Unlike frequency, which is consistent, voltages experienced at points across the Grid vary and without management could exceed statutory limits. Maintaining voltage levels across the Grid is becoming increasingly challenging (due to the changing nature of generation, as set out in greater detail within this Section) and therefore BESSs (which can absorb or inject energy into the Grid to manage voltage) provide a secondary beneficial reactive power ³⁰ / balancing service.
- 4.2.7 As recognised by NG ESO's System Operability Framework ³¹ a faster response is more effective and so less response is needed if speeds can be increased. BESS can respond more rapidly than other types of services, as they have no start-up delays. As such BESS schemes balance the real-time requirements of the Grid more efficiently. It also means that less fossil fuel used to generate electricity which clearly has major environmental benefits.

²⁸ <https://reports.electricinsights.co.uk/q1-2021/power-system-records-8/>

²⁹ <https://news.sky.com/story/climate-change-rising-gas-prices-helping-to-make-the-case-for-onshore-wind-and-solar-12579108>

³⁰ Reactive Power is used to manage voltage.

³¹ <https://www.nationalgrideso.com/research-publications/system-operability-framework-sof>

- 4.2.8 In summary, BESS schemes assist in the transition to renewable energy, helping to diversify the energy network, reducing the need for further generation plants that use fossil fuels / non-renewable sources and enabling flexibility in supply. It also assists the Grid by providing reactive power / balancing services which assists towards the NG targets of being net zero.

4.3 National Energy Policy and Strategy Context

- 4.3.1 As an introduction, the Government has not set specific targets regarding the capacity or number of BESSs in any documentation. In November 2023, the Government published the UK Battery Strategy ³², whilst it does not set specific targets it anticipates that the demand for grid energy storage increases to 10 gigawatt hours (GWh) by 2030 and 20 GWh by 2035. It also highlights the importance of grid-scale BESS schemes contribution to decarbonising the energy system in a cost-effective way (Executive Summary).

Climate Change Act 2008 (2050 Target Amendment) Order 2019

- 4.3.2 The Climate Change Act 2008 ³³ set a legally binding target for the United Kingdom (UK) to achieve an 80 % reduction in greenhouse gas emissions by 2050 (from the 1990 baseline). However, the Government have since decided that this legally binding target was not ambitious enough to mitigate the nation's activities on climate change. In 2019 the Government became the first major economy in the world to pass laws to end its contribution to global warming by 2050 (compared to the 1990 baseline).
- 4.3.3 In June 2019, the Government made the draft Climate Change Act 2008 (2050 Target Amendment) Order 2019, which sought to amend the Climate Change Act 2008 by introducing a target for at least a 100 % reduction of greenhouse gas emissions (compared to 1990 levels) in the UK by 2050. This is otherwise and hereafter known as the net zero target. The draft Order amended the 2050 greenhouse gas emissions reduction target in the Climate Change Act from at least

³² <https://www.gov.uk/government/publications/uk-battery-strategy>

³³ <https://www.legislation.gov.uk/ukpga/2008/27/contents>

80 % to at least 100 %. It is therefore a legally binding commitment to end the UK's contribution to climate change. The Order ³⁴ came into force in late June 2019.

Ten Point Plan for a Green Industrial Revolution (November 2020)

- 4.3.4 The Ten Point Plan for a Green Industrial Revolution ³⁵ was published in November 2020. The plan seeks, amongst others, to advance offshore wind by quadrupling capacity (to 40 GW by 2030). It acknowledges (page 8) that: *“to integrate clean technologies like offshore wind, we must transform our energy system building more network infrastructure and utilising smart technologies like energy storage.”* It also identifies that the Government will provide £100 million pounds of funding for energy storage and flexibility innovation challenges, as this is seen as essential technology in the move towards an increasingly renewables heavy system and the need to store energy resulting from intermittent generation.

The Sixth Carbon Budget: The UK path to Net Zero (December 2020)

- 4.3.5 The Sixth Carbon Budget: The UK path to Net Zero ³⁶ was published by the Climate Change Committee (CCC) in December 2020. Page 135 of the main report identifies that: *“A more flexible electricity system will help balance out the variability in renewable generation. Increasing flexibility comes from both demand and supply (e.g. use of electricity storage)...With an increasing share of variable renewables, storage can capture surplus energy when demand is low and provide backup generation when demand is particularly high...Batteries can provide within-day flexibility. The Balanced Pathway assumes 18 GW of battery storage capacity by 2035.”* Currently, there is circa 2.4 GW of operational battery storage ³⁷. As such, to achieve the CCC's balanced pathway it will be necessary to develop additional battery storage to assist in the deployment of variable renewable energy schemes.

³⁴ <https://www.legislation.gov.uk/ukdsi/2019/9780111187654>

³⁵ <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

³⁶ <https://www.theccc.org.uk/publication/sixth-carbon-budget/>

³⁷ https://www.solarpowerportal.co.uk/blogs/record_800mwh_of_utility_scale_storage_added_in_2022_according_to_solar_med#:~:text=There%20is%20now%202.4GW,energy%20storage%20in%20the%20UK.

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

- 4.3.6 In December 2020, the Department for Business Energy and Industrial Strategy (BEIS) published the Energy White Paper ‘Powering our Net Zero Future’³⁸. This paper addresses the transformation of our energy system and how the UK will clean up its energy system and reach net zero emissions by 2050. It reiterates the aim to quadruple offshore wind capacity and the target of 40 GW (by 2030). It also recognises that supporting infrastructure on land (such as storage facilities) are vital to maximise the potential to harness this energy across UK shores for use in homes and industry.
- 4.3.7 Chapter 2 of the paper sets out that: *“By 2050, we expect low-carbon options, such as clean hydrogen and long-duration storage, to satisfy the need for peaking capacity and ensure security of supply at low cost, likely eliminating the reliance on generation from unabated gas.”* As such, the Government clearly views storage as the way forward to balance and to ensure energy security.

Net Zero Strategy: Build Back Greener (October 2021)

- 4.3.8 The Government published the ‘Net-Zero Strategy: Build Back Greener’³⁹ in October 2021. The Strategy sets out policies and proposals for decarbonising all sectors of the economy to meet the net-zero target and keep us on track for future carbon budgets. Chapter 3 ‘Reducing Emissions across the Economy’ identifies under sub-section 3i. ‘Power’ that to deliver the key policy of a fully decarbonised power system by 2035 our key commitments are (amongst others) to: *“deliver the actions in our recent Smart Systems and Flexibility Plan and Energy Digitalisation Strategy to maximise system flexibility.”* (page 94).

³⁸<https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future/energy-white-paper-powering-our-net-zero-future-accessible-html-version>

³⁹<https://www.gov.uk/government/publications/net-zero-strategy>

4.3.9 In 2021, the Department for BEIS ⁴⁰ and the Office of Gas and Electricity Markets (Ofgem) published the:

- Transitioning to a net zero energy system Smart Systems and Flexibility Plan ⁴¹, which sets out:
 - *“a vision, analysis and work programme for delivering a smart and flexible electricity system that will underpin our energy security and the transition to net zero. This system will need significant levels of flexibility and utilisation of smart technologies so that it can be almost entirely run-on low carbon energy sources.”*
 - *“The net zero economy will be underpinned by cheap clean electricity, made in Britain. A clean, reliable power system is the foundation of a productive net zero economy as we electrify other sectors – so we will fully decarbonise our power system by 2035, subject to security of supply. Our power system will consist of abundant, cheap British renewables, cutting edge new nuclear power stations, and be underpinned by flexibility including storage, gas with CCS, hydrogen and ensure reliable power is always there at the flick of a switch. The transformation of the power sector will bring high skill, high wage job opportunities right across the UK.”*
 - Key policies include: *“Deployment of new flexibility measures including storage to help smooth out future price spikes”* and *“The deployment of smart technologies and flexibility will underpin our energy security and the transition to net zero. Flexibility from technologies such as energy storage, smart and bidirectional charging of electric vehicles, flexible heating systems, and interconnection could save up to £10 billion per year by 2050 by reducing the amount of generation and network needed to decarbonise.”*
- Digitalising our Energy System for Net Zero Strategy and Action Plan ⁴² sets out the need to digitalise the energy system, and the benefits of doing so for decarbonisation, consumers and the economy.

⁴⁰ Now the Department for Energy Security and Net Zero

⁴¹ <https://www.gov.uk/government/publications/transitioning-to-a-net-zero-energy-system-smart-systems-and-flexibility-plan-2021>

⁴² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004011/energy-digitalisation-strategy.pdf

- 4.3.10 The Strategy sets out 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 energy system costs and keep energy bills low for consumers.

British Energy Security Strategy (April 2022)

- 4.3.11 The British Energy Security Strategy ⁴³ was published in April 2022 in response to rising global energy prices, provoked by surging demand post-pandemic and the invasion of Ukraine. The Strategy seeks to wean Britain off fossil fuels and boost sources of homegrown energy which will in turn offer a greater energy security in the long-term.
- 4.3.12 The Strategy increases the previously stated 40 GW target (from the White Paper and Ten Point Plan) to 50 GW by 2030. It also identifies that the Government expects a five-fold increase in solar deployment. On the basis there is currently 15.7 GW ⁴⁴ of solar capacity this equates to 70 GW by 2035. The increased renewable capacity targets reinforce the previously stated need to build more network infrastructure and utilise smart technologies (including energy storage).
- 4.3.13 Under the sub-heading of ‘Networks, Storage and Flexibility’ the Strategy sets out that: *“accelerating our domestic supply of clean and affordable electricity also requires accelerating the connecting network of infrastructure to support it. Within this decade, our modern system will prioritise two key features: anticipating need because planning ahead minimises cost and public disruption; and hyper-flexibility in matching supply and demand so that minimal energy is wasted. This more efficient, locally-responsive system could bring down costs by up to £10 billion a year by 2050.”* (page 24).
- 4.3.14 The Strategy sets out that the Government will ensure a more flexible, efficient system for both generators and users by (amongst others): *“Encouraging all forms of flexibility with sufficient large-scale, long-duration electricity storage to balance the*

⁴³ <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

⁴⁴ <https://www.gov.uk/government/statistics/solar-photovoltaics-deployment>

overall system by developing appropriate policy to enable investment” and: “Smartening up the system with more flexible pricing, through Time of Use tariffs and battery storage through Electric Vehicles.” (pages 24 and 25).

Powering Up Britain (March / April 2023)

- 4.3.15 In March 2023, the Government announced the ‘Powering Up Britain: The Net Zero Growth Plan’⁴⁵. This sets out ambitious plans to scale up affordable, clean, homegrown power to boost the Country’s energy security, independence and reduce household bills whilst also maintaining a world-leading position in achieving net zero. During the announcement, the Energy Security Secretary stated: *“Access to cheap, abundant and reliable energy provides the foundation stone of a thriving economy with our homes and businesses relying on it to deliver our future prosperity.”* Furthermore, the Chancellor of the Exchequer added that: *“Transforming our energy system is no longer just about tackling climate change, it is also a matter of national security. To protect ourselves from future price spikes, we need to accelerate the move to cleaner, cheaper, home-grown energy.”*
- 4.3.16 At the same time at the above Net Zero Growth Plan, the Government also published the: ‘Powering Up Britain Energy Security Plan’⁴⁶ which sets out the steps to Government is taking to ensure the UK is more energy independent, secure and resilient. The introductory section of the security plan sets out that: *“Energy security necessarily entails the smooth transition to abundant, low-carbon energy. If we do not decarbonise, we will be less energy secure. We want our energy to be cheap, clean and British.”*

Energy Act 2023

- 4.3.17 The Energy Act 2023 came into force in October 2023⁴⁷. It amends the Electricity Act 1989 to include reference to a person who generates electricity from stored energy and defines ‘stored energy’ as energy that was converted from electricity and

⁴⁵<https://www.gov.uk/government/news/shapps-sets-out-plans-to-drive-multi-billion-pound-investment-in-energy-revolution>

⁴⁶<https://www.gov.uk/government/publications/powering-up-britain/powering-up-britain-energy-security-plan>

⁴⁷https://www.legislation.gov.uk/ukpga/2023/52/pdfs/ukpga_20230052_en.pdf

is stored for the purpose of its future reconversion into electricity. More generally the Act seeks to assist in the transition to net zero and secure a resilient supply of energy in an affordable way for households and businesses.

