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# Chickerell Storage Scheme

## About Statera

**We develop and deploy energy infrastructure to balance a high renewables electricity system**

### Why we exist

The amount of renewable energy generation forecast to be installed in the UK by 2030 means a transformational shift in how the grid operates.

### How we're doing it

We build, own and operate flexible energy infrastructure that solves the issues of balancing grid supply and demand.

### What we do

The projects we deliver are aiming to decarbonise the electricity system, while ensuring greater energy security.

## Purpose of the exhibition

- Provide an update on the Chickerell Storage Scheme following our previous exhibition in 2022
- Explain the timeline and planning process for the project
- Provide contact details and explain how you can keep in touch
- Offer an opportunity for the public to have their say in the development process

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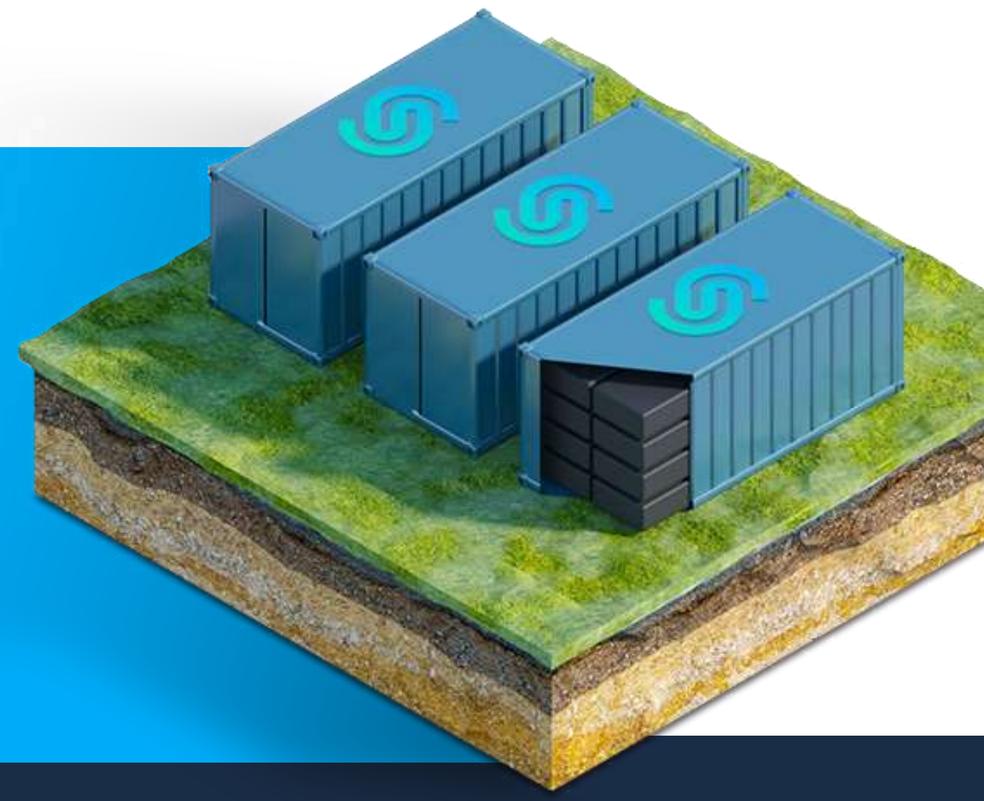
# What is battery storage?



Storage technologies enable energy from renewables like solar and wind to be stored and then released when customers need power most.
Energy storage can be grouped into five broad technology categories:

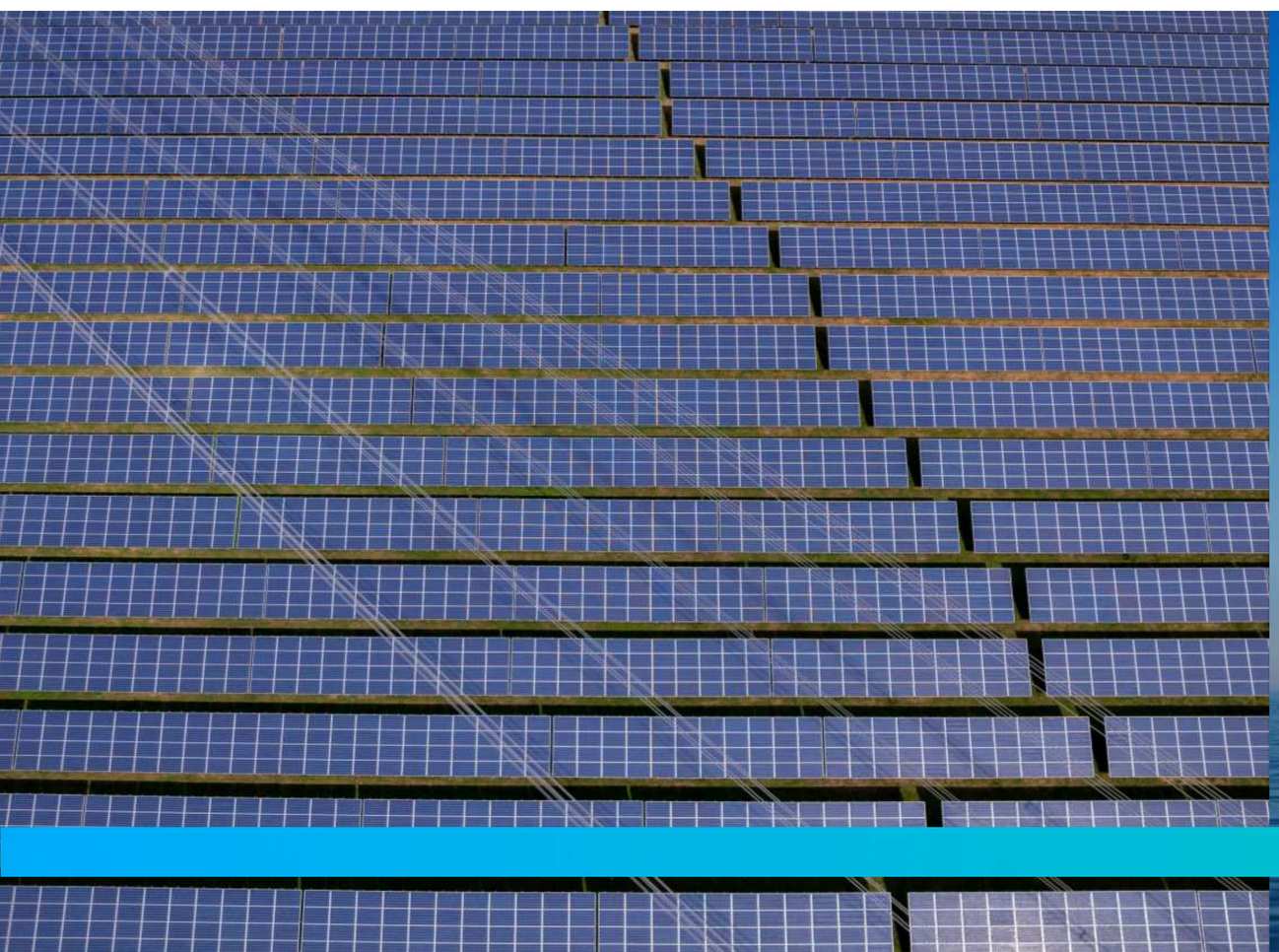
- Batteries
- Thermal
- Mechanical
- Pumped Hydro
- Hydrogen

Batteries are a fundamental energy storage technology used across a range of applications. The lithium-ion batteries found in smartphones, laptops and electric vehicles are the most widely known. However, on a larger scale, Battery Energy Storage Systems (BESS) provide services to electricity networks.

Batteries perform two functions for the electricity network. They use electricity to charge when there is surplus energy or low demand and they also transfer energy back to the grid in times of high demand. As renewable energy generation increases, BESS are becoming a more important tool to provide services to the grid and to large scale electricity users.

## Energy Storage is an essential component to a modern grid system:

- Allowing surplus energy generated at off peak times to be stored for later use – increasing efficiency.
- Facilitating the integration of distributed and renewable generation.
- Rapidly responding to power fluctuations within networks to maintain system stability and integrity.



# Location

The site is located on agricultural land to the north of the existing Chickerell substation and to the south of Coldharbour near Chickerell. The battery scheme doesn't expand beyond this area.

The site is within the administrative area of Dorset Council and falls outside of the Dorset Area of Outstanding Natural Beauty.

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# Project Overview

**Important Project Details:**

- This a battery storage scheme only.
- It has a capacity of up to 400MW and 6 hours duration.
- The Point of Connection is into the existing Chickerell substation.

## Battery Storage

**Statera Energy is seeking planning permission to develop a battery energy storage system (BESS) on farmland to the north of the existing National Grid substation near Chickerell.**

The site will span approximately 30 hectares, over 70% of this land will be used for landscape and biodiversity enhancement. Our battery systems are designed to deliver an efficient and reliable service that can adapt to various energy market conditions. The BESS we develop can provide super-fast, sub second responses to demand and generation changes on the Grid.

As renewable energy generation increases, BESS are becoming an increasingly important tool to provide services to the grid and to large scale electricity users. Deploying batteries at this large scale can realistically only be done next to existing National Grid substations. This scheme will connect to the substation at 400kV and it is uneconomic to run these cables great distances.

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# Project Update

## Key Updates:

- After extensive engagement with the local community and Dorset AONB team, we have decided to drop the promotion of a large scale solar project on land to the north.
- Pre-application advice from the Council has been received.
- The application will now include a full Environmental Impact Assessment.
- The masterplan has been updated to reduce/limit the visual impact.
- A community orchard and permissive paths have been incorporated into the biodiversity enhancement area.

## Design Changes

Original Layout of Battery Development


Updated Layout

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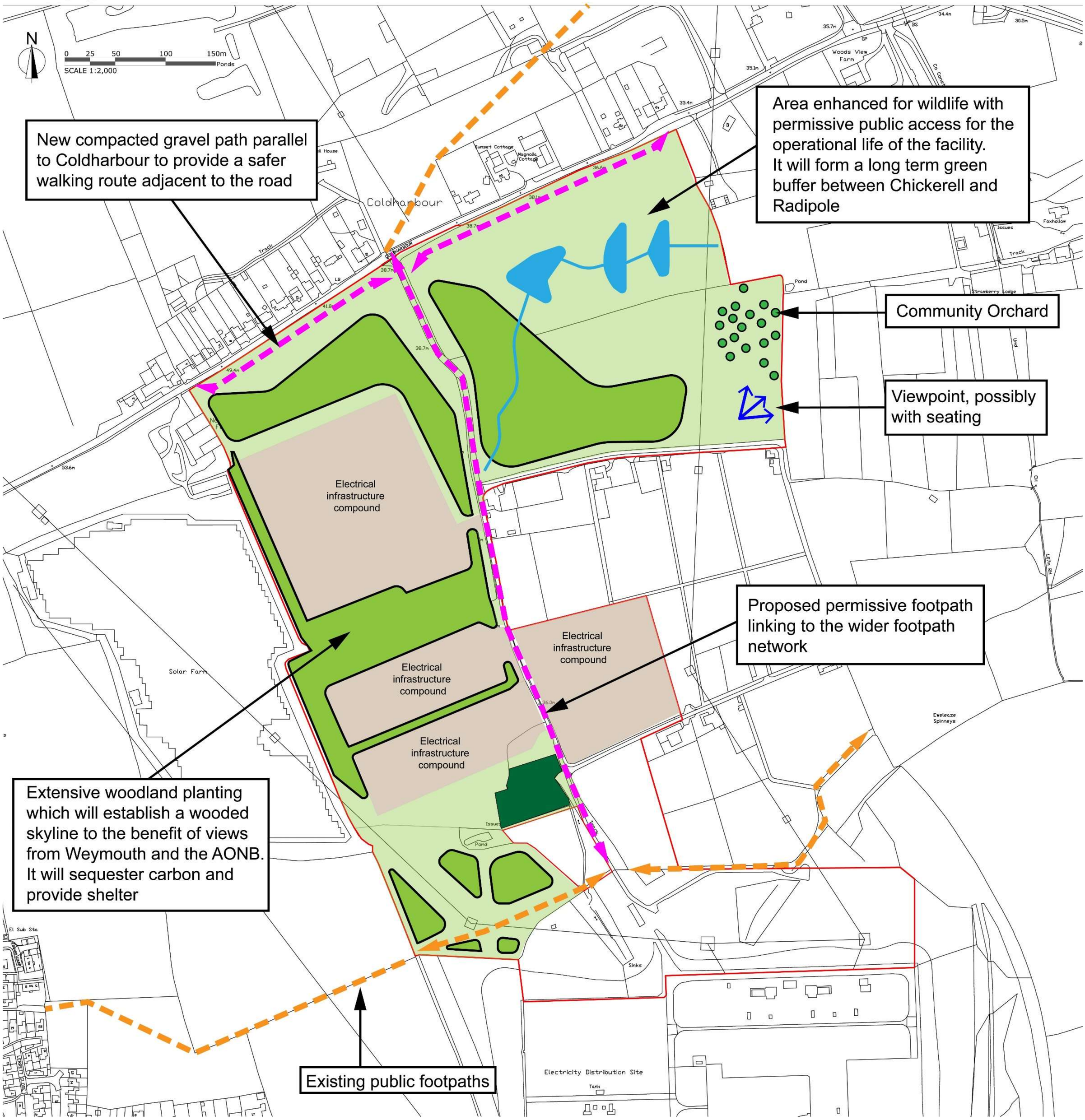
# Benefits for Community and Environment



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# Ecology and Biodiversity Net Gain

Environmental surveys have been undertaken to understand the potential impacts the proposed development could have on the environment and to identify appropriate mitigation measures to avoid, reduce or offset any adverse effects identified.

Initial walkover surveys commenced in 2022 for cultural heritage, protected species, habitats and birds, as well as noise and transport assessments.

Mitigation measures have been provided including protecting retained trees and hedgerows and a mitigation strategy for bats, nesting birds, great crested newts, and reptiles. Implementing these mitigation measures will ensure that there are no residual effects.

Over 70% of the site will be used for biodiversity enhancement including planting native trees, creation of wildflower meadows, creation of ponds, creation of scrubland, and erecting bird boxes which will be delivered as part of the development. Detailed landscaping will be designed in consultation with the Council's landscape and ecology officers.

# Community Benefits

The project would be a substantial investment in the local area and would deliver community benefits for the lifetime of the project, including:

- Replacement of intensively farmed land with biodiversity enhancements across the site.
- Three arable fields (10.65 hectares) will be entirely repurposed into a nature area comprising a mosaic of woodland, scrub, wetland and wildflower grassland where public access will be permissible.
- New connectivity links to the existing footpath network (linking no. S16/20 with footpath no. S16/21).
- A community orchard.
- Local employment and supply chain business opportunities during construction.
- Over £1 million per annum in business rates, half of which will be retained and reinvested by Dorset Council.
- A Community Benefit Deed (with the Parish Council) and / or Community Foundation partnership.

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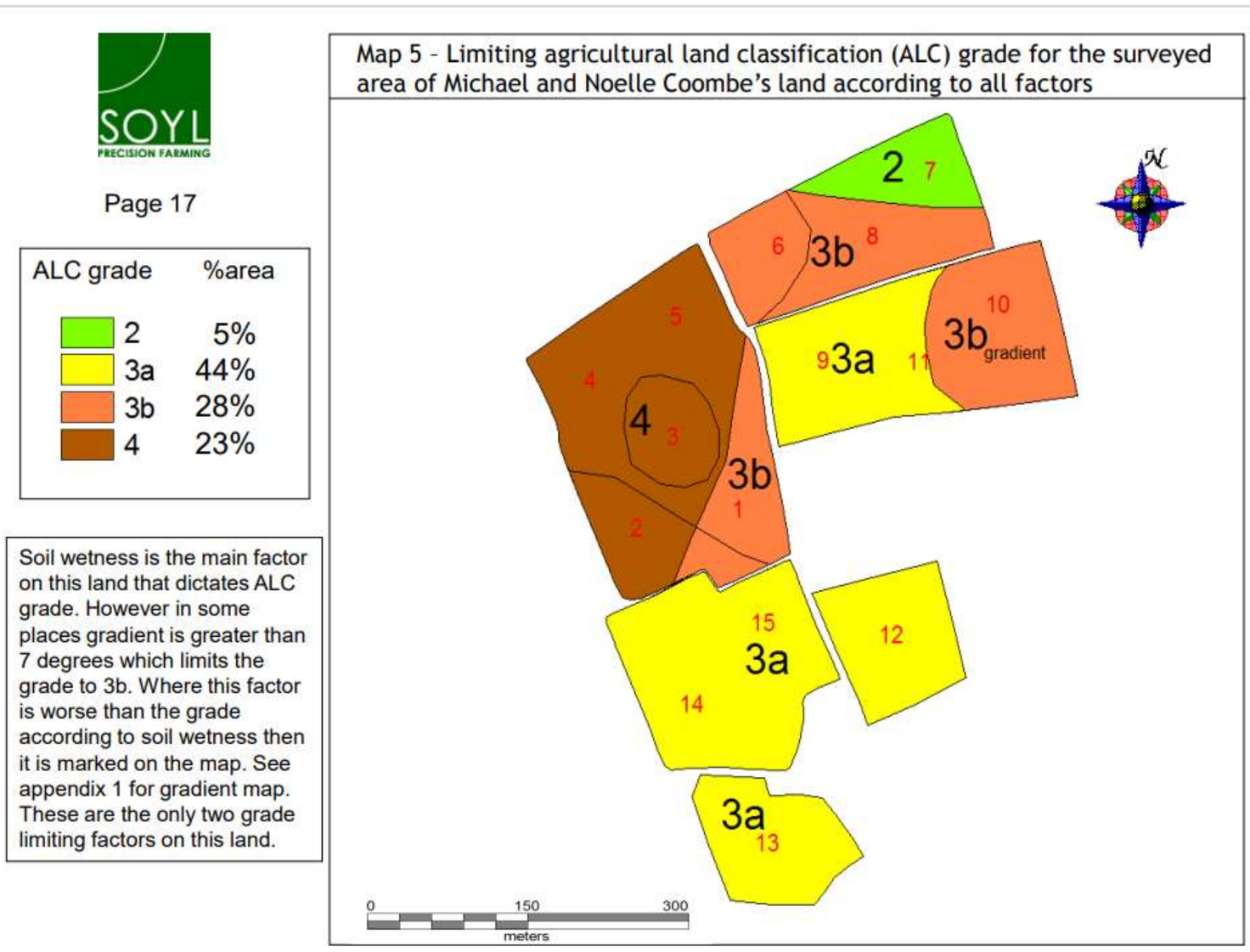
# Agricultural Land Classification

An Agricultural Land Classification assessment has been carried out on the land proposed for the battery development. Approximately 44% of the site is classified as Grade 3a, 28% of the site is classified as Grade 3b, 23% is classified as Grade 4 and 5% is classified as Grade 2.

Climate change is the single biggest threat to UK food security according to the Department for Environment, Food and Rural Affairs.

Battery Storage Schemes help to keep farmers in business, providing them with a stable source of income in uncertain economic times.




# Flooding

The site is located outside of any flood zones. A detailed flood risk assessment and surface water drainage strategy has been undertaken to ensure that any impact on local drainage systems is minimised.

We have designed a surface water drainage system to further alleviate the risk of flooding including attenuation ponds to collect rainwater which will be landscaped to encourage wildlife.

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# Noise

A noise assessment of the potential impact an operational battery storage facility could have at this location has been undertaken.

The outcome of the initial BS 4142:2014+A1:2019 assessment shows that there is a low risk of adverse impacts at the sensitive receptors during both daytime and night time.

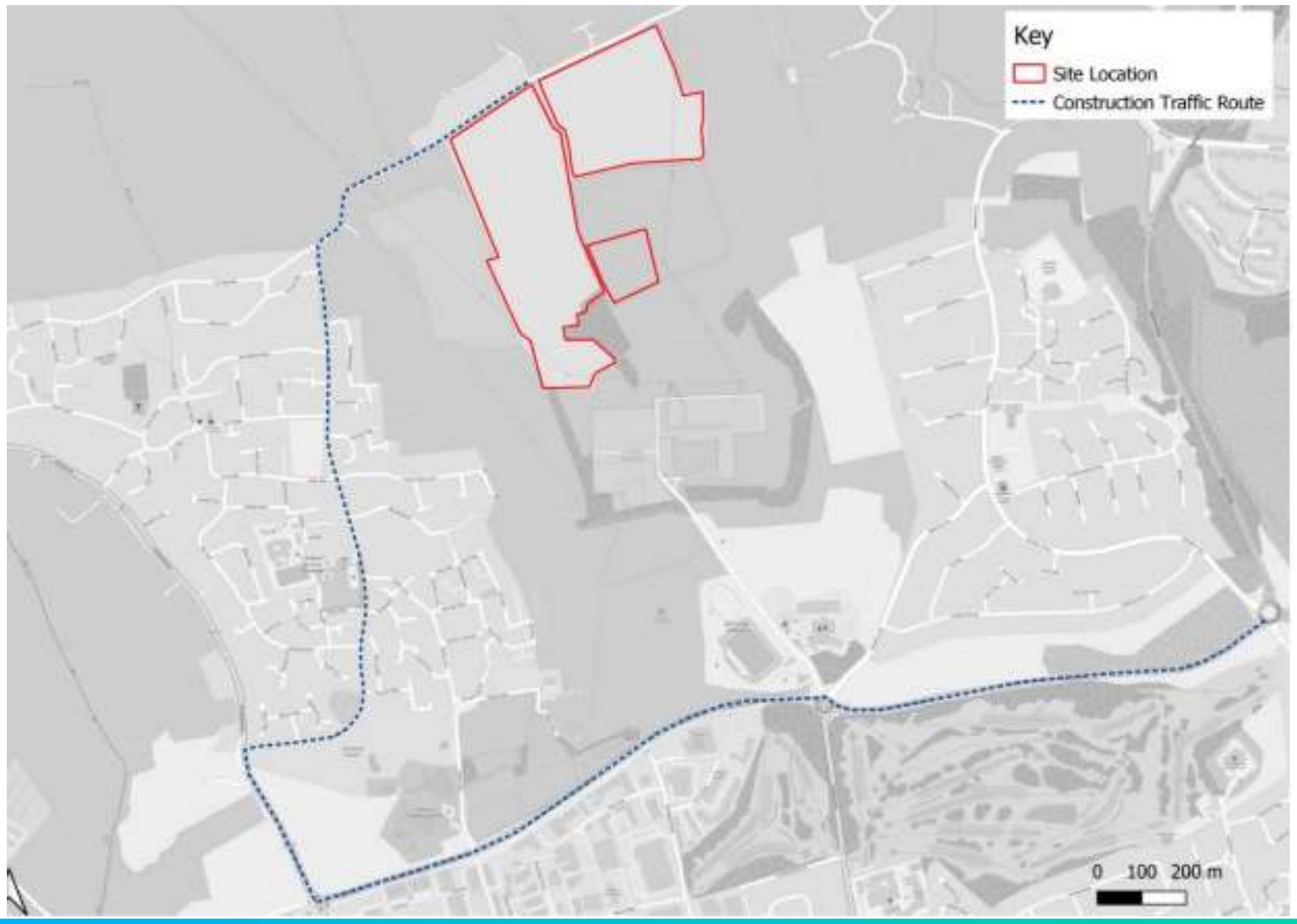
It is considered that the development is compliant with national and local planning policy relating to noise.

# Transport

A Construction and Traffic Management Plan has been produced to assess the likely effects of the development on transport and access.

It is anticipated that all construction traffic will route from the A354 Chafeys Roundabout junction and continue west and then north on the B3157. It then routes east along Glennie Way and continues north to Putton Lane, School Hill and onto Coldharbour.

It is anticipated that there will be an average of less than nine deliveries, or up to eighteen two-way movements per day during construction.



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# Fire Safety Strategy

- Statera has been operating Battery Energy Storage System (BESS) sites in Hertfordshire, Essex, Yorkshire, and Wiltshire since 2015.

- All of Statera's operational BESS sites comply and operate in accordance with the requirements of all applicable UK Health, Safety & Environmental legislation.

- The spacing of containers will be based on National Fire Protection Association standard NFPA855 (standard for the installation of stationary energy storage systems).

- The batteries are exceptionally high quality and have been tested to Underwriter Laboratories UL9540A standard.

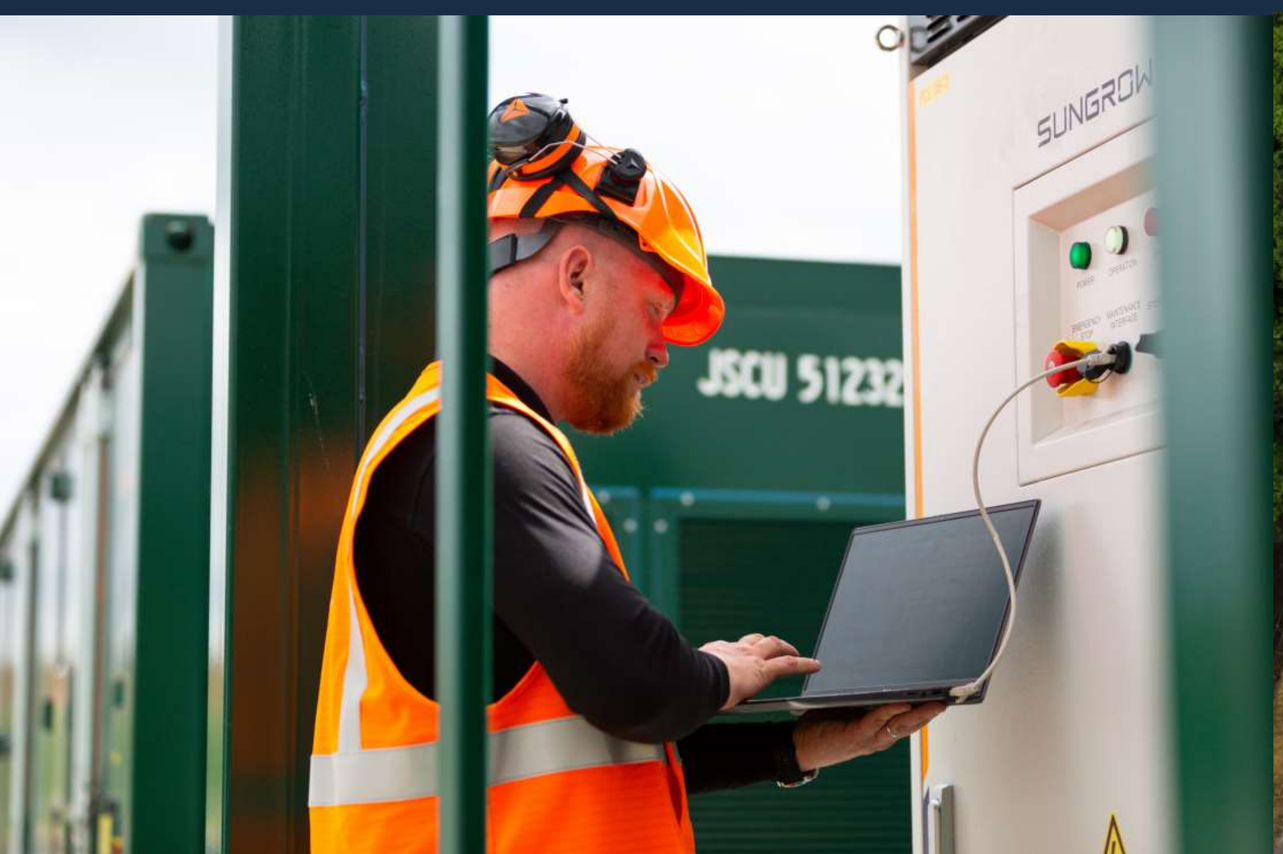
- Statera accesses innovative technology through working with the Fire Industry Association.

- The Lithium Iron Phosphate chemistry does not exhibit thermal runaway until temperatures are in the region 150-200 degrees C. These temperatures have never been reached in any of our sites.

- The batteries themselves also have overtemperature protection and fire suppression initiation, which operates as follows, again well below thermal runaway temperatures:
  - ✓ Level 1@54℃: reporting the warning message
  - ✓ Level 2@57℃: reporting the warning message mean while request to reduce the charge/discharge power by 50%
  - ✓ Level 3@60℃: force open the relay and power shut down

We have consulted with Dorset & Wiltshire Fire Service and have an agreed Fire Liaison Framework (FLF) in place. The FLF approach and methodology consists of three strategic phases.

- Pre-planning
- Site Commissioning (post planning approval)
- Operational Delivery





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# UK Targets and Planning Policy

## NetZero – UK Targets

- In 2019 the UK became the first major economy in the world to legislate to bring all greenhouse gas emissions to ‘net-zero’ by 2050.
- As part of ‘net-zero’ there is a target for the UK to be powered entirely by clean electricity by 2035.

## Dorset Council - Climate and Ecological Emergency Strategy:

- A Gigawatt of renewable energy is required at a Dorset area level in order to reach net-zero.
- The strategy states that “every opportunity to utilise renewable energy to meet current demand needs to be taken and large-scale deployment projects need to be developed”.

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# Proposed Timeline and Opportunity for Feedback

Battery storage (at any installed capacity) can be consented at a local level via Dorset Council. Pre Application advice has been sought with Dorset Council and an onsite meeting has been undertaken with the landscape officer and case officer. A formal response has been received.

We are hoping to submit a full planning application to Dorset Council in May 2023.

## We welcome your feedback

**You can give your feedback in the following ways:**

- **By scanning the QR code below**
- **Feedback form available to download from the website or fill in today**
- **By email – contact@stateraenergy.co.uk**
- **By phone - 02071 860588**
- **Via the website - www.chickerellstorage.co.uk**

**We look forward to hearing from you.**