



**STEPHENSON
HALLIDAY**

Planning, Landscape & Environment
an **RSK** company

SITE SELECTION REPORT

JT ENERGY STORAGE

August 2025

1 INTRODUCTION

1.1 Project Background

- 1.1.1. This Site Selection Report (SSR) has been prepared on behalf of JT Energy Storage Limited ('the Applicant') in relation to an application for planning permission for the for the construction, operation and maintenance, and decommissioning of JT Energy Storage (Proposed Development). The SSR sets out the potential sites considered which have been assessed against a range of planning, environmental and operational criteria.
- 1.1.2. The Proposed Development comprises the construction, operation (including maintenance), and decommissioning of a battery energy storage system (BESS) with onsite substation, underground cabling and associated infrastructure to export and import electricity; and areas of landscaping and biodiversity enhancement. The Proposed Development will export and import electricity via the connection to grid at the local District Network Operator (DNO) substation.
- 1.1.3. The Proposed Development also includes a 33kV underground cable via the highway of approximately 1km in length connecting the onsite substation to the DNO sub station at Woodend, Egremont.

1.2 Overview

- 1.2.1 With specific reference to the requirements of Local Plan Policies CC1, DS2 and DS4, as appropriate, this additional SSR outlines the Applicant's site selection process for the Proposed Development while factoring in environmental and technical considerations. It serves to demonstrate that there is "a proven need for an open countryside location" for the Proposed Development in accordance with the Council's spatial strategy where development is proposed outside of defined settlement boundaries. Local Plan Policy DS2 makes direct reference to renewable energy proposals and essential infrastructure to support energy developments as exceptions which are permissible in open countryside locations subject to this need being proven.
- 1.2.2 The SSR also gives consideration to alternative sites within the defined 1.5km search area based on the distance for a viable grid connection from Woodend substation.

1.3 Strategic Substation Selection

- 1.3.1 There is no national planning policy or guidance setting out a requirement for undertaking an alternative site assessment for the location of BESS development; however, this assessment formed part of the site evolution and design of the proposed development. Furthermore, there is no established methodology for the assessment of alternative sites.
- 1.3.2 Battery storage facilities must be located close to substations in order for a connection to be made. To identify feasible substations, the Applicant undertook an assessment of DNO and National Grid transmission network substations to determine those that had both spare capacity and the ability to connect. Some substations had spare capacity, but no technically viable connection point was available. The DNO and National Grid provided the required information to undertake this assessment.
- 1.3.3 Having ruled out certain substations from further consideration, the Applicant then undertook a sequential sieving exercise to further reduce the number of substation locations being considered. This focused only on key issues that would prevent a connection being made, as outlined below:

- **The need for grid balancing** – To determine which substations would most directly benefit from grid balancing. In areas of greatest power demand, or ‘pinch points’ where capacity and demand cannot be balanced easily, then greatest value exists. Substations that offered little or no value were removed from further consideration.
- **Land Availability** – To determine the likely availability of land within viable proximity to each substation, including the ability to connect a cable from the substation to the battery location. A site size of at least 1 acre for 10MW and additional 0.5 acre for every additional 10MW of capacity, although this can differ depending on site characteristics such as electricity pylons and overhead lines to accommodate the batteries, ancillary equipment, means of access and potential biodiversity net gain delivery. With a maximum radius for the search area for a directly connected BESS which differs slightly depending on the grid connection voltage, these are;
 - 11kV: 0.5km
 - 33kV: 1.5km
 - 66kV: 2.0km
 - 132kV: 2.0km
 - 275kV: 2.0km
 - 400kv: 2.0km
- **Environmental Constraints** – The land identified in the previous sieve process was then analysed for environmental constraints. Land that involved nationally significant designations was removed at this stage.
- **Connection Cost** - The commercial viability of obtaining a connection was then assessed. National Grid provides prospective applicants with a connection cost which varies depending upon the amount of work National Grid is required to undertake in order to accommodate the connection. Substations where the commercial model could not withstand the cost of connection were discarded at this stage.

1.3.4 Having undergone the sequential sieving process remaining substations are subject of an additional site assessment process to identify land parcels in the vicinity of substations appropriate for a battery storage facility.

1.3.5 The additional technical requirements of the Applicant’s battery storage facilities are:

- A location in as close a proximity to the substation as possible to limit electrical loss and ensure greater efficiency and also to support the commercial model.
- The ability to connect directly to a Substation.

1.3.6 With the above criteria in mind, the Applicant selected the Woodend substation as a substation of interest with a connection at 33kV and started the process of site selection within a 1.5km radius of the substation.

1.3.7 In summary, the strategic substation selection process is the starting point for identifying potential development sites. The geographic area is dictated by the location of existing substations and their associated capacity and ability to connect. It is therefore unreasonable for BESS developments to be assessed through the undertaking of a wider sequential test exercise (across the Local Plan area) requiring consideration to be first given to land within settlement boundaries, allocated sites (of which there are no current allocations for energy infrastructure) or brownfield land. The search area is governed by proximity to a viable substation capable of accommodating the BESS development, which – in this case – has

reduced the search area to within 1.5km radius of Woodend substation and in the open countryside.

1.4 Site Selection

1.4.1 The site selection process started with a review of land within 1.5 km of the Woodend substation, firstly looking to identify any suitable brownfield or commercial land before expanding the search to all available land options. The defined search area contains the Proposed Development substation equipment area and cable route out to the main point of connection.

1.4.2 No areas of brownfield or commercial land of adequate size and cost were identified within 1.5 km of Woodend substation.

1.4.3 As no brownfield or commercial land was identified, additional to the technical criteria noted above which must be satisfied to enable a BESS facility to connect to a substation, the Applicant also considered environmental constraints within the area of search to identify a suitable site, the development of which would limit, as far as possible, adverse environmental effects in line with the requirements of Policy CC1 of the Copeland Local Plan. Site-specific technical and commercial considerations were also taken into account at this stage to further refine the search. Where possible the site should:

- Be outside of an area at risk of flooding;
- Avoid areas of statutory protection and ecological importance;
- Avoid assets of significant heritage interest;
- Avoid areas where other planned or existing developments could give rise to unacceptable cumulative impacts;
- Avoid disrupting public rights of way;
- Be of non best and most versatile (BMV) land grade;
- Be near to the primary highway route network to enable batteries to be delivered to site without the need for special arrangements or highway improvements;
- Be available for development (not constrained by current or future National Grid operational requirements);
- Avoid settlements by at least 200m where possible to minimise noise and visual impact;
- Comprise a level site to limit the need for earthworks; and
- Have a willing landowner for the lease of land.

1.4.4 Whilst the search area is defined as a radius from the point of grid connection, the suitability and viability of sites is much more complex, and dependent upon many factors such as planning constraints but also other factors including physical infrastructure, railways, roads, waterways and overhead lines.

1.4.5 **Figure 1** shows the search area and constraints. **Table 1** sets out the parameters regarding the existing infrastructure in relation to the application site.

1.4.6 Following the application of the criteria set out above, the Applicant further reduced potential sites down to the “Land to the east of Dazell Street” as the site most suitable for development.

1.4.7 The Site key criteria is shown in **Table 1**.

Table 1: Key Parameters Site Appraisal

Parameters	Site appraisal
30MW grid connection required a site size of at least 2 acres to accommodate a compound for the batteries, ancillary equipment and means of access and BNG requirements	Land area available is larger than the land area needed to accommodate the infrastructure and ensure biodiversity net gain could be incorporated. The Site is also free of constraints such as electricity distribution infrastructure that is present in the locality.
Location in close proximity to and ability to connect to Woodend substation	Site is c. 0.9km from the point of connection at the Woodend substation. An underground cable running within the footprint of Dalzell road was identified as the shortest viable route.
Be outside an area at risk of flooding	The Site is located in Flood Zone 1 with only isolated areas at risk of surface water flooding.
Avoid areas of statutory protection and ecological importance	A review of statutory designations highlighted no designations within the Site.
Be near to the primary highway route network to enable batteries to be delivered to site without the need for special arrangements or highway improvements	The Site lies adjacent to Dalzell Street which provides good connectivity with the wider road network and also has an existing vehicle access point.
Be available for development	The Site is unaffected by safeguarded land for development around the substation and landowner is willing to lease the land over a term period.
Avoid settlements by at least 200m where possible	The Site sits more than 200m from the closest settlements.
Comprise a level site to limit the need for earthworks	There are areas of relatively flat land available within the Site.
Avoid BMV agricultural land (Grades 1, 2 and 3a)	Current Defra mapping indicates grade 3 land. The majority of land within the identified 1.5km radius is grade 3.

1.4.8 The site selection process has sought to avoid areas of higher quality land; the search area is all of a similar provisional agricultural land quality. A site-specific ALC survey has been undertaken for the application and concluded the site consists of grade 3b land (not BMV). No other lower quality land (i.e. Grade 4 or 5) exists within the 1.5km which would satisfy other site selection requirements discussed above.

1.4.9 Overall, it is concluded that within the defined area of search, there are no alternative sites which are available and more suitable for the proposed BESS development, taking into account the criteria outlined in Policy CC1. The Site is developable with few environmental constraints and benefits from a secure grid connection which will contribute to the British Energy Security Strategy and a net-zero future, as detailed in the Planning Statement.

Figure 1 – 1.5km search area (centred on Woodend substation) and technical / environmental constraints