- 4.3.18 Although published prior to royal assent, the ‘Energy Security Bill Factsheet: Defining Electricity Storage’⁴⁸ (September 2023) identifies that: *“Flexibility from technologies such as electricity storage could save up to £10 billion per year by 2050, by reducing the amount of generation and network needed to decarbonise and create 24,000 jobs.”*

UK Battery Strategy (November 2023)

- 4.3.19 The UK Battery Strategy⁴⁹ was published by the Department for Business and Trade in November 2023, in partnership with the UK Battery Strategy Taskforce. The strategy sets out the Government’s vision for the UK to achieve a globally competitive battery supply chain by 2030, that supports economic prosperity and the transition to net zero. It sets out that a successful battery industry will be an important source of jobs and economic growth over the next decade.
- 4.3.20 The executive summary confirms that: *“Batteries are essential products in modern, industrialised economies...Primary uses include personal and commercial transportation and grid-scale battery energy storage systems (BESS), which allow us to use electricity more flexibly and decarbonise the energy system in a cost-effective way.”*
- 4.3.21 The strategy is based around a ‘design-build-sustain approach’ which amongst others includes: *“...Continuing to support energy intensive industries and speed up energy grid connections; and ensuring planning and permitting reform actions will benefit the emerging battery sector...”*
- 4.3.22 It is clear from the fifteen specified priorities that the Government will provide financial support / investment and promote batteries in order to build on the UK’s world class

⁴⁸<https://www.gov.uk/government/publications/energy-security-bill-factsheets/energy-security-bill-factsheet-defining-electricity-storage>

⁴⁹<https://www.gov.uk/government/publications/uk-battery-strategy>

innovation and comparative advantage in this sector. Page 25 of the strategy identifies that the Government has supported the development of BESS through innovation competitions, while page 28 confirms that: *“In September, UK Investment Bank (UKIB) published a strategy update ⁵⁰ setting out its offer for short duration BESS, which includes a mezzanine loan product that aims to increase the pool of banks willing to lend to these projects. UKIB also aims to support the development of markets for long duration storage, including by taking greater risk than private investors, to help ensure first-of-a-kind projects are delivered.”*

- 4.3.23 It is clear from the latest Government publication, that batteries are being promoted and significant investment / incentives are being provided to continue to keep the UK at the forefront of battery technology and innovation. The proposed BESS clearly aligns with this strategy.

Transmission Acceleration Action Plan (November 2023)

- 4.3.24 The Transmission Acceleration Action Plan ⁵¹ was published in November 2023 and forms the government’s response to the report from Electricity Networks Commissioner Nick Winser CBE ⁵² (published in August 2023). It responds to numerous recommendations across eight themes including strategic spatial planning and planning approval.
- 4.3.25 The introductory section to the plan identifies that: *“Great Britain’s transmission network must undergo unprecedented expansion, as our economy electrifies to deliver energy security and Net Zero. With the increasing shift towards electrification of transport, heating and industrial processes, a significant amount of additional grid capacity is required. To deliver this expansion in time, we need to significantly reduce the current end-to-end build time for transmission infrastructure.”* In terms of planning approvals: *“The Commissioner recommended a suite of reforms to planning processes, alongside wider work currently underway by government, to increase efficiency and enable projects to progress faster.”* It is clear that there is an need for

⁵⁰ <https://www.ukib.org.uk/sites/default/files/2023-09/UKIB-Strategy-Update-Private-Sector-Investments.pdf>

⁵¹ <https://www.gov.uk/government/publications/electricity-networks-transmission-acceleration-action-plan>

⁵² <https://www.gov.uk/government/publications/accelerating-electricity-transmission-network-deployment-electricity-network-commissioners-recommendations>

urgent action including through the planning system to delivery projects that deliver energy security and net zero.

4.3.26 Other steps to reduce grid connection delays include:

- In November 2023, Ofgem also announced a new policy to clear ‘zombie projects’ and cut waiting time for electricity grid connections. The policy ended the existing ‘first-come, first-served’ system and allowed stalled or speculative projects to be forced out of the connections queue ⁵³.
- National Grid ESO has a five-point plan ⁵⁴ to improve the connection process at the transmission level in the short term. In November 2023, National Grid ESO announced that the connection dates of 10 gigawatts of battery projects had been accelerated as part of this plan ⁵⁵.

Strategy and Policy Statement for Energy Policy in Great Britain (May 2024)

4.3.27 The Strategy and Policy Statement for Energy Policy in Great Britain ⁵⁶ was published and came into force in May 2024. The statement complements publications identified previously in this section and, provides guidance to the energy sector on the actions and decisions that are needed to deliver government’s policy goals, and places emphasis on where government expects a shift in the energy industry’s strategic direction. The statement is divided into various sections dedicated to enabling clean energy and net zero infrastructure; ensuring energy security and protecting consumers; and ensuring that the energy system is fit for purpose. It is clear from the statement that these core themes are essential to the government’s energy policy.

National Infrastructure Commission – Progress Review (May 2024)

4.3.28 The National Infrastructure Commission Infrastructure Progress Review 2024 ⁵⁷ was published in May 2024. The commission provides the Government with impartial,

⁵³<https://www.ofgem.gov.uk/press-release/ofgem-announces-tough-new-policy-clear-zombie-projects-and-cut-waiting-time-energy-grid-connection>

⁵⁴<https://www.nationalgrideso.com/industry-information/connections/our-five-point-plan>

⁵⁵<https://www.nationalgrid.com/national-grid-accelerate-20gw-grid-connections-across-its-transmission-and-distribution-networks>

⁵⁶<https://www.gov.uk/government/publications/strategy-and-policy-statement-for-energy-policy-in-great-britain>

⁵⁷<https://nic.org.uk/app/uploads/NIC-IPR-2024-Final.pdf>

expert advice on major long term infrastructure challenges. Its objectives include supporting climate change and then transition to net zero carbon emissions by 2050. Under the sub-heading of ‘energy and net zero’ the commission are clear that the Government should continue to focus of delivering renewable deployment at pace (including technologies such as storage). Priorities for the next five years include delivering at least 65% of generation from renewables by 2030 and introducing firm policy to deliver a total of 60GW of short duration flexibility by 2035. The proposed BESS would clearly accord with these priorities.

National Policy Statements (January 2024)

- 4.3.29 In January 2024, the Department for Energy Security and Net Zero published the Energy National Policy Statements (NPS) ⁵⁸, which provide planning guidance for developers of nationally significant energy infrastructure projects.
- 4.3.30 NPS for Energy (EN-1) ⁵⁹ sets out the overarching national policy for energy infrastructure and states that: *“In England, this NPS, in combination with any relevant technology specific NPSs, may be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended).”* (paragraph 1.2.1).
- 4.3.31 Paragraph 3.3.4 of the NPS identifies that: *“There are several different types of electricity infrastructure that are needed to deliver our energy objectives. Additional generating plants, electricity storage, interconnectors and electricity networks all have a role, but none of them will enable us to meet these objectives in isolation.”*
- 4.3.32 Paragraph 3.3.6 goes on to identify that: *“storage and interconnection can provide flexibility, meaning that less of the output of a plant is wasted as it can either be stored or exported when there is excess production. They can also supply electricity when domestic demand is higher than generation, supporting security of supply. This means that the total amount of generating plant capacity required to meet peak demand is reduced, bringing significant system savings alongside demand side response (up to £12bn per year by 2050). Storage can also reduce the need for new*

⁵⁸ <https://www.gov.uk/government/collections/national-policy-statements-for-energy-infrastructure>

⁵⁹ <https://assets.publishing.service.gov.uk/media/65bbfbd709fe1000f637052/overarching-nps-for-energy-en1.pdf>

network infrastructure. However, neither of these technologies, as with demand side response, are sufficient to meet the anticipated increase in total demand, and so cannot fully replace the need for new generating capacity.”

4.3.33 Paragraphs 3.3.25 to 3.3.27 state that:

- *“Storage has a key role to play in achieving net zero and providing flexibility to the energy system, so that high volumes of low carbon power, heat and transport can be integrated.”*
- *“Storage is needed to reduce the costs of the electricity system and increase reliability by storing surplus electricity in times of low demand to provide electricity when demand is higher. There is currently around 4GW of electricity storage operational in GB, around 3GW of which is pumped hydro storage and around 1GW is battery storage.”*
- *“Storage can provide various services, locally and at the national level. These include maximising the usable output from intermittent low carbon generation (e.g. solar and wind), reducing the total amount of generation capacity needed on the system; providing a range of balancing services to the NETSO and Distribution Network Operators (DNOs) to help operate the system; and reducing constraints on the networks, helping to defer or avoid the need for costly network upgrades as demand increases.”*

4.3.34 Section 4.2 of EN-1 defines low carbon generation, including ‘storage infrastructure’, as a Critical National Priority (CNP) and confirms that the Government affords substantial weight to proposals for CNP. It identifies that the urgent need for CNP Infrastructure to achieving r energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts.

Government and King’s Speech (July 2024)

4.3.35 In her first speech ⁶⁰ as Chancellor, Rachel Reeves, laid out plans to reform the planning system through updated national planning policy, ending the ban on

⁶⁰ <https://www.gov.uk/government/speeches/chancellor-rachel-reeves-is-taking-immediate-action-to-fix-the-foundations-of-our-economy>

onshore wind in England, giving priority to energy projects to ensure they make swift progress and generally focused economic growth. This illustrates the intended direction of travel for the new Government.

- 4.3.36 The commitment to a clean energy transition that will lower people's bills over time formed an important section within the Kings Speech ⁶¹.

4.4 National Grid Strategy and Context

- 4.4.1 The NG ESO is required to ensure electricity is transported to all corners of Great Britain and meet supply / demand second by second (e.g. 'balancing' the Grid). In addition, properties like voltage and frequency must be carefully regulated to ensure they stay within statutory limits.

- 4.4.2 The NG ESO publishes a suite of documents on the future of energy needs in the UK. Those considered to be of most relevance to the BESS considered in turn below.

Future Energy Scenarios

- 4.4.3 The latest publication of the UK-wide Future Energy Scenarios (FES) was published in July 2024 ⁶². The document sets out in the Overview and again in the Executive summary (key messages and actions) that: *"Decisive action is needed within the next two years to deliver the fundamental change required for a fair, affordable, sustainable and secure net zero energy system by 2050."* It also includes a series of actions including to:

- *"1 accelerate the delivery of whole system infrastructure...";*
- *"3 Agree business models and kick-start delivery of ...storage infrastructure needed for system delivery.";*
- *"7 Expedite the delivery of clean, low-cost and reliable new technologies and long-duration energy storage connected into the system by reforming the connections process."; and*

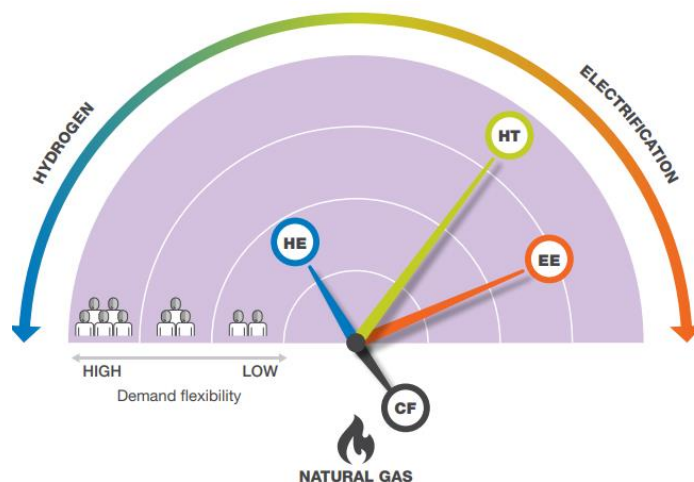
⁶¹ <https://www.gov.uk/government/speeches/the-kings-speech-2024>

⁶² <https://www.nationalgrideso.com/future-energy/future-energy-scenarios-fes>

- *“8 Invest in supply chain and skills to deliver the low carbon technologies and infrastructure needed for net zero and enable the UK to become a world leader.”*

4.4.4 The FES sets out credible strategic routes (pathways) to reach net zero by 2050. The three pathways are: ‘Holistic Transition’, ‘Electric Engagement’ and ‘Hydrogen Evolutions’. There is also a fourth ‘Counterfactual’ pathway which misses net zero. They are illustrated in Figure 4.1 below.

Figure 4.1: Pathways



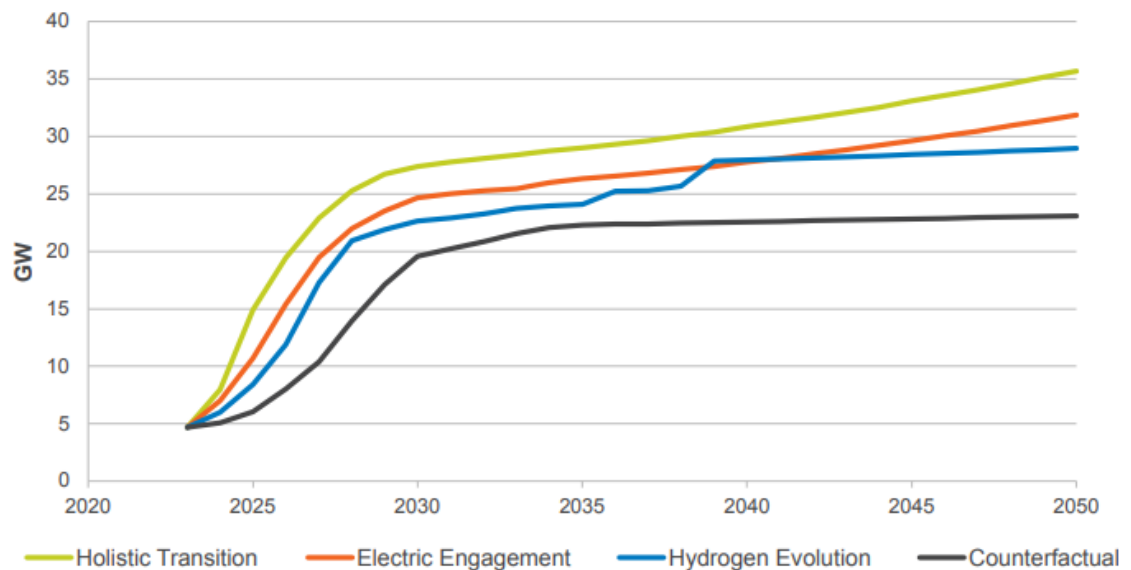
4.4.5 The FES sets out that Great Britain has the fastest decarbonising electricity grid in the world. Furthermore, the UK has met the first three carbon budgets and is currently in the fourth carbon budget period (2023-37). The fifth carbon budget (2028-32) will require a 12% reduction in emissions, with the sixth budget (2033-37) requiring a 45% reduction. The sixth budget will be the first net zero compliant carbon budget and as confirmed on page 35 of the FES it: *“will not be met without urgent and decisive action to increase the pace of decarbonisation across all sectors.”* In short, the FES identifies it is time to move further and faster.

4.4.6 In terms of the route to net zero for low carbon energy production, page 40 of the FES identifies the following key headlines:

- *“Achieving a net zero power system requires rapid acceleration in the deployment of low carbon generation and flexible technologies.”*
- *“Reducing delivery times of new infrastructure is critical to the delivery of a net zero power system.”*

- 4.4.7 Under the sub-heading of low carbon flexibility the FES confirms that: *“We need low carbon flexibility to operate a net zero energy system.”* Electricity storage is seen as part of the mix to achieve this, with the key headline on page 41 of the FES stating: *“Low carbon flexible energy sources and storage are vital to provide the adequacy needed for a reliable energy system.”*
- 4.4.8 The FES includes a chapter on ‘the energy system’ and identifies a series of headline figures including: *“Across all net zero pathways, at least 94 GW of wind and solar is connected in 2030, with 121 GW connected in the Holistic Transition”*; *“Between 41 – 51 GW of electricity storage is operating by 2050 in all our net zero pathways, with 26 – 35 % of this connected at distribution level.”* (page 87)
- 4.4.9 The FES identifies that Great Britain’s electricity needs are set to significantly rise by 2035. As significant growth in wind and solar deployment occurs, National Grid anticipates they will also need new forms of flexibility to ensure security of supply, this includes electricity storage.
- 4.4.10 Under the sub-heading of electricity storage (page 118), the FES confirms that: *“Electricity storage is necessary across all our net zero pathways to help balance the grid and ensure security of supply.”* *“Between 23 – 30 GW of electricity storage is now expected to connect into the system by 2030.”* By way of context the FES acknowledges that there is only 4.7 GW of operational battery storage capacity and illustrates the anticipated growth in installed capacity in Figure ES.16 replicated in Figure 4.2 below .

Figure 4.2 Battery Energy Storage Installed Capacity



4.4.11 Page 134 of the FES identifies the issue of curtailment⁶³ and acknowledges that whilst flexible technologies (such as electricity storage) can help to balance the system, curtailment may still be necessary at times under all anticipated pathways. The section also acknowledges the zonal imbalance of generation in the north / demand in the south alongside confirmation that measures are being undertaken to reduce costs. The use of electricity storage will assist with the issues of curtailment and also reduce the need for expensive grid infrastructure upgrades, thus reducing costs to the consumer.

4.4.12 NG NSO also publishes Regional Data as part of the FES 2023⁶⁴. The regional data includes mapping which illustrates that for North Hertfordshire total annual demand increases from circa 442 GWh to 821 GWh in 2040 before reducing to 771 GWh in 2050. In terms of installed battery storage capacity this is anticipated to increase from circa 24 MW in 2024 to 86 MW by 2050. Clearly, there is a significant amount of infrastructure required to reach the anticipated levels.

⁶³ The term curtailment refers to a reduction in power production, when there is too much electricity in the grid.

⁶⁴ <https://www.nationalgrideso.com/future-energy/future-energy-scenarios-fes/regionalisation-fes>

System Operability Framework

- 4.4.13 The System Operability Framework (SOF) ⁶⁵ takes a holistic view of the changing energy landscape to assess the future operational requirements of the electricity network. It combines insight from the FES with a programme of technical assessments to identify medium / long-term requirements for operability.
- 4.4.14 The latest version of the Operability Strategy Report ⁶⁶ (OSR) was published in December 2023. It outlines the future challenges and actions in maintaining an operable electricity system and sets out what needs to be done to reach National Grid's zero carbon 2025 ambition and highlights how stakeholders can engage to assist in the achievement of these challenges.
- 4.4.15 The executive summary states that: *"Decarbonisation, decentralisation and digitalisation are driving significant change across the electricity network, impacting how we operate the system now and into the future. These challenges are set against a backdrop of significant other industry change such as the Distribution Network Owner to Distribution System Operator transition and the growth of Distributed Energy Resources (DER) and interconnection. It is our role to support the energy transition, while making sure we can continue to operate the system in a way that delivers the biggest benefits to consumers... These will transform how we operate Great Britain's electricity system, and mean we are ready to operate a zero carbon network in 2025. But it doesn't stop there, the system will continue to evolve as we strive towards net zero. This means a fundamental change in how our system is operated – integrating newer technologies right across the system – from large scale off-shore wind to domestic scale solar panels, to increased demand side participation".* To support the integration of these technologies, storage will be key component of future operating systems.
- 4.4.16 The executive summary also identifies that: *"Falling inertia levels, increasing largest loss size and high rate of change of frequency (RoCoF) levels are driving many of the current and future frequency challenges. In addition, supply and demand are becoming increasingly variable. This is making system frequency more volatile and*

⁶⁵ <https://www.nationalgrideso.com/research-publications/system-operability-framework-sof>

⁶⁶ <https://www.nationalgrideso.com/document/299926/download>

unpredictable... We are tackling these challenges through our new suite of reserve and response services. Dynamic Containment, Dynamic Regulation and Dynamic Moderation are all live on the system. Looking forward, several new reserve services will be launched include (amongst others): Quick Reserve will be used to recover frequency back towards 50Hz, mainly during normal operating conditions; and Balancing Reserve will provide flexibility in real-time to ensure balance between supply and demand."

- 4.4.17 Page 18 of the report in relation to zero carbon operation by 2025 states that; *"The transmission network plays a critical part to achieving both our 2025 zero carbon ambition and enabling a net zero system by 2035. It will help connect new zero carbon technologies and integrate them into system operation. It will facilitate the transport of renewable energy to where it's needed, or to storage for future use."* To support the transmission network, storage will be key component of future operating systems.

Electricity Ten Year Statement

- 4.4.18 The latest version of the Electricity Ten Year Statement (ETYS)⁶⁷ was published in August 2023. It forms part of a suite of publications (FES, ETYS and Network Options Assessment (NOA)) and provides the ESO's view of future transmission requirements and the capacity of Great Britain's national electricity transmission system over the next ten years.
- 4.4.19 The Foreword confirms the ambition to: *"...Our analysis this year continues to highlight that over the next 10-20 years, we see increased requirements across some key network boundaries...as we strive towards Net Zero, the requirements of the system will continue to grow."* (page 3).
- 4.4.20 The ETYS sets out a series of key messages (pages 5 to 8), including:
- *"Our analysis this year continues to show growing system needs driven primarily by low carbon and renewable generation. This will drive requirements for new*

⁶⁷ <https://www.nationalgrideso.com/research-publications/etys>

network capability as we continue to move towards the 2035 government target of 100% zero carbon electricity system and beyond.”

- *“We will need to address emerging high and low voltage issues on the GB Electricity Transmission System over the next decade.”*
- *“Timely and coordinated network reinforcements will significantly help reduce network constraints.”*

4.4.21 The ETYS breaks the National Electricity Transmission System (NETS) into a series of regions / boundaries, with the application site falling into the ‘South Wales and South of England’ Region. The ETYS identifies that power flows generally flow from north to south into London from the East Midlands and East Anglia.

4.4.22 The ETYS 2023 does not include the power flow diagrams; on the basis they are illustrated within a series of figures within the previous version of the ETYS 2022 (Appendix C). Figures 4.3 and 4.4 show a snapshot of present (2022/23) and future (2030/31) power flows along the transmission network for the FES ‘Leading the Way’ Scenario. The power flow (in MW) is set out in the rectangular box and the direction of flow is illustrated by the arrows. The figures clearly show the significant increase in flows from the Midlands and East Anglia into London and the South East. Notably down the transmission line passing Eaton Socon which increases by 769 MW over the ten years.

Figure 4.3: ETYS App C: Extract from Fig C1 2022/23

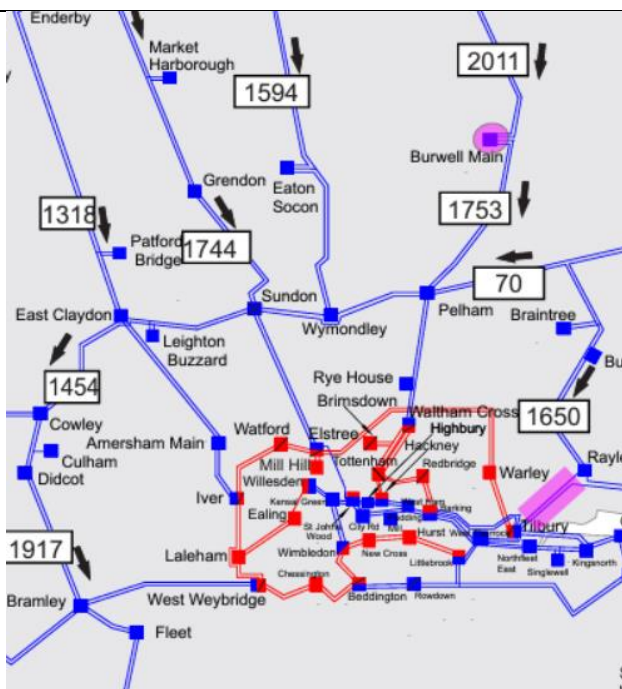
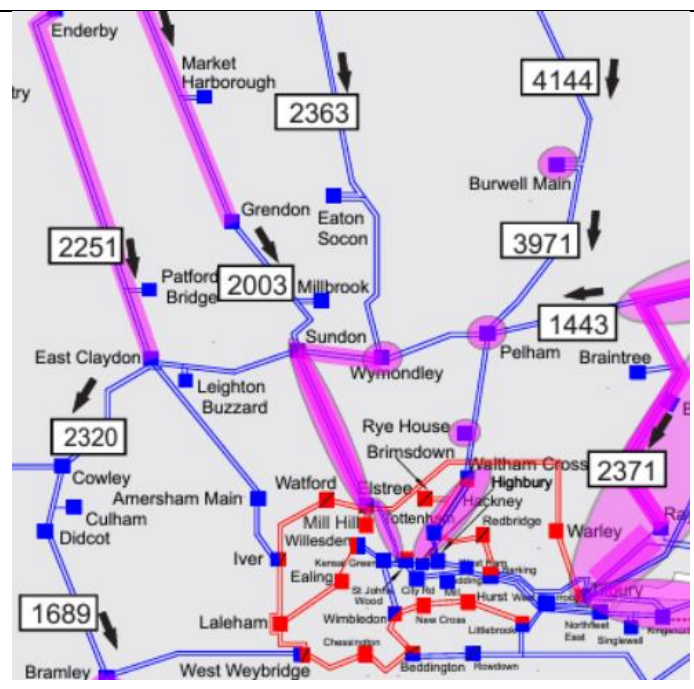


Figure 4.4: ETYS App C: Extract from Fig C5 2030/31



4.4.23 Regardless of region, all FES scenarios demonstrate gross demand increasing to 2050, which is reflected by low-carbon and renewables (supported by interconnectors and storage) taking over and surpassing fossil fuel generation. It is clear from the regional data that as low-carbon and renewable generation is connected into the NETS, due to its intermittent nature, the system will need to be prepared to manage large swings in power flows. This includes new reinforcements to facilitate power flows through northern regions to supply southern demand.

