



Welcome - Trent BESS

Thank you for taking the time to visit our public exhibition today.

We are excited to share our proposals for a Battery Energy Storage System (BESS) project located south of Torksey Ferry Road, Rampton. The project aims to enhance energy sustainability and reliability as part of the UK's broader net zero targets. This exhibition is an opportunity to learn more about our plans and for you to share your views before we submit a planning application to Bassetlaw District Council.

Please take the opportunity to review the material on display, ask our team questions and give us your feedback.

We would be grateful if you could take the time to complete a questionnaire, which is available from any member of the project team here today.

You can also find all the information on display here today, as well as the questionnaire, on our dedicated website.



Introducing Tribus

At Tribus Clean Energy Ltd, we are dedicated to advancing renewable and low-carbon energy solutions to support the global transition to a sustainable future. With a strong focus on solar and battery storage projects, our mission is to combat climate change and promote a low-carbon economy.

Our goal is to generate clean, renewable energy for thousands of homes and businesses, reducing reliance on fossil fuels and cutting greenhouse gas emissions. Our battery storage systems also help to balance the grid, reducing the need for carbon-intensive peaking power plants.



The need

The UK is committed to achieving net zero by 2050 and expects to completely decarbonise its energy system by 2035. In the future, wind and solar will be the primary energy sources across the UK.



As we phase out fossil fuels for cars and heating, the demand for renewable electricity is expected to double by 2050. This shift requires reliable and consistent electricity supplies and battery storage is crucial to this process as it allows us to manage the intermittent nature of renewable energy and meet a more consistent demand.

Batteries store extra energy from renewable sources, like solar and wind, so homes and businesses stay powered when the sun isn't shining or the wind isn't blowing. This helps keep energy costs stable and reliable while also contributing to the country's move toward cleaner energy.



The Principal Site

Trent BESS is a proposed 500MW energy storage project located south of Torksey Ferry Road, Rampton. It will use batteries to store electricity for when it is needed most, housed in structures resembling shipping containers. The site is within the administrative boundary of Bassetlaw District Council.



The project will connect to the National Grid at Cottam substation, utilising capacity freed up by the recent closure of Cottam Power Station. The closure of the power station highlights the need to replace lost generating capacity. While renewables are part of the solution, battery storage is essential for ensuring reliable, secure, and affordable energy as we transition away from coal and gas.

Why here?

As capacity in the National Grid is limited, we need to make use of what is available. These are often at decommissioned power stations, like at Cottam. This was the starting point for the project.

We have followed a site selection process and have carefully considered environmental and amenity factors in the surrounding area. We have selected the site due to a number of factors including:

- **Proximity to substation:** the site is very close to the substation, making the connection with an underground cable easy and cost-effective.
- **Environmental factors:** an example includes the flat topography of the land which would make the construction process simple and efficient and provides an opportunity to integrate the development into the locality using landscaping and new planting to screen the development from view and achieve biodiversity net gain targets.
- **Site availability:** the site is readily available, ensuring there won't be major delays in starting the project.

Our Plans

We are proposing to construct the BESS facility to allow for the storage of electricity on land south of Torksey Ferry Road to the east of the village of Rampton.

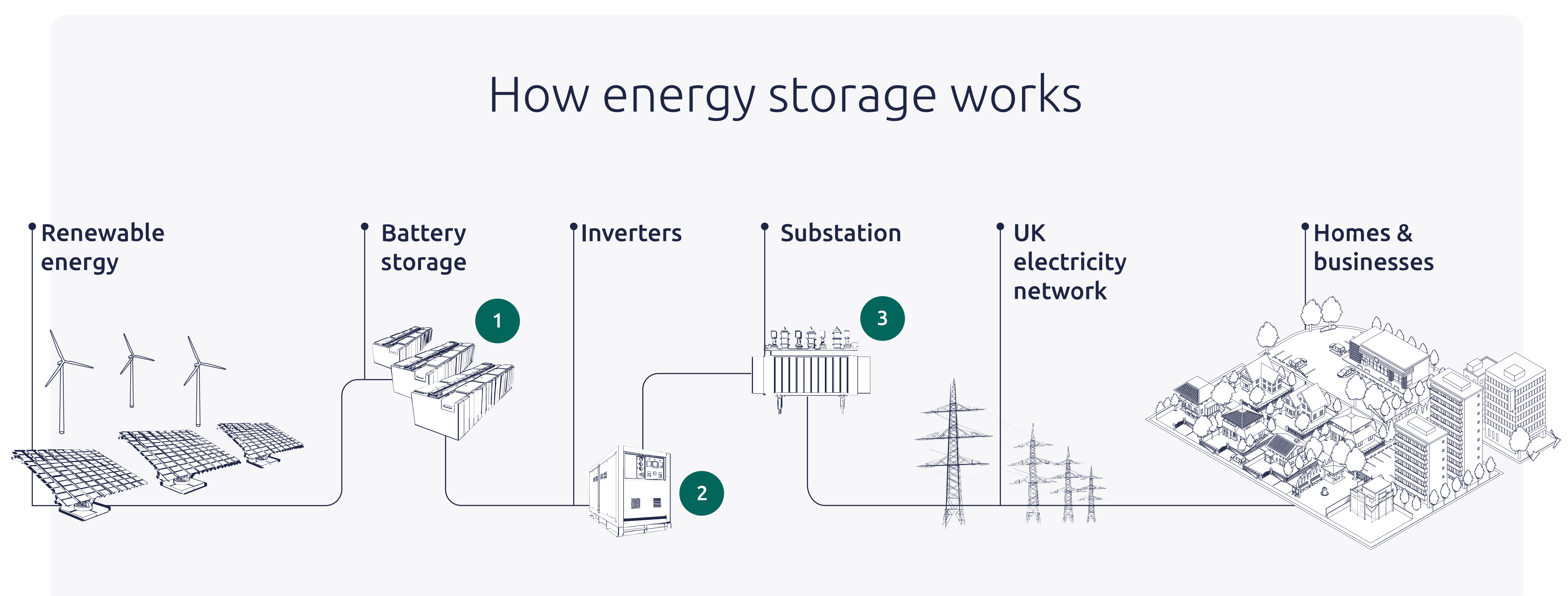
The purpose of the facility is to provide for the importation and exportation of power to the National Grid. The facility will provide a range of services to the National Grid, including frequency regulation, grