

Design and Access Statement.

Battery Energy Storage System and associated works on land west of the A6, Upper End, Buxton.

On behalf of Greenergy Renewables UK Ltd.

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Document Management.

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1. Introduction

- 1.1. This Design and Access Statement (DAS) has been prepared by Pegasus Group on behalf of Greenergy Renewables UK Ltd. ("the Applicant") to support a full planning application for a Battery Energy Storage System (BESS) and associated works on land west of the A6, Upper End, Buxton.
- 1.2. The Proposed Development will enable energy to be stored and transferred into the National Grid via Buxton Substation.
- 1.3. The purpose of this document is to demonstrate that the Applicant has fully considered the design and access issues as part of the comprehensive preparation of the scheme prior to the submission of the planning application. This report therefore covers the following matters:
 - Use;
 - Amount;
 - Layout;
 - Scale;
 - Landscape;
 - Appearance;
 - Access.
- 1.4. This Statement will detail the process behind the design and indicate how through good design, the proposals can be delivered in a sustainable manner to meet local and national objectives of climate change, energy security, biodiversity enhancement, and a prosperous rural economy.
- 1.5. Whilst the DAS is set out to be read as a standalone document, it should be read in conjunction with the entire application submission in order to fully understand the Proposed Development, its potential impacts and planning merits. The accompanying Planning Statement sets out the planning policy context relevant to the design and access issues of this application's proposal.
- 1.6. The purpose of the Proposed Development is to support resiliency and sustainability objectives at both the local and national level. The National Planning Policy Framework (NPPF), National Planning Practice Guidance (NPPG), and the High Peak Local Plan (2016) in principle support the delivery of renewable energy infrastructure.

- 1.7. Section 14 of the NPPF sets out how the planning system should support a transition to a low carbon future in a changing climate and states that Local Planning Authorities (LPAs) should approve applications for renewable and low carbon development if the impacts are (or can be made) acceptable. For further information please see the accompanying Planning Statement.

2. Application Site and Context

- 2.1. The site is located to the west of the A6 (Buxton Road). The existing rail network runs beyond the western boundary of the site and an existing commercial site abuts the site to the south (refer to Figure 1 – Site Location Plan below).

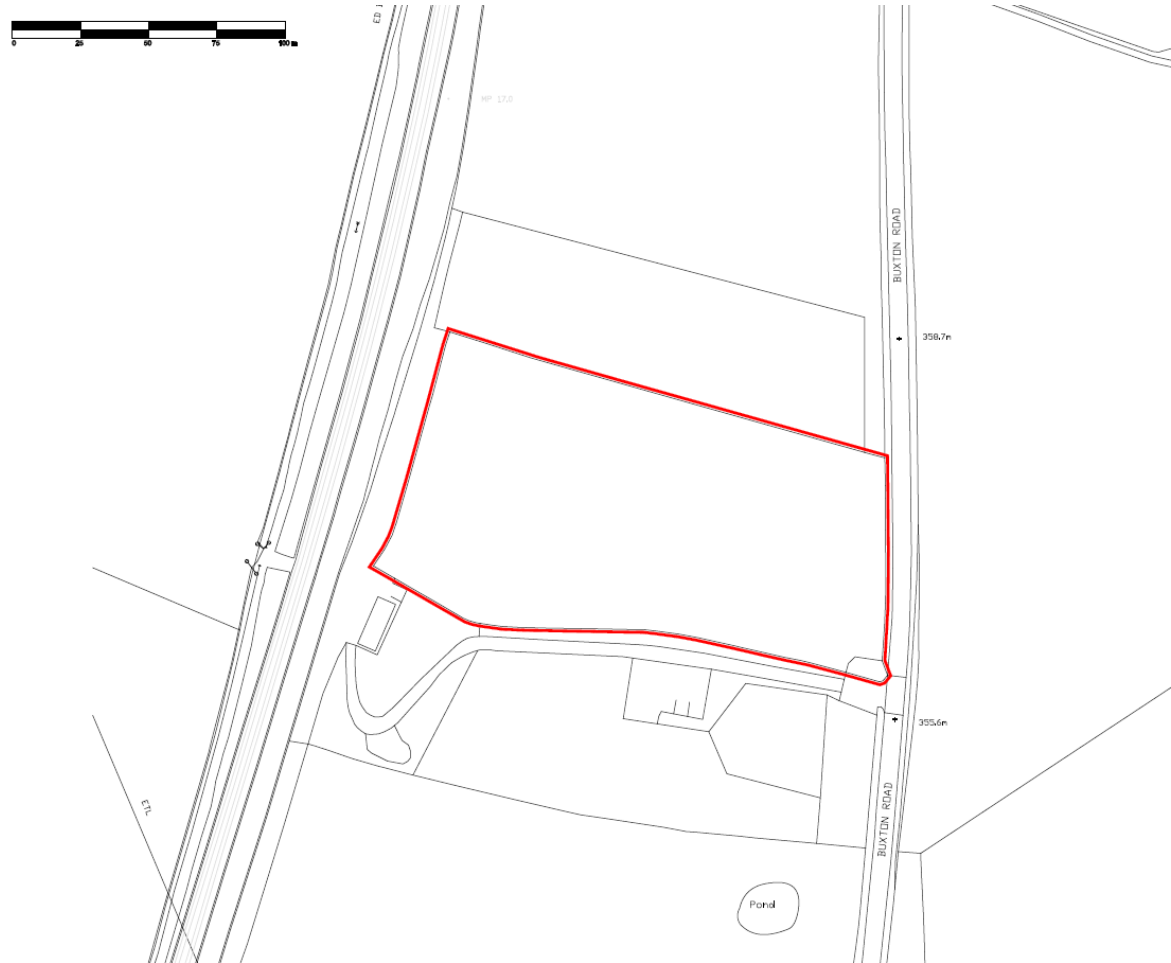


Figure 1 – Site Location Plan

- 2.2. The site is approximately 1.5 hectares in area, consisting of pastoral agricultural use, and is considered to be suitable for energy development. The site has been assessed for its suitability and has available grid capacity with a connection proposed to the existing Buxton Substation, with a grid offer received for late 2026.
- 2.3. The proposed development will be accessed primarily from Buxton Road (A6) on the eastern boundary of the site.
- 2.4. The site itself is not identified as being located within a local, regional or nationally designated area for ecology or landscape. The site is also not allocated for any purpose under the extant Local Plan.
- 2.5. The Peak District National Park is located approximately 1.3km west of the site.
- 2.6. The site is located in an area identified as within Flood Zone 1 and is therefore understood to be at the lowest risk of flooding.
- 2.7. There are no designated heritage assets within or immediately adjacent to the site.
- 2.8. The Natural England Agricultural Land Classification Map has identified the land as having potential of being Grade 4 agricultural land. A detailed site survey has also been conducted which concluded the whole site should be classified as ALC Grade 5.
- 2.9. Further details of the Application Site including the planning policy context are contained within the Planning Statement which accompanies this submission to High Peak Borough Council.

3. Design

A considerable number of factors have contributed towards the design and layout of the BESS site that is proposed in this application.

Layout

Scheme Evolution

- 3.1. A thorough constraints analysis was undertaken to inform the final scheme.
- 3.2. In proposing the general layout of the development, great consideration was given to the retention of the established field boundaries on site along with planting of native hedgerows and trees. This helps to ensure that the development is well contained both physically and visually. In addition, a number of other constraints were considered, and appropriate offsets applied where necessary. The constraints and their consideration as part of the design iteration are as follows:

Constraint		Consideration as Part of Design
1	Site Access	Access from the public highway has been designed to avoid local villages and therefore avoid traffic disruption during construction. The final design allows for construction materials to be delivered from the A6. The scheme utilizes the existing access to the site which is currently used for farming purposes, further reducing disruption by avoiding the need to build a new access.
2	Trees and Hedgerows	Appropriate offsets have been given to tree protection and ecological enhancements have been incorporated within the final scheme.
3	Public Rights of Way (PRoW)	There are no Public Rights of Way (PRoWs) in close proximity to the site.
4	Noise	The submitted Noise Assessment, prepared by 24 Acoustics, has informed the layout of the scheme. The conclusions of the Noise Assessment were reached based on the inclusion of an

		acoustic barrier on the site, on the eastern and southern edges of the plant equipment. The proposed barrier will be a maximum height of 2.4m.
5	Flood risk	The site is located entirely within Flood Zone 1 as identified on the Environment Agency's Flood Map for Planning and is therefore considered to be at lowest risk of flooding. Notwithstanding the site being in Flood Zone 1, a Flood Risk Assessment and Drainage Strategy have been prepared for the site and show that any surface water generated by the proposed development can be attenuated on site in any extreme events and discharged to the ground appropriately via soakaway crates beneath the proposed attenuation basin.
6	Biodiversity Net Gain	The proposed landscaping strategy for the site has considered local and national policy and legislation relating to Biodiversity Net Gain. Based on the calculations submitted in support of the planning application, the proposed development will result in a net gain of 35.43% for non-linear habitats.

Final Scheme

- 3.3. The final scheme as submitted is detailed on the submitted Layout Plan (ref: Buxton Road – Site Layout Plan (OS) – 30-10-2024). The submitted plan outlines the positions of all infrastructure within the Site and accompanying drawings set out their dimensions.
- 3.4. An internal track around the site will be laid to allow vehicle access to the BESS containers and supporting equipment (mainly power stations) as well as to the DNO substation to allow for operations and maintenance. Access tracks will be kept to a minimum around the site and will be made of asphalt or tarmac. These details are to be confirmed during the detailed design, post-consent. The layout and extent of the roads is limited to that necessary to provide access and maximises efficiency.
- 3.5. The associated equipment siting has also considered the impact on the appearance of the area and has, where practicable to accommodate the site's carefully designed electrical layout, been set away from the boundaries of the fields, ensuring that there is separation from the existing vegetation and any sensitive ecological features. The existing and proposed mitigation planting will contribute towards visual screening of the site. The siting of the BESS units and substation has also been sited to minimise impacts on the landscape character of the area.
- 3.6. The siting of the equipment has also been informed by the results of the geophysical survey that was completed on the site, which indicated a section of the Buxton-Melandra Roman road was beneath the site. The equipment has been located away from the non-designated asset, with an appropriate buffer distance as detailed in the submitted Heritage Statement.

Scale

- 3.7. The scale of the development on site has been determined by the equipment necessary to efficiently and viably generate and store renewable energy. The substantial majority of the plant buildings on site will be at or below single storey level (i.e approximately at or below 3m in height), with the exception of the DNO substation which would have a maximum height of 5.1m. When viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height and relatively benign appearance (i.e. lack of movement and external illumination).
- 3.8. The proposed ancillary buildings are designed to be as small as possible while still being capable of undertaking their required electrical function within the site. Such structure will not be prominent within the surroundings and will be smaller than many isolated stores and barns typically found in the countryside environment.
- 3.9. The BESS compound utilises the most space efficient technology on the market available to import, store and export power to the electricity network. It is intended the containers are to be painted holly green to assimilate the compound into the landscape, however full and final details will be confirmed once the selected manufacturer of plant is confirmed post-consent.

Biodiversity

- 3.10. The Biodiversity Net Gain Assessment and Landscape Masterplan set out a number of biodiversity enhancements throughout the site. Habitat creation and enhancement measurements within the site include:
- Wildflower meadow planting;
 - Individual native tree planting;
 - Native woodland planting;
- 3.11. The supporting Biodiversity Net Gain Assessment outlines the biodiversity net gains that can be achieved on the site. This concludes that the proposed development can achieve a net gain on site of 35.43% for non-linear habitats. The details of the habitat creation and ongoing management are detailed in the submitted Landscape Masterplan.
- 3.12. Appropriate offsets from existing features on site have been reflected within the design of the scheme. It is considered that necessary mitigation has been reflected in the scheme. Where necessary a Construction Environment Management Plan (CEMP) can be conditioned to any planning consent.

Landscape

- 3.13. The impact upon the local landscape has been given careful consideration in putting forward the proposed scheme. While a scheme of this size will inevitably be visible and have an effect on landscape character as set out in the Landscape and Visual Appraisal (LVA) which forms part of the submission, the development has been located so to minimise effects as far as possible.
- 3.14. Landscape mitigation proposals include the following:
- Woodland planting along eastern and western boundaries of proposed built equipment to provide additional screening of the site;
 - New tree planting dispersed across the site.
- 3.15. Further consideration of the landscape and visual effects is contained within the submitted LVA.

Use

- 3.16. Battery Energy Storage Systems (BESS) and associated works are a key component of a low carbon energy system. The batteries can store the energy being generated across the UK's energy network by renewables, such as solar and wind farms, when demand is low, so excess electricity isn't wasted. They can then discharge this storage energy to balance the energy network when demand is high or supply from renewables is low. Other than demand and supply balancing, BESS plants can also provide key stability services to the grid network through Dynamic Frequency Response where the plant can quickly react to network conditions to manage the electricity frequency as generation and demand loads shift. The batteries produce no emissions or pollution during normal operations and are considered to be a low carbon enabling technology. This locality, in proximity to the Buxton Substation, has been identified by the National Grid as being suitable for such a development.
- 3.17. It is fairly typical for such projects to be located outside of urban areas and within the countryside, where the capacity to accommodate such development exists (i.e. around existing infrastructure such as Buxton Substation).

Amount

- 3.18. The extent of the proposed development has been refined and finalised having considered potential environmental effects. A thorough constraints analysis has been undertaken for the site and informed the final layout. The proposed development benefits from landscape and ecological enhancements, including new and infilled woodland planting and wildflower meadows. Scattered tree planting is also proposed across the site.

3.19. As a result of the iterative process, the proposed development is confined to locations where effects have been limited as far as possible and are considered justifiable when considered in the context of the scheme benefits, including the support of the UK's renewable energy increase and legally binding CO₂ reduction targets. Consideration of the planning balance which weighs up all material factors associated with the planning application is contained within the accompanying Planning Statement.

3.20. The design principles of the battery energy storage are:

Battery Energy Storage System (BESS)

3.21. A series of batteries are proposed within the site along with supporting infrastructure.

3.22. The battery units are simple to install and run without the need for much maintenance. They are weatherproof and safe for passing people – though the area is fenced off and shall be clearly signed for additional safety.

Power Station

3.23. These are containerised structures, similar to the BESS unit, which house the inverters and transformers required to convert the energy to the correct voltage level and the correct form (AC vs DC), and feed into the on-site substation.

Substation

3.24. The substation and associated works are a key component of proposed development. The new substation will sit inside a purpose-built brick building, and will support the connection of the battery energy storage system to the local grid network at the Buxton substation. The substation will enable the onward distribution of discharged (in the case of BESS) and generated energy onto the National Grid, so it can be supplied to homes and businesses.

Monitoring/Welfare Office

3.25. The proposals feature a monitoring/welfare office which will be utilised by anyone visiting the site for maintenance and monitoring purposes. This building will be modular in nature and is designed to be in-keeping with the rest of the proposed development in its appearance.

Switchgear

3.26. The proposals include a building that will house the switchgear for the site, which serves as a regulatory system for the energy stored within the batteries on the site. The design of this building is dictated by its functional need within the proposed development.

Perimeter Fencing and Security

- 3.27. The site would be set with palisade fencing up to 2.4m in height (further details from submitted plan). As mentioned above, the proposed development also features an acoustic barrier of the same height, along the eastern and southern edges of the installed plant as mitigation for adjacent receptors.
- 3.28. In addition to fencing, it is proposed that pole mounted CCTV security cameras as detailed on the submitted plans would be positioned at intervals along the inside edge of the site to capture activity within and along the fence line, along with appropriate lighting.
- 3.29. The perimeter fencing and pole-mounted CCTV system serve an important purpose in protecting the valuable equipment within the proposed site.
- 3.30. The distance between the proposed fencing and existing vegetation would vary across the site. The buffer is expected to be used for ecological enhancement measures, which will be confirmed in due course.

Temporary works

- 3.31. Temporary construction compounds and laydown areas will be temporarily installed on site to facilitate the construction of the scheme. These are only required during the construction phase and would be removed upon completion of the scheme.

Appearance

- 3.32. Visual effects of the proposed development have been assessed within the supporting Landscape and Visual Appraisal (LVA). In addition to the existing vegetation, as part of the landscape enhancement proposals for the site, areas of new woodland and tree planting will provide further visual enclosure to the site, which would serve to reduce landscape and visual effects in the longer-term. As new planting establishes, the layering effect of the vegetation will successfully integrate the proposed development into the landscape.
- 3.33. The appearance of the proposed development and the associated equipment are, in the most part, dictated by their electrical function and purpose.

Fire Risk and Management

- 3.34. Whilst the likelihood of a fire event within a Battery Energy Storage System (BESS) is very small, with only a single recorded event in UK history, fire safety has come to the forefront of attention on BESS due to the presence of lithium-ion batteries within a confined space. There is often a misunderstanding about the safety of BESS sites which are fitted with a number of features to detect and prevent fires including various monitors and sensors for smoke and heat, systems to control battery temperatures and ventilation and gaseous systems to extinguish fires.
- 3.35. The National Fire Chiefs Council has provided guidance to BESS developers about designing and managing sites and as such the applicant has sought to design the in accordance with this, including multiple points of entry, onsite water supply and appropriate separation distances to prevent the spread of fire in the event of an emergency, as demonstrated in the Fire Strategy Plan.
- 3.36. The applicant has also engaged proactively with the Derbyshire Fire and Rescue Service to explain the design process, safety features and measures to follow in the unlikely event of a fire, who confirmed they have no objection to the scheme.
- 3.37. The applicant will continue to engage with the fire and rescue service throughout the development, construction and operation of the plant including the agreement of a Risk Management Plan and an Emergency Response Plan.

4. Access

- 4.1. Construction access will be provided from Buxton Road (A6) in the location of the existing access to the site. Given the site connects directly to the A6, which itself will connect with other major roads in the Strategic Road Network, the wider routing of construction vehicles is not deemed necessary within the submitted Transport Statement.
- 4.2. The components which are required to construct the scheme will arrive on Heavy Good Vehicles (HGVs). The level of traffic during the temporary 9-month construction period would equate to approximately 100 vehicle movements over the period, with the majority of traffic movements expected in the first 6 months. The construction route is suitable to accommodate larger vehicle trips.
- 4.3. A temporary car parking area will be provided on the site for all stages of construction. Parking will therefore be contained within the site and no parking will occur on the local highway.
- 4.4. Operational access for the purpose of maintenance visits will be provided via the existing access on Buxton Road (A6).
- 4.5. After commissioning, it is anticipated that only LGVs will be accessing the site, generating approximately 10-20 two-way trips per annum. These would typically be made by a light van or 4x4 type vehicle. Space will be provided within the site for such a vehicle to turn around to ensure that reversing will not occur onto the local highway network.
- 4.6. A detailed Transport Statement has been prepared to demonstrate how the site will be accessed during the construction period.

5. Summary and Conclusions

- 5.1. The Design and Access arrangements of the proposed development have been assessed in this Statement. It is considered that the development proposals will not have an unacceptable adverse effect on the visual amenity value of the wider countryside.
- 5.2. The site and extent of development have been carefully selected. It is naturally screened and supplemented by additional planting which will result in only limited view of the site being possible. Landscape considerations are outlined within the submitted Landscape and Visual Impact Assessment.
- 5.3. The equipment forming the development proposals have been selected on the basis of maximising efficiency and productivity, but also to minimise visual effect where possible.
- 5.4. Safe access can be taken into the Site from the public highway off Buxton Road on existing access roads established to the site, Mitigation measures will be employed to ensure construction traffic is managed appropriately as outlined within the submitted Construction Traffic Management Plan.
- 5.5. Overall, the proposals are appropriate in terms of design and access and the development represents a necessary step towards meeting the UK's legally binding climate change and renewable energy obligations. It is therefore considered that the application before High Peak Borough Council is to be supported and Planning Permission granted.



Town & Country Planning Act 1990 (as amended)
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