Bridging the Gap to Net Zero

4.4.24 Bridging the Gap to Net Zero ⁶⁸ was published in March 2022. The report includes three key messages, one of which is that: “*Flexibility needs broad and largescale investment to start now.*” Furthermore, the NG ESO’s milestones for investment show that urgent action is required to build the necessary infrastructure for 2035. Page 23 of the report references ‘The Carbon Trust: Flexibility in Great Britain’ ⁶⁹, the key findings of which are:

⁶⁸ <https://www.nationalgrideso.com/document/247071/download>

⁶⁹ <https://www.carbontrust.com/resources/flexibility-in-great-britain>

- *“Embedding greater flexibility across the entire energy system will reduce the cost of achieving net zero for all consumers while assuring energy security.*
- *Investing in flexibility is a no-regrets decision as it has the potential to deliver material net savings of up to £16.7bn per annum across all scenarios analysed in 2050.*
- *A more flexible system will accelerate the benefits of decarbonisation supported by decentralisation and digitalisation.”*

4.4.25 It is clear from both the report and Carbon Trust that urgent action is needed to enable a more flexible system which will assist in reducing costs.

4.4.26 NG ESO published their latest Bridging the Gap Report ⁷⁰ in March 2023. This report primarily focuses on two key themes, including consumer engagement and hydrogen. Both are assumed to be available at scale to assist with the operating system in all the Net Zero scenarios in FES, however both are currently at negligible levels. Two workshops were undertaken to investigate how consumer awareness and engagement in energy can help the operation of a fully decarbonised electricity system and how hydrogen can be deployed as a source of flexibility to help the operation of a fully decarbonised electricity system. The results of these workshops have been published within the report and include that a better understanding of different consumers, their motivations and ability to provide flexibility is needed so that energy transition benefits everyone and it notes that hydrogen has a role to play to help operate a fully decarbonised electricity system, providing commercial frameworks and market designs are developed which will help business models develop and infrastructure to be built.

4.5 Distribution Network Operator

4.5.1 UK Power Networks (UKPN) are the Distribution Network Operator for London, the East, and the South East. The area also includes Hertfordshire where the proposed development is situated. UKPN published their Distribution Future Energy Scenarios (DFES) in January 2024 ⁷¹. The document provides an update on UKPN's defined

⁷⁰ <https://www.nationalgrideso.com/document/277131/download>

⁷¹ <https://dso.ukpowernetworks.co.uk/distribution-future-energy-scenarios>

scenarios (which mirror those set out in the FES but tailored to the DNO region) and the required capacity on the distribution networks in the years ahead.

- 4.5.2 The document identifies that significant growth in battery storage capacity is expected in all scenarios, from 830 MW to +3.0 GW by 2027/28. In short, UKPN identify that the capacity of grid scale battery storage will need to increase to meet all scenarios and enable flexibility in the Grid towards the aspiration of net zero.

4.6 Summary of Need

- 4.6.1 It can be seen from the above review that the national policy message on energy security is strong and unambiguous. The increased deployment of renewable energy (50 GW of off-shore wind by 2030 and 70 GW of solar by 2035) reinforces the need to ensure security of supply through the development of a diverse system that supports increasing peak demands and the move to electric vehicles. The Government's position is clear that BESSs fall within the category of renewable energy and associated infrastructure definition, even though the technology does not in itself produce renewable energy. Furthermore, the independent Climate Change Committee identify (through their balanced pathway) that 18 GW of battery storage capacity is required by 2035. On the basis there is circa 2.4 GW of operational battery storage currently, further capacity is urgently required.
- 4.6.2 BESSs are a key component of the future energy mix under all scenarios considered in the FES and DFES. Existing storage provision will need to increase significantly by 2030 to be on track to achieve net zero by 2050 and support the deployment of wind and solar as set out in the FES and national policy. The ETYS also demonstrates the significant increase in power flows through the NETS which will need to be supported by storage to maintain voltage, stability and frequency.
- 4.6.3 Decarbonisation, decentralisation and digitalisation are creating significant changes across the Grid. As identified by the OSR, NG ESO consider that the next big challenge is around managing system imbalance during normal operation. As technology is becoming more decentralised (closure of large Power Stations etc.) the significant distributed and local generation will need to be supported by energy storage.

- 4.6.4 Battery storage is a key part of this energy strategy and provides NG ESO with reactive power / balancing services to help accommodate the increasing level of renewable energy generation. As recognised by NG ESO's SOF a: *"Faster response is more effective and so less response is needed if speed can be increased."* BESS can respond more rapidly than other types of balancing services, as they have no start-up delays. As such BESS can balance the real-time requirements more efficiently. It should be noted that the UK electricity network is wholly interconnected and issues in one geographic location can have far reaching implications on the network. Accordingly, BESSs offer additional capacity to deal with system stress and any variations in Grid frequency and voltage at both a local and national level.
- 4.6.5 Finally, battery storage assists towards the mitigation of climate change (i.e. assisting North Hertfordshire Council with their climate emergency declaration) and as illustrated by the Carbon Trust embedded flexibility assists with energy security and reducing costs to households.

4.7 Locational Requirements

- 4.7.1 An Alternative Site Assessment (**Appendix 4-1**) has been prepared to explain why the Letchworth Bulk Supply Point Substation located off the B656 Baldock Road has been identified as the point of connection. It also provides a reasoned justification and demonstrates that there are no more suitable potential alternative sites offering a better the opportunity to connect to the Letchworth Bulk Supply Point Substation.

5.0 ENVIRONMENTAL MATTERS

5.1 Introduction

5.1.1 This section considers environmental matters under the sub-headings of ecology and nature conservation, arboriculture, flood risk and surface water drainage, noise and traffic and transportation, landscape and visual, land contamination and heritage.

5.2 Ecology and Nature Conservation

5.2.1 An Ecological Assessment (**Appendix 5-1a**) has been prepared in support of the BESS. A desk study was undertaken to identify existing information on the presence of designated sites for nature conservation, protected and notable species and habitats proximate to the Site. This information was obtained from a site visit and from the local biological records centre. A summary of the assessment is provided below for ease of reference.

5.2.2 Although the scheme has some potential for small-scale local impacts on ecological features, avoidance and mitigation measures have been proposed to ensure these are reduced to acceptable levels. Furthermore, several habitat creation and enhancement measures are proposed which will deliver a net gain for biodiversity, as quantified by the BNG assessment.

5.2.3 The most important features recorded on Site were the hedgerows; the majority of this habitat will be retained and safeguarded during construction, with the exception of a small 20m breach required for access. Any impact on protected species has been avoided by careful scheme design. Although no specific impacts have been identified on protected species, should impacts occur, a mitigation licence from Natural England would be necessary.

5.2.4 Assuming the successful implementation of the measures described above, the proposed development can be considered in line with planning policies within the statutory Development Plan.



- 5.2.5 A Biodiversity Net Gain Assessment and supporting Calculation have been submitted as part of this planning application (**Appendix 5-1b and 5-1c**) (NOTE: the calculation is provided as an excel spreadsheet). These documents demonstrates that the BESS would result in a +44 % gain in habitats and a +36 % gain in hedgerows. Accordingly, the Proposed Development would provide over the 10 % threshold.

5.3 Flood Risk and Surface Water Drainage

- 5.3.1 The Site lies within Flood Zone One (low risk of flooding) but covers an area greater than one hectare. As such, a Flood Risk Assessment been prepared (see **Appendix 5-2**) alongside an outline drainage strategy drawing (see package of drawings). A summary of the findings set out below.
- 5.3.2 The proposed site lies within Flood Zone 1, and is therefore at 'Very Low' risk of fluvial and tidal flooding (less than 1 in 1000 probability of flooding in any given year). Parts of the site are at 'Low' risk of surface water flooding, which is a probability of flooding between 1 in 100 and 1 in 1000 in any given year. Some limited extents of 'Medium' surface water flood risk (between 1 in 30 and 1 in 100 probability in any given year) have been identified in the northern confines of the site. No flood risk sources are considered to pose an unmanageable risk to the development, and therefore the proposed BESS facility is considered suitable in this location.
- 5.3.3 The proposed surface water drainage system incorporates open SuDS in the form of two attenuation basins, (with a restricted outfall limited to QBAR runoff rate into the existing watercourse), filter drains, filter strip, and cut-off ditch (utilised to intercept any overland runoff from the fields). A firewater holding tank is proposed, which will be utilised as a firefighting water supply at the site. Penstock shutoff valves will be provided in chambers immediately downstream of the proposed attenuation basins, which can be utilised to prevent used / contaminated firewater discharging into the downstream watercourse, and provide a contained firewater supply for reuse (if required) during a fire incident. As the site is located within a principal aquifer (chalk bedrock), all drainage features will be lined with impermeable membranes (including below the granular compound areas) to prevent used/ contaminated firewater infiltrating to ground and potentially contaminating groundwater sources.

- 5.3.4 The 'Outline Drainage Strategy' drawing illustrates how the proposed compounds would be drained. This would be via a series of swales and underdrains which collect surface water before it is transported to the attenuation pond and thereafter ditch located on the eastern edge of the field. In addition a cut-off ditch is also proposed around the edge of the site to intercept surface water from the wider field and direct it towards the existing field boundary ditch. The pond has been specifically sized to accommodate the 100 year +40 % climate change with a QBAR greenfield run-off of 2.4 l/s. At this stage, the drainage strategy has been designed to be a fully sealed system with penstocks to control flows. This approach would ensure that there is no potential for any contamination to affect the wider hydrological environment.
- 5.3.5 As illustrated on the drawing an underground tank is proposed to be installed under the internal roadway of the northern compound to offer a reservoir of water in the event of emergency. Due to the sealed nature of the drainage system and the relevant penstocks to control flows there is no potential for contamination to affect the wider hydrological environment during an emergency event. This would ensure the suitable protection of the outer zone of the groundwater source protection zone which covers the southern half of the Site. It should be noted that ground water monitoring is currently ongoing and the results of this will assist in the formulation of the final scheme.
- 5.3.6 Whilst a solution can be achieved it is anticipated that the drainage design would be subject to confirmation on soakaway potential (initial geology indicates soakaways are likely to be viable) and thereafter through detailed design. These elements could be controlled via a suitably worded planning condition.

5.4 Noise

- 5.4.1 A Noise Assessment has been carried out for the Site, a copy of which is contained in **Appendix 5-3**. A summary of this assessment has been provided below.
- 5.4.2 The assessment considers the potential noise generation from the plant associated with the Proposed Development, with respect to existing sound levels in the area. The assessment methodology contained in British Standard (BS) 4142:2014+A1:2019 method for rating and assessing industrial and commercial sound has been used.

- 5.4.3 The prevailing noise conditions in around the Site have been determined by an environmental noise survey conducted during both daytime and night-time periods between the 8th and 17th August 2023. This duration covered the anticipated quietest times over a weekend period.
- 5.4.4 The assessment identifies that the Proposed Development is predicted to generate rating sound levels that do not exceed the measured background sound level in the area, thus giving rise to a 'Low Impact'. Consequently, the assessment demonstrates that the Proposed Development will give rise to noise impacts that would be within the range of No Observed Adverse Effect Level of the National Planning Practice Guidance in England. For ease of reference, the definition of No Observed Adverse Effect Level is reproduced below: *"Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life."*
- 5.4.5 Since the Proposed Development conforms to the BS and National Planning Policy requirements, it is recommended that noise should not be a considered constraint to the approval of this planning application.

5.5 Traffic and Transportation

- 5.5.1 A Transport Statement (TS) has been prepared in support of the BESS, a copy of which is contained in **Appendix 5-4**. A summary of this assessment has been provided below.
- 5.5.2 Analysis of accident data indicates that within the most recently available 3-year period no accidents have been recorded along Newnham Road in the vicinity of the Site. Only one accident during this period occurred at the A507 / Newnham Road junction, which resulted in slight injury. Therefore, the existing accident record does not represent a cause for concern in the context of the Proposed Development.
- 5.5.3 Access to the BESS during both the construction and operational phases via a new priority junction from Newnham Road, which would connect to the south-western

corner of the Site. There is sufficient space within the Site to allow construction vehicles to turn round in order to exit the site in forward gear.

- 5.5.4 During both the construction and operational phases, it is expected that all traffic would travel to the site via the A1(M) Junction 10 via the A507 Great North Road.
- 5.5.5 The TS assesses the traffic generation of the construction phase only, which would take place over 12 months. During the operational phase, the BESS would be operated remotely, and it would only be necessary for an operative to undertake a Site visit on a monthly basis. This would be undertaken using a small van, pickup or equivalent vehicle.
- 5.5.6 The anticipated trip generation associated with the construction of the BESS has been estimated from first principles, based on experience of having promoted other BESS schemes nationally and from information supplied by the Applicant.
- 5.5.7 The full period of construction is anticipated to take 52 weeks, with 5.5 construction days per week. Peak construction activity (in terms of vehicle numbers) would occur during the enabling phase, when daily traffic levels are estimated to be a maximum of 15 vehicles per day, including 5 HGV trips. This equates to 30 daily two-way movements, which will include a maximum of 10 two-way HGV movements per day. Such traffic levels are unlikely to give rise to any material issues on the local highway network. Moreover, such levels of HGV traffic would not be maintained over any lengthy period of time.
- 5.5.8 Having regard to the above, it is therefore concluded that there can be no highway or transport reasons to withhold planning permission for the scheme.

5.6 Landscape and Visual

- 5.6.1 A Landscape and Visual Appraisal (LVA) has been prepared to support the planning application, a copy of which is contained in **Appendix 5-5a**, with the associated figures contained in **Appendix 5-5 b-d**. For ease of reference the summary of visual effects and overall summary and conclusions of the appraisal has been provided below.

Summary of Visual Effects

5.6.2 The Zone of Theoretical Visibility (ZTV, see LVA Figure 1), detailed appraisal of the five representative viewpoints and site studies have established the following with regards key visual effects of the Proposed Development:

- i) The visual influence of the Proposed Development would be relatively limited, and views would only be possible from a small number of publicly accessible locations. The subtle undulation in the landscape and the presence of existing hedgerow and tree belts would screen the development.
- ii) The main views would be from the adjacent Newnham Road, which passes directly beside the site. Road users would experience a fleeting view of the Proposed Development when passing.
- iii) There is a pylon directly adjacent to the site and this draws the eye from the existing view of the site, which is an open arable field.
- iv) There would be occasional, mainly glimpsed, views from the surrounding footpath network. However, this appeared not to be well used and evidently provides historic links between farms and small clusters of properties.
- v) The Proposed Development would be relatively low level and would cluster with the adjacent pylon, limiting its visual influence.
- vi) Proposed mitigation planting would further integrate the Proposed Development into the surrounding landscape and visual context, limiting the change that would occur.

5.6.3 Overall, there would be some close to medium range views of the Proposed Development from the adjacent road and footpaths to the north, east and south. However, changes to views would be limited considering the low sensitivity of receptors due to existing human influences such as the pylon network. Once the proposed planting has fully established, the Proposed Development would appear as a relatively small-scale element set within a wider large-scale agricultural landscape.

Summary and Conclusion

5.6.4 Within the LVA, judgements have been made regarding the likely landscape and visual effects of the Proposed Development. Landscape and visual mitigation is embedded into the design to minimise both the shorter and longer-term landscape



and visual effects. The BESS has been off-set from any notable tree and hedgerow cover, thereby avoiding vegetation losses, and benefits from visual containment by the surrounding landform undulations.

- 5.6.5 The appraisal has concluded that the level of longer-term residual landscape effects of the Proposed Development would be limited, particularly on the host character areas: North Baldock Chalk Uplands Local Character Area (LCA). A minor adverse level of effect has been identified on this LCA as the Proposed Development would have some influence on this LCA as demonstrated by the ZTV. However, this is a low sensitivity LCA, and the Proposed Development would introduce landscape features such as a woodland belt which will support the integration of the Proposed Development into the surrounding landscape. There are existing built features evident throughout the LCA, including the directly adjacent pylons, therefore reducing its influence on the overall LCA and avoiding notable change to any key characteristics.
- 5.6.6 This appraisal has also concluded that there would be some close-range views of the Proposed Development from Newnham Road immediately south of the Site and from roads and footpaths to the north, east and south. However, changes to views would be limited considering the low sensitivity of receptors due to existing human influences such as the pylon network. Once the proposed planting has fully established, the Proposed Development would appear as a relatively small-scale element set within a wider large-scale agricultural landscape.
- 5.6.7 Overall, despite some localised adverse effects due to the introduction of the Proposed Development, this would be a visually contained development which would give rise to a minor change to existing landscape character and visual amenity.

5.7 Land Contamination

- 5.7.1 A Phase 1 Desk Top Study has been prepared to support the planning application, a copy of which is contained in **Appendix 5-7**. For ease of reference the summary and conclusions of the appraisal has been provided below.
- 5.7.2 The study confirms that no sources of contamination have been identified and therefore no plausible contaminant linkages are anticipated. On this basis further

contamination investigations are not considered necessary. However contamination screening is advised during any geotechnical investigations or groundworks and this is anticipated to take place later this year. This should entail the collection of three or four soil samples for analysis of a generic contamination suite to verify the low risk levels. It is also recommended that a watching brief should be carried out by the site supervisor during the construction / groundworks phase if any unanticipated contamination is identified.

5.8 Other Matters

- 5.8.1 The pre-application advice response confirmed that following consultation with the relevant conservation officer, there would likely be no heritage impacts on assets because of the Proposed Development. Furthermore that based on information available to the officer, the site is not affected by archaeological constraints. Whilst positive, the following paragraphs give consideration to both the setting of assets and potential for archaeology within the Site.

Cultural Heritage – Setting

- 5.8.2 As identified in the Section 2.0 of this PDAS, there are two Grade II listed buildings located to the north of the Site. The closest Grade II listed building is 'Radwell Grange' (circa 450 m) with the 'Barn at Radwell Grange' circa 50 m northwest of the house. A Scheduled Monument 'Ring Ditch and Enclosure' is located circa 570 m northeast of the Site, on the edge of Newnham village. The village is designated as a conservation area and includes ten Grade II Listed Buildings and notably the Grade II* Listed Church of St Vincent.
- 5.8.3 The Zone of Theoretical Visibility (ZTV) contained in LVA Figure 1 (**Appendix 5-5b**) has been prepared using a Digital Surface Model. This reflects the theoretical visibility of the BESS based upon a range of plant heights, including the highest infrastructure (the transformer). It demonstrates that there is no potential for any intervisibility with heritage assets contained within the village of Newnham, due to intervening topography (rolling hills).
- 5.8.4 The ZTV also demonstrates there is limited potential for intervisibility with properties including two listed buildings at Radwell Grange. The Grade II Listed 'Radwell Grange

Barn' is located on the opposite side of the farmstead buildings to the BESS, and as such it has been concluded that there is no potential for any intervisibility. In terms of the Grade II Listed 'Radwell Grange' house itself, a review of official listing entry ⁷² illustrates that the listing relates to the properties architectural interest rather than its surrounding curtilage. The property is set within a garden with the boundary facing the BESS comprising a mixture of hedgerow, woodland blocks and overhead powerlines. There is also an intervening linear wooded field boundary between the BESS and the property. In addition to the existing screening, as illustrated on the 'Illustrative Soft Landscape Plan' a block of woodland planting is proposed on the northern boundary of the Site.

- 5.8.5 The effect of the BESS on specific views from Radwell Grange could not be directly assessed due to a lack of public access (either to the rear of properties or along private driveways), so a worst-case approach has been employed to allow for this. Site visits did, however, indicate that views towards the Site are likely to be limited by the intervening distance, the orientation of the assets in relation to the Site, or the screening effect of existing features. The change of use of the Site would represent a change in the setting of Radwell Grange; however, this does not necessarily equate to harm in heritage terms and this change is not expected to result in a further loss of historical information or legibility, or to reduce the ability to appreciate or understand the cultural significance of the building. It is judged that the BESS would have no more than a neutral impact on the setting of the asset and cause no harm in terms of NPPF.
- 5.8.6 Even if the BESS was considered to lead to harm it is considered that this would be less than substantial harm to the significance of the heritage asset. In line with paragraph 208 of the NPPF, this harm should be weighed against the public benefits of the proposal. For the reasons demonstrated in Section 4.0 of this PDAS (need for renewable energy, mitigating climate change, need for net zero etc.) it is considered that the public benefits for the proposal outweigh the less than substantial harm.

⁷² <https://historicengland.org.uk/listing/the-list/list-entry/1102673>

Cultural Heritage – Archaeology

- 5.8.7 The historical mapping contained within the Phase 1 Desk Top Study illustrates that the Site has remained undeveloped, albeit it has been regularly ploughed as part the agricultural cycle. This coupled with the BESS only requiring shallow pad foundations (limited to two compounds and the access track) means that the potential impact on below ground archaeological remains is limited. Especially, as most of the Site would simply be subject to soft landscaping and off-set from field margins which is considered to reduce any potential impact. A review of the Hertfordshire Historic Environment Record Viewer ⁷³ and / or Heritage Gateway ⁷⁴ has not identified any records within or immediately adjacent to the Site.
- 5.8.8 Potential impacts on known or unknown buried archaeological remains, which may survive on the Site relate to the possibility of disturbing, removing or destroying in situ remains and artefacts during works above and below ground (including excavation, construction and other works associated with the development) on the Site. In the context of this development, direct impacts have the capacity to result in impacts up to a high level of magnitude as they could potentially result in the destruction or removal of any archaeological deposits which may be present.
- 5.8.9 Paragraph 211 of the NPPF states that: *“LPAs should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact...”* As such, it is advised that mitigation measures should consider the nature of the BESS. Given the low potential for archaeological remains to survive on the Site (agricultural practices) and lack of records within or immediately adjacent to the Site, no further archaeological works are proposed to be undertaken. Regardless, at this stage, no dialogue has been undertaken with the archaeological advisor / officer and therefore it is unclear whether any further investigation is required. This would be clarified during the determination of the planning application.

⁷³<https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/historic-environment-archaeology/hertfordshire-historic-environment-record.aspx>

⁷⁴<https://www.heritagegateway.org.uk/Gateway/Results.aspx>

Agricultural Land Classification

- 5.8.10 A review of the agricultural land classification maps illustrate that the Site and large parts of the surrounding area are located on Grade 2 (Very Good) land. Furthermore the predictive best and most versatile land assessment maps illustrate that the Site has a high likelihood of being best and most versatile land. On the basis the BESS compounds occupy an area of circa 1 ha which it is far smaller than the 20 ha threshold upon which planning authorities must consult Natural England ⁷⁵ it is not considered to result in significant development of agricultural land. It should also be recognised that the proposal is also sought on a temporary basis and through careful construction would retain existing soils on the site to enable restoration later.
- 5.8.11 During a debate (Clean Energy Superpower Mission ⁷⁶) on 18th July 2024 in the House of Common, the Secretary of State for Energy Security and Net Zero (Rt Hon Ed Miliband MP) stated that: *“The biggest threat to nature and food security and to our rural communities is not solar panels or onshore wind; it is the climate crisis, which threatens our best farmland, food production and the livelihoods of farmers. The Government will proceed not on the basis of myth and false information, but on evidence.”* Whilst this was based on solar and wind, a BESS scheme is much smaller in comparison and is specifically designed to assist in mitigating the climate crisis. Based on the above, the Government believes that points around renewables threatening best farmland is not based on evidence.
- 5.8.12 For the reasons set out above, whilst there would be an impact on agricultural land; this is not significant, it would be temporary, and a recent debate has illustrated that renewable energy schemes are not the biggest threat to agricultural land rather they will assist in the climate crisis which is considered to be the biggest threat to our best farmland, food production and the livelihoods of farmers.

⁷⁵ <https://www.legislation.gov.uk/uksi/2015/595/schedule/4>

⁷⁶ <https://hansard.parliament.uk/commons/2024-07-18/debates/1B2ABC89-1455-4C86-8E2F-5E763B38E888/CleanEnergySuperpowerMission>

6.0 PLANNING POLICY CONTEXT AND APPRAISAL

6.1 Introduction

- 6.1.1 This section undertakes an appraisal of the BESS in the context of the statutory planning policy framework, and any relevant material considerations. It needs to be read in conjunction with Section 4.0, which sets out the need and Section 5.0 which reports a range of environmental / technical assessment work.

6.2 Planning Policy Context Overview

- 6.2.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 ⁷⁷ requires that planning applications should be determined in accordance with the statutory Development Plan unless material considerations indicate otherwise. At the time of drafting, the adopted Development Plan, relevant to the BESS includes the North Hertfordshire Local Plan 2011-2031 ⁷⁸ which was adopted in November 2022.
- 6.2.2 It is also necessary to appraise the BESS in the context of other material considerations. There is no strict definition of what constitutes a 'material consideration' in planning legislation, although case law indicates that any consideration, which relates to the use or development of land is capable of being a material consideration in the determination of a planning application. Such considerations can include the National Planning Policy Framework ⁷⁹ emerging planning policies, government policy and strategy and Supplementary Planning Documents.
- 6.2.3 The site is not within a defined neighbourhood plan area. Furthermore, it is not considered that the mineral and waste development plan documents are relevant to this proposal. Accordingly, these plans have not been considered further.

⁷⁷ <https://www.legislation.gov.uk/ukpga/2004/5/contents>

⁷⁸ <https://www.north-herts.gov.uk/sites/default/files/2022-12/North%20Hertfordshire%20Local%20Plan%202011-2031.pdf>

⁷⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182995/NPPF_Sept_23.pdf

The Statutory Development Plan

- 6.2.4 The North Hertfordshire Local Plan is supported by a Proposals Map which illustrates that the Site is located within a 'Rural Area beyond the Green Belt' to which policies SP5 and CGB1 apply.
- 6.2.5 The Local Plan Part provides the overall vision, strategic objectives, spatial strategy, strategic / development management and site-specific policies for the borough to 2033. It should be noted that strategic objective ENV4 seeks to mitigate the effects of climate change by encouraging the appropriate use of renewable energy technologies.
- 6.2.6 The policies of relevance to the BESS are listed below.
- Policy SP1: Sustainable development in North Hertfordshire
 - Policy SP5: Countryside and Green Belt
 - Policy CGB1: Rural Areas beyond the Green Belt
 - Policy SP11: Natural resources and Sustainability
 - Policy NE12: Renewable and Low Carbon Energy Development
 - Policy SP3: Employment
 - Policy ETC2: Employment Development outside Employment Areas
 - Policy SP6: Sustainable Transport
 - Policy T1: Assessment of Transport Matters
 - Policy T2: Parking
 - Policy SP9: Design and Sustainability
 - Policy D1: Sustainable Design
 - Policy D3: Living Conditions
 - Policy D4: Air Quality
 - Policy SP12: Green Infrastructure, Landscape and Biodiversity
 - Policy NE1: Strategic Green Infrastructure
 - Policy NE2: Landscape
 - Policy NE4: Biodiversity and Geological Sites
 - Policy NE7: Reducing Flood Risk
 - Policy NE8: Sustainable Drainage Systems
 - Policy SP13: Historic Environment
 - Policy HE1: Designated Heritage Assets

- Policy HE3: Non-designated Heritage Assets
- Policy HE4: Archaeology

Material Considerations

6.2.7 Whilst there is no strict definition of what constitutes a ‘material consideration’ in planning legislation, the following documents form material considerations in respect of the BESS are the National Planning Policy Framework (NPPF, 2023) ⁸⁰, National Planning Practice Guidance (PPG, 2014, as amended) ⁸¹ and North Herts Council Climate Change Strategy 2022-2027. It should also be noted that at the time of preparing this PDAS, consultation on various revisions to the NPPF is being undertaken ⁸². The potential changes are reflected in Table 6.1 below.

6.3 Planning Appraisal

6.3.1 Table 6.1 provides a summary of the overall planning context, as identified in the sub-sections above. It also includes an appraisal as to how the proposal conforms with that context, or otherwise. The tabular planning appraisal is structured by topics and lists the relevant ‘policy’ and then confirming whether the BESS either: complies with the overall objectives of the policy; conflicts with the overall objectives of the policy; or neither complies with nor conflicts with the policy (i.e. has no direct effect on the objectives of the policy). Commentary is also provided within the right-hand column. It should be noted that where a policy criterion is not relevant to the BESS this has been removed from the policy description.

⁸⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182995/NPPF_Sept_23.pdf

⁸¹ <https://www.gov.uk/government/collections/planning-practice-guidance>

⁸² https://assets.publishing.service.gov.uk/media/66acffdce1fd0da7b593274/NPPF_with_footnotes.pdf

Table 6.1: Planning Policy Summary and Appraisal

Policy / Plan / Guidance		Complies	Conflicts	Neutral	Commentary
THE DEVELOPMENT PLAN					
NORTH HERTFORDSHIRE LOCAL PLAN (2011-2031)					
SP1	'Sustainable development in North Hertfordshire' seeks to support the principles of sustainable development within the district. Amongst others the policy seeks to • deliver development that contributes towards the targets and aspirations of the Local Plan, • provide the necessary infrastructure required to support an increasing population, • protect key elements of North Hertfordshire's environment including biodiversity, important landscapes, heritage assets and green infrastructure (including the water environment); and • secure any necessary mitigation measures that reduce the impact of development, including on climate change and protects the environment.	✓			As identified in this PDAS, the BESS specifically seeks to assist the Plan's objectives by ensuring a stable and secure electricity supply which is fundamental for the anticipated growth (such as housing / employment) within North Hertfordshire. In addition, the BESS contributes effectively to tackling climate change / reducing carbon emissions by supporting other renewable energy schemes and decarbonising the electricity network. This is in line with wider climate change agenda, declaration of a climate emergency and need to provide necessary infrastructure to support an increasing population. Further consideration of this matter is provided through the appraisal of the Policy NE12 later in this table. Section 5.0 of this PDAS demonstrates that the BESS would result in ecological benefits (a biodiversity net gain for habitats of +44 % and +36 % for hedgerows). It would not result in an impact on important landscapes, cultural heritage assets, green or blue infrastructure. Further consideration on these matters is provided against topic specific policies within this table. Based on the above the BESS contributes positively to the social, economic and environmental improvement of North Hertfordshire and clearly accords with this overarching strategic policy.

SP5	'Countryside and Green Belt' recognises the intrinsic value of the countryside and confirms that there will be a general policy of restraint in Rural Areas (beyond the Green Belt) through the application of the Council's detailed policies.	✓			The Site is in the rural area (beyond the Green Belt) where a general policy restraint applies through the application of detailed policies. In this instance it should be noted that detailed Policies SP11 and NE12 support proposals for renewable or low carbon energy development which contribute towards reducing greenhouse gas emissions. The appraisal of these policies within this table demonstrates that the BESS accords with and is supported by these policies. Furthermore its benefits should be given significant weight. The appraisal of other detailed development management policies within this table has also demonstrated there would be no significant adverse impact. Therefore in line with the NPPF planning authorities should approve applications where the impacts are (or can be made) acceptable.
CGB1	'Rural Areas beyond the Green Belt' sets out the broad typologies of development considered acceptable. It confirms that in these areas planning permission will be granted provided that (amongst others) the development: meets a proven need for service in an appropriate location; is a modest proposal for rural economic development or diversification.	✓			The broad typologies of development considered acceptable in Policy CGB1, includes, amongst other: <i>'a modest development and provides rural economic development or diversification'</i>. The proposal provides economic development and enables rural diversification. However, in the pre-application advice it was the opinion of the Officer that the proposal could not be consider a modest proposal and therefore a case would need to be made that sets out the material considerations which justify granting planning permission. To this end: - As demonstrated by this and other renewable and low carbon energy schemes locating these types of developments within the settlement boundaries or villages as defined by the spatial strategy (contained within Policy SP2) is unviable for a range of reasons, such as land take or need to be offset from receptors. Therefore, from a land use perspective the rural areas which are beyond the Green Belt are sequentially the next best location. It should be noted that the Local Plan does not identify any sites for renewable energy development. - The detailed Alternative Site Assessment provides details of why the site is an appropriate location and how the point of connection has been determined. - Detailed policies set out in this table, notably Policy SP11 and NE12 support proposals for renewable and low carbon energy development. In line with these policies this should be given significant weight. - National Government, National Grid and UK Power Networks all confirm the need to for significant growth in battery storage to meet the increased

					electricity needed in all scenarios and enable the flexibility of the grid towards the aspiration of net zero. • The recent Government's decision to remove the restriction to onshore wind, give priority to energy projects to ensure they make swift progress and commit to a clean energy transition which lowers energy bills demonstrates the latest approach to projects such as this. This is further backed up by the proposed amendments to the NPPF which sets out that <i>"Local Planning Authorities should support applications for all forms of renewable and low carbon development...give significant weight to the proposals contribution to renewable energy generation and a net zero future."</i> • North Hertfordshire Council have declared a climate emergency and committed to becoming a net zero carbon authority by 2040. Available statistical data set out in sub-section 4.1 of this PDAS demonstrates that North Hertfordshire has a significant renewable electricity generation deficit to make up to achieve the Council's ambitious objective of achieving net zero across the district by 2040. This point is recognised in the pre-application advice which confirms there is a requirement for a vast increase in capacity to meet demand. • Calculations indicate that the proposed BESS could continuously power 26,767 houses and would reduce CO2 emissions by 18,281 tonnes per annum , which is equivalent to taking 13,115 cars off the road. More generally, in 2022 BESSs saved the power sector circa 615,000 tonnes of CO₂ emissions, that is the same as circa 370,000 fewer cars or 28 million more trees planted. The pre-application advice confirms that weight can be attached to the wider environmental benefits associated with the proposed development. • A BESS scheme is a far more modest proposal when compared to other renewable and low carbon energy schemes, and is sought on a temporary basis. • As set out in both the NPPF and Policy SP1, it is necessary to consider the wider the social, economic, and environmental impacts, to understand whether a proposal is sustainable development. The appraisal of Policy SP1 demonstrates the BESS contributes positively to the social, economic
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					and environmental improvement of North Hertfordshire and clearly accords with the overarching strategic policy and also strategic objective ENV4.
SP11	'Natural resources and sustainability', confirms that the plan will seek to meet the challenges of climate change and flooding by: - Supporting proposals for renewable and low carbon energy development in appropriate locations; - Directing development to areas at lowest risk of flooding and ensuring the provision of sustainable drainage systems; - Protecting, managing and enhancing the water environment; - Remediating contaminated land; - Ensuring sufficient waste water capacity.	✓			The BESS accords with this strategic policy for the following reasons: - As identified in Section 4.0 of this PDAS, it supports renewable and low carbon energy development and therefore should be favourably considered subject to any adverse impacts of the development itself. The suitability of the location is considered within this table and the alternative site assessment contained within Appendix 4-1. - The application site is defined as Flood Zone One (lowest risk of flooding) and as demonstrated in the Flood Risk and Drainage Assessment (Appendix 5-2) a sustainable drainage system would be installed. - The combination of a sealed drainage system and pollution prevention control measures would ensure that the water environment would be protected. - As demonstrated by the land contamination assessment (Appendix 5-7) the site is not contaminated and would not require any remediation. - The BESS would not impact waste water treatment capacity. As confirmed in the supporting text to this policy proposals for renewable and low carbon energy will be favourably considered subject to consideration of the impacts. A balance needs to be struck between the beneficial outcomes of renewable energy, and any adverse impacts produced by the development itself. As demonstrated by this appraisal the beneficial outcomes of the BESS outweigh any impacts, as such it is considered that the BESS should be considered favourably and in line with this policy should be supported.
NE12	'Renewable and Low Carbon Energy Development' supports proposals for renewable and low carbon energy development which would contribute towards reducing greenhouse gas emissions and will be permitted subject to an assessment of the impacts on: - Landscape quality, landscape character and visual amenity, including consideration of cumulative impacts of development; - Environmental assets;	✓			In line with this policy the BESS should be supported in principle, and significant weight given to the wider benefits, particularly the potential to reduce greenhouse gas. Further benefits of the BESS are set out in Section 4.0 of this PDAS. In terms of the criteria referenced in the policy, the detailed assessment work referenced in Section 5.0 of this PDAS demonstrates that: Landscape – A Landscape and Visual Assessment has been undertaken to support the consideration of landscape quality, character and visual amenity. This demonstrates that the BESS would be visually constrained as illustrated by the ZTV, is in a low sensitivity local character area, and

	3. The historic environment, including the impact on the setting of historic assets; 4. The transport network; 5. Air quality; 6. Aviation interests; and 7. The amenity of residents. The policy also confirms that in assessing renewable and low carbon energy proposals against the above criteria the Council will give significant weight to their local and wider benefits, particularly the potential to reduce greenhouse gas and other harmful emissions. Furthermore, in all cases, end of life/redundant plant, buildings, apparatus, and infrastructure must be removed, and the site restored to its former state, or a condition agreed with the Council.			would give rise to no more than a minor change to the existing landscape character and visual amenity. No potential for cumulative effects were identified during the preparation of the application or through the pre-application advice. As illustrated by the proposed landscaping sympathetic planting and screening has been incorporated into the design to lessen any impact. Further consideration of landscape matters is provided in Policy SP12 and NE1 and NE2; 2. Environmental assets – a preliminary ecological appraisal has been undertaken and demonstrates that the proposal would not impact habitats or species. The BNG assessment demonstrates that the proposal would result in a +44 % gain in habitats and a +36 % gain in hedgerows. Accordingly, the Proposed Development would provide over the 10 % threshold. It is worthy of note that the ecological officer was consulted as part of the pre-application process and indicated that there was no objection to the proposal. Further consideration of biodiversity is provided through the appraisal of Policies SP12 and NE4 contained within this table. 3. The historic environment – Identification and consideration of heritage assets is provided in sub-section 5.8 of this PDAS. This reports that the proposal is anticipated to have no more than a natural impact of the setting of the nearest asse and would cause no harm in terms of the NPPF. Should it be considered that there was a degree of harm this would be less than substantial, and the clear public benefits of the scheme outweigh any perceived harm. It is worthy of note that the heritage officer was consulted as part of the pre-application process and indicated that there would likely be no heritage impacts upon heritage assets because of the proposal. Further consideration of the historic environment is contained in Policies PS13, HE1, HE3 and HE4 found within this table. 4. The transport network – a standalone Transport Statement has been prepared and a summary reported in sub-section 5.5 of this PDAS. This demonstrates that the existing accident record does not represent a cause for concern in the context of the Proposed Development. Furthermore that the anticipated levels of vehicle movements (noting these are temporary during construction) are unlikely to give rise to any material issues on the local highway network. It is worthy of note that access to the wider strategic road network is simple and does not require vehicles to pass through villages etc. The proposed junction off Newnham Road has been designed
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				to a suitable standard and benefits from sufficient visibility in either direction. Whilst further consideration of transport is contained in Policies SP6 and T1 and T2 contained within this table, on this basis there can be no highway or transport reasons for refusing permission. 5. Air quality – neither the site of route to the strategic road network are located within an Air Quality Management Area. Furthermore the proposal would not emit any emissions. On this basis there would be no impact on air quality. Further consideration of air quality is contained in Policy D4 of this table; 6. Aviation interests – this criterion is more relevant to solar schemes, regardless the proposal is not located in close proximity to an aerodrome and would not have the potential to impact aviation interests; and 7. The amenity of residents – a standalone Noise Assessment has been prepared and a summary reported in sub-section 5.4 of this PDAS. This demonstrates that noise would not impact the assessed noise sensitive receptors. Further consideration of the protection of living conditions is provided in Policy SP10 and D3 of this table. It is clear from the above assessment that the impacts of the proposal are acceptable and therefore in line with the policy the Council will give significant weight to benefits of the proposal. Finally, it is considered that a suitably worded planning condition could be applied to the decommissioning of the BESS and restoration of the site. The appraisal of Policy NE12 above has demonstrated that the BESS accords with and is supported by this policy. Furthermore its benefits should be given significant weight.
SP3	'Employment' confirms that the Council will proactively encourage sustainable economic growth, support new and existing businesses and seek to build on the District's strengths, location and offer	✓		The proposal would support economic grow during both the construction and operational phases. In addition, the BESS supports and reinforces the electricity network which is essential for the sustainable economic growth of the district. On this basis the proposal accords with this overarching spatial policy which supports employment.
ETC2	'Employment Development Outside Employment Areas' identifies that planning permission will be granted provided the proposal accords with locational criteria and	✓		The supporting text to this policy clarifies that there are various employment sites across North Hertfordshire that are outside the designated Employment Areas and Employment Allocations, but which provide sources of local employment and services. This policy seeks to control these locations, which

	there would be no significant adverse impacts on living conditions.				is not relevant to the proposal. Furthermore, it is considered that other policies are more relevant when considering the proposals location. The planning application demonstrates that the proposal would not result in any significant impacts of living conditions. On this basis the proposal is considered to accord with the relevant criteria of this policy.
SP6	'Sustainable Transport' sets out that the Council will deliver accessibility improvements and promote the use of sustainable transport modes insofar as reasonable and practicable. The policy sets out several criteria including (amongst others) requires applicants to provide supporting documents / assessments to demonstrate the safety and sustainability of a proposal it also refers to parking standards.	✓			A Transport Statement (Appendix 5-4) has been prepared to support the application. It identifies that during the operation of the BESS it will only be visited infrequently by an engineer. Therefore, the statement has focused on the vehicle movements associated with the construction phase. It demonstrates that the construction vehicles associated with the BESS can be accommodated on the existing local highway network and that there would be no highway safety issues. As identified previously, the engineer would need to drive to the site due to the requirement to carry spare parts and / or tools. Therefore, parking and sustainable transport options is not considered to be of relevance in this instance. As such, Policy T2 'Parking' has not been considered further. On this basis the BESS would accord with this strategic policy.
T1	'Assessment of Transport Matters' sets out that planning permission will be granted provided that: development would not lead to a to highway safety problems or cause unacceptable impacts upon the highway network; suitable transport statements / assessment and / or travel plans are submitted; and that for major developments, applicants demonstrate (as far as practicable) how sustainable modes of transport can be promoted.	✓			In addition to the appraisal already provided against SP6 above, the BESS would only be accessed by an engineer periodically and therefore whilst a defined as a 'major' development it would not be practicable for the engineer (who would need to carry tools and parts) to travel by sustainable modes of transport. For the same reasons as set out against SP6 above, the BESS would also accord with this policy.
T2	'Parking' sets out the parking standards and acknowledges that variation to these standards will only be considered on a variety of matters.	✓			The proposal does not fit within the defined parking standards. As set out previously, the proposal would be visited periodically by an engineer who will be able to park a vehicle within the compounds. On this basis the parking which is informal throughout the compounds will be safe and function satisfactorily. The proposal therefore accords with this policy.
SP9	'Design and Sustainability' seeks to support new development where it is well designed and located and responds positively to its local context.	✓			The design of the BESS has largely been led by its functional requirements, designed to assist in the aspirations of reducing the effects of climate change and the drive to net zero. However through the careful siting of infrastructure and the soft landscaping surrounding the compounds it provides biodiversity

				and landscape enhancements which are considered to respond positively to its local context. Several criteria relate to urban / residential developments and therefore are of lesser relevance to the BESS. Regardless, the BESS is considered to accord with this design policy for the following reasons: • The BESS has been designed to be as compact as possible, whilst maintaining separation distances. Through the proposed landscaping it enhances its surroundings (both visually and ecologically) and promotes a positive sense of place. • The BESS would be secured through fencing, gating and CCTV. As such it has been designed to reduce the potential for criminality. • The proposed soft landscaping has been designed to assist in reinforcing and enhancing the green infrastructure at the Site. • Most of the infrastructure would be pre-fabricated or modular and simply delivered to the Site. As such the construction techniques are not particularly complex. The construction contractor is likely to source materials from the local area to reduce transportation costs and for sustainability reasons. • As demonstrated through the appraisal of other policies in this table the BESS would not have a significant impact on the surrounding environment or amenity of the local population. • The BESS has been designed to minimise any impact on ecological resources and seeks to enhance the resource through the proposed soft landscaping and the provision of biodiversity net gain enhancement. • The BESS has been designed to ensure safe and satisfactory access from Newnham Road. The Proposed Development does not require any parking on the basis it is visited infrequently by an engineer who would need to travel to the Site with parts / tools. Therefore, the option for sustainable modes of transport is not relevant in this instance. • The BESS would not generate any foul water, as the welfare facilities would be pumped out during routine maintenance. The surface water arising from impermeable surfaces would be attenuated and discharged at an agreed rate to ensure that it would not increase the risk of flooding. Further details on the drainage design are provided in Sections 3.0 and 5.0 of this PDAS.
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D1	'Sustainable Design' states that a proposal will be granted providing that the development responds positively to the site's local context, and takes all reasonable opportunities to accord with various criteria, consistent with the nature and scale of the scheme. It also references the adopted Design SPD.	✓		Through the design evolution process the site's context has been considered and technical assessment work has sought to respond positively to its context. For example, off-sets from existing field boundaries have been included, enhanced landscaping is proposed, a design which takes account of the overhead lines and incorporates drainage design. In terms of the criteria (considered of relevance) the BESS is considered to accord with this policy for the following reasons: • The drainage design has been provided to illustrate the use of sustainable drainage systems and ensure that there would be no potential for increased risk of flooding and / or risk of pollution. • The design has sought to retain existing vegetation and proposed new soft landscaping which would result in biodiversity net gains. • The proposal incorporates security measures, including fencing and CCTV. An Alarm Receiving Company would be appointed to monitor the Site. The adopted Design SPD includes guidelines for development in rural areas which whilst aged and relating to old national / local policy, in short seeks to protect the rural area from inappropriate development. As identified in this table: the BESS has been carefully designed; is considered a suitable location; and would not have a significant effect on the surrounding area. As such, the BESS also accords with the adopted Design SPD.
SP12	'Green infrastructure, landscape and biodiversity' confirms that the natural environment will be protected and enhanced whilst also accommodating significant growth. The policy includes five criteria.	✓		The BESS is considered to accord with the relevant criterion of this policy for the following reasons: • Through the proposed soft landscaping the BESS would enhance green infrastructure which would assist the wider network within the locality; • The Landscape and Visual Assessment (Appendix 5-5) considers landscape character and locally sensitive features and demonstrates that the BESS would not result in a significant impact on the landscape. • The Ecological Assessment (Appendix 5-1) demonstrates that the BESS would not impact on any designated ecological site(s). • The BESS has been designed to protect existing hedgerow boundaries and enhance these through additional soft landscaping. The biodiversity net gain calculations demonstrate that there would be a +44 % in habitats and

					+36 % in hedgerow which clearly demonstrate net gains for biodiversity is achieved.
NE1	'Strategic green infrastructure' identifies that planning permission will be granted provided that development: (a) Protects, conserves (including avoiding the loss, fragmentation, severance or negative impact on the function) and where possible enhances the strategic green infrastructure network. In addition the policy seeks to create new strategic green infrastructure where appropriate and is accompanied by a plan for its long-term maintenance and management.	✓			As set out through the appraisal of Policy SP12 above, the BESS would protect and avoid the fragmentation of the green infrastructure network. It would enhance the network through the additional soft landscaping and its long-term maintenance and management could be controlled via suitably worded planning condition. On this basis the BESS would accord with this policy.
NE2	'Landscape' states that planning permission will be granted for proposals that: (a) respect the sensitivities of relevant landscape character areas and have regard to the guidelines identified for built development and landscape management; (b) do not cause unacceptable harm to the character and appearance of a surrounding area or the landscape character area in which the site is located; (c) are designed and located to ensure the health and future retention of important landscape features; and (d) have considered the long-term management and maintenance of any existing and proposed landscaping.	✓			The Landscape and Visual Assessment (Appendix 5-5) considers landscape character of the area and locally sensitive features and demonstrates that the BESS would not result in unacceptable harm to the character and appearance of the surrounding landscape. The proposal would retain the existing vegetation on the eastern boundary of the site and would provide additional landscaping as part of the biodiversity net gain. The landscaping scheme would be implemented during the first available planting season following planning permission and maintained by thereafter. It is anticipated that these elements would be controlled via a suitably worded planning condition. As such, the BESS would accord with this policy.
NE4	'Biodiversity and Geological Sites' sets out that permission will only be granted for development proposals that appropriately protect, enhance and manage biodiversity in accordance with the hierarchy and status of designations and features listed in Policy SP12. All development should deliver measurable net gains for biodiversity and geodiversity, contribute to ecological networks and the water environment, and / or restore degraded or isolated habitats where possible.	✓			The BESS is considered to accord with this policy for the following reasons: • The planning application is supported by an ecological assessment (Appendix 5-1a) which has been carried out by a suitably qualified ecologist. It identifies habitats and species at the site which should be protected. Through the soft landscaping and associated biodiversity net gain calculation (Appendix 5-1b) it also identifies that there would be significant biodiversity enhancements. • The BESS would not impact any ecologically designated site(s) as listed in Policy SP12 either directly or indirectly. • The site is remote from any geological sites and therefore would not have any potential to impact of these designations.

					As set out previously, the sealed drainage system would ensure that the water environment is suitably protected.
NE7	'Reducing Flood Risk' seeks to direct development to areas at lowest risk of flooding and demonstrate through a flood risk assessment that the development has been designed to be flood resilient for its lifetime, considers climate change impact and has safe access / egress. The policy also seeks to ensure that the impact of any residual flood risk is minimised and that these measures do not harm the surrounding area.	✓			The site is located within Flood Zone 1 which is at lowest risk of flooding. The Flood Risk and Drainage Assessment (Appendix 5-2) demonstrates that the BESS has been designed to ensure that it does not increase the risk of flooding, is resilient to the effects of climate change over its lifetime and that there would also be safe access / egress. On this basis the BESS accords with this policy.
NE8	'Sustainable Drainage Systems' states that planning permission for development will be granted providing that the most sustainable drainage solution is used considering technical, viability and design issues to reduce the risk of surface water flooding, enhance biodiversity water quality and provide amenity benefits; it mimics the natural drainage patterns and processes as far as possible and drainage solutions which follow the SuDS hierarchy.	✓			The proposed drainage solution seeks to reduce the risk of flooding through a system that mimics the natural drainage pattern whilst also protecting the environment. At this stage the drainage design is provided in outline, and it is anticipated that a suitably worded planning condition would be imposed to require a detailed drainage design to be provided at a later date. Regardless, a sustainable drainage solution is illustrated which accords with this policy.
NE11	'Contaminated Land' sets out the permission for development affecting or affected by contaminated land will be granted provided (amongst other criteria) that the site is suitable for use taking account of ground conditions, groundwater vulnerability and pollution arising from previous land use and land remediation in reference to relevant guidance.	✓			The site forms an agricultural field which is considered to be contaminated as demonstrated by the Phase 1 Desk Top Study (Appendix 5-6). As demonstrated in the drainage scheme the proposal would be an entirely sealed system with appropriate pollution control measures which would ensure that ground conditions and groundwater would be protected. Furthermore, industry standard measures employed during the construction phase of the development would also ensure that the environment is suitably protected. On this basis the proposal accords with this policy.
SP13	'Historic Environment' confirms that the Council will balance the need for growth with the proper protection and enhancement of the historic environment. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight will be given to the asset's conservation and the management of its setting.	✓			Sub-section 5.8 of the PDAS considers the historic environment: In terms of setting it judges that the BESS would have no more than a neutral impact of the setting of the Radwell Grange Grade II Listed Building. It would cause no harm in the terms specified through the NPPF. Even if it was judged to lead to harm this is less than substantial, and the public benefits of the BESS clearly outweigh any harm. It also confirms that there would be no

HE1	'Designated Heritage Assets' requires applications relating to the setting of designated heritage assets to be supported by a heritage assessment. It also identifies that planning permission will be granted where it will lead to less than substantial harm to the significance of the designated heritage asset, and this harm is outweighed by the public benefits of the development.	✓			impact / harm to the setting of other off-site heritage assets (regardless of whether they are designated or non-designated). In terms of the potential impact on known or unknown buried archaeology, historical mapping illustrates that the site has remained undeveloped, albeit regularly ploughed as part of the agricultural cycle. This coupled with the BESS only requiring shallow pad foundations (limited to two compounds and the access track) means that the potential impact on below ground archaeological remains is limited. Especially, as most of the Site would simply be subject to soft landscaping and off-set from field margins which is considered to reduce any potential impact. A review of the online Hertfordshire Historic Environment Record Viewer and / or Heritage Gateway has not identified any records within or immediately adjacent to the Site. Given the low potential for archaeological remains to survive on the Site (agricultural practices) and lack of records within or immediately adjacent to the Site, no further archaeological works are proposed to be undertaken. Regardless, at this stage, no dialogue has been undertaken with the archaeological advisor / officer and therefore it is unclear whether any further investigation is required. This would be clarified during the determination of the planning application to meet the requirements of Policy HE4.
HE3	'Non-designated Heritage Assets' confirms that permission that would result in harm to a non-designated heritage asset will only be granted following a balanced judgement has been made.	✓			
HE4	'Archaeology' sets out that development proposals affecting heritage assets with archaeological interest will be granted provided that: (a) developers submit an appropriate desk-based assessment and, where justified, an archaeological field evaluation. (b) It is demonstrated how archaeological remains will be preserved and incorporated into the layout of that development, if in situ preservation of important archaeological remains is considered preferable; and, (c) Where the loss of the whole or a material part of important archaeological remains is justified, appropriate conditions are applied to ensure that the archaeological recording, reporting, publication and archiving of the results of such archaeological work is undertaken before it is damaged or lost.				
SP10 and D3	'Healthy Communities' and 'Protecting Living Conditions' seeks to ensure that proposal do not cause unacceptable harm to living conditions or whether there are mitigation measures that can be included to mitigate harm to an acceptable level.	✓			The planning application documentation referenced in Section 5.0 of this PDAS demonstrates that the proposal would not cause any unacceptable harm to the nearest sensitive receptors and therefore it accords with this policy.
D4	'Air Quality' seeks that planning permission will be granted provided that the development considers the potential or actual impact on local air quality during the demolition/construction phase.	✓			The BESS supports the increased deployment of renewable energy generation which has clear improvements in air quality. It would not emit any emissions and during the construction phase any potential dust could be controlled via a construction environmental management plan. On this basis the BESS would

					not result in any unacceptable impacts on the environment including in relation to air quality. The proposal is therefore in accordance with Policy D4.
SP7	'Infrastructure Requirements and Developer Contributions' confirms that the Council will require development proposals to make provision for infrastructure that is necessary in order to accommodate additional demands resulting from the development.	✓			The proposal clearly accords with this policy on the basis it provides all of the infrastructure necessary and would provide a vital piece of infrastructure to support the deployment of renewable energy schemes and the transmission of electricity in the area.
MATERIAL CONSIDERATIONS					
NATIONAL PLANNING POLICY FRAMEWORK					
Paras 7 & 8	Sets out that the purpose of the planning system is to contribute to the achievement of sustainable development. There are three dimensions to sustainable development: economic, social and environmental.	✓			In respect of the BESS, the three objectives of sustainable development would be delivered as follows: • Economic objective – the BESS would provide essential infrastructure necessary for assisting NG ESO in managing the Grid (reactive power and balancing services). This will ensure a stable and secure energy supply which is vital to economic growth. As such it is considered that the BESS would help deliver the economic objective of sustainable development. • Social objective – as set out in Section 4.0 of this PDAS, the BESS would help to address flexible energy needs of the NG. This would help to ensure stable and secure renewable energy supplies for existing communities and future generations as the UK moves to a low carbon economy, including the shift to the wider use of electric vehicles. The BESS would support renewable energy generation which would reduce the need for fossil fuels, thus improving air quality and associated health. • Environmental objective – as set out in Section 5.0 of this PDAS the BESS provides a balancing and reactive power services, to support the decarbonisation of the electricity system. In addition, the Site itself is of limited ecological value comprising agricultural land and would not result in any significant adverse environmental impacts. In fact, the landscape and ecological enhancement would also help to protect and enhance the natural

					environment As demonstrated by the BNG Calculation there would be a +44 % for habitats and +36 % for hedgerows net-gain improvement.
Para 11	Identifies that there is a presumption in favour of sustainable development. This includes aligning growth and infrastructure and mitigating climate change. Development proposals that accord with an up-to-date development plan should be approved without delay.	✓			The preceding planning policy assessment has demonstrated that the BESS accords with relevant Development Plan policy. It clearly provides infrastructure which aligns with growth and helps to mitigate climate change. As such, the application should be approved without delay.
Section 6	Sets out the government's commitment to building a strong and competitive economy.	✓			As demonstrated through this table and Section 4.0 of this PDAS the BESS would result in a series of beneficial economic effects, including supporting the sustainable economic growth of the District.
Section 11	Sets out that the effective use of land in meeting need for specific uses should be promoted, whilst protecting and improving the environment and living conditions.	✓			Section 4.0 demonstrates that the BESS has been carefully located and forms the most effective use of land that meets the specific requirements to balance the Grid through a connection to the substation. This appraisal also demonstrates that the environment and living conditions will be protected and enhanced.
Section 14	Paras 157 / 158, identifies that the planning system should support the transition to a low carbon future in a changing climate ... and support renewable and low carbon energy and associated infrastructure.	✓			The BESS forms 'associated infrastructure' specifically designed to support renewable and low carbon energy generation. The NPPF supports the transition to a low carbon future and therefore the BESS is supported.
Section 14 Para 163 / 164	Confirms that when determining planning applications for renewable and low carbon development, local planning authorities should not require applicants to demonstrate the overall need for such a development and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions. In addition, local planning authorities should approve an application if its impacts are (or can be made) acceptable.	✓			The BESS supports renewable and low carbon development and the associated contribution to mitigating climate change. The NPPF is clear in that this type of development should be supported, and significant weight should be given to proposal that contribute to renewable energy generation and a net zero future. The Proposed Development is in line with these paragraphs of the NPPF.
Sections 15 + 16	Conserving and enhancing the natural and historic environment.	✓			These matters have already been addressed in this table. The BESS has clearly been found to enhance the natural environment and has no negative impact on the historic environment.
NORTH HERTFORDSHIRE COUNCIL CLIMATE CHANGE STRATEGY 2022-2027					
	The objectives of the strategy include to achieve carbon neutrality for the council's own operations by 2030, ensure all operations and services are resilient to the impacts of climate change, achieve a net	✓			The Proposed Development would contribute towards the council reaching its objectives set out in the strategy, including becoming a net zero carbon district by 2040. As set out in greater detail within Section 4.0 of this PDAS, the

zero carbon district by 2040 and become a district that is resilient to unavoidable impacts of climate change.			proposal would provide a flexible back-up power source to the grid and respond to variations that result from local and national energy demand, alongside increasing fluctuations in generation resulting from an ever-great use of intermittent renewable energy sources. Battery storage is therefore a key part to providing National Grid with balancing services and important supportive infrastructure to help accommodate the increasing level of renewable energy generation.
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7.0 SUMMARY AND CONCLUSIONS

7.1.1 This Planning, Design and Access Statement has been prepared by Axis, on behalf of Balance Power Projects Limited to construct and operate a temporary Battery Energy Storage System (BESS), associated infrastructure, landscaping and access on land at Newnham Road, Radwell, Baldock, Hertfordshire.

7.1.2 The pre-application advice identifies the need for a balancing / weighing exercise to be carried out. Whilst the weight to be given to any factor will be very much a matter of degree and planning judgement and something for the decision-taker; the following paragraphs seek to provide this exercise based on the potential impact in the balancing exercise (i.e. negative, neutral, positive) and the weight to be afforded (i.e. limited, moderate, substantial):

7.1.3 Negative:

- The pre-application advice identified that the loss of Agricultural Grade 2 land would weight against the proposal. Whilst it is acknowledged that there would be an impact on agricultural land; this is not significant, it would be temporary, and a recent debate has illustrated that renewable energy schemes are not the biggest threat to agricultural land rather they will assist in the climate crisis which is the biggest threat to our best farmland, food production and the livelihoods of farmers. On this basis it is considered there would be very limited negative weight applied to this matter.

7.1.4 Neutral:

- The pre-application advice confirms that based on the available information, the site is not affected by archaeological constraints. However, it is recognised that the site is in part of the District which is known to be of potentially high archaeological interest. It is anticipated that Hertfordshire Historic Environment Advisory Service will be consulted during the determination of the application should it be necessary to carry out further investigatory works this would be discussed. However, it is considered that suitable mitigation could be introduced to remove any potential harm thus this matter has been given limited neutral weight.

- A Landscape and Visual Assessment has been undertaken to support the consideration of landscape quality, character and visual amenity. This demonstrates that the BESS would be visually constrained as illustrated by the ZTV, is in a low sensitivity local character area, and would give rise to no more than a minor change to the existing landscape character and visual amenity. As illustrated by the proposed landscaping sympathetic planting and screening has been incorporated into the design to lessen any impact. On this basis it is considered there would be limited negative weight applied to this matter.

7.1.5 Positive:

- National Government, National Grid and UK Power Networks all confirm the need to for significant growth in battery storage to meet the increased electricity needed in all scenarios and enable the flexibility of the grid towards the aspiration of net zero. On this basis it is considered that there would be moderate positive weight applied to this matter.
- Detailed policies, notably Policy SP11 and NE12, support proposals for renewable and low carbon energy development. In line with these policies this should be given significant weight. This is further backed up by the proposed amendments to the NPPF which sets out that *“Local Planning Authorities should support applications for all forms of renewable and low carbon development...give significant weight to the proposals contribution to renewable energy generation and a net zero future.”* On this basis it is considered that there would be substantial positive weight applied to this matter.
- North Hertfordshire Council have declared a climate emergency and committed to becoming a net zero carbon authority by 2040. Available statistical data set out in sub-section 4.1 of this PDAS demonstrates that North Hertfordshire has a significant renewable electricity generation deficit to make up. This point is recognised in the pre-application advice which confirms there is a requirement for a vast increase in capacity to meet demand. Whilst the contribution the BESS provides may be small it should be noted that paragraph 163 of the NPPF recognises: *“that even small-scale projects provide a valuable contribution to significantly cutting greenhouse emissions.”* On this basis it is considered that there would be moderate positive weight applied to this matter.

- Calculations indicate that the proposed BESS could continuously power 26,767 houses and would reduce CO₂ emissions by 18,281 tonnes per annum⁸³, which is equivalent to taking 13,115 cars off the road. The pre-application advice confirms that weight can be attached to the wider environmental benefits associated with the proposed development. On this basis it is considered that there would be moderate positive weight applied to this matter.
- The bio-diversity net gain calculation demonstrates a +44 % for habitats and +36% for hedgerows net-gain improvement. On this basis it is considered that there would be moderate positive weight applied to this matter.
- As demonstrated by this and other renewable and low carbon energy schemes locating these types of developments within the settlement boundaries or villages as defined by the spatial strategy (contained within Policy SP2) is unviable for a range of reasons, such as land take or need to be offset from receptors. Therefore, from a land use perspective the rural areas which are beyond the Green Belt are sequentially the next best location. It should be noted that the Local Plan does not identify any sites for renewable energy development. The detailed Alternative Site Assessment provides details of why the site is an appropriate location and how the point of connection has been determined. On this basis it is considered that there would be moderate positive weight applied to this matter.
- The BESS would support the decarbonisation of the energy industry in the UK. The changing nature of the UK's energy requirements is clearly defined in Government energy policy and is supported by the anticipated requirements of the NG. These considerations clearly identify an essential requirement for additional electricity storage capacity to meet demand and support the transition to a low carbon, resilient energy network. The BESS would make an important contribution towards meeting these requirements.

7.1.6 An assessment of the BESS against relevant planning policy and guidance has demonstrated that it meets the tests of Section 38(6) of the Planning and Compulsory Purchase Act, as it accords with the policies of the statutory Development Plan. In addition, an assessment of relevant material considerations has not revealed any

⁸³ Compared to gas peaking

justification for determining the application other than in accordance with the statutory Development Plan, rather it reinforces the logic for doing so.

- 7.1.7 In conclusion and based on the findings of this Planning and Design and Access Statement, granting of planning permission can be justified and the BESS supported.

Appendices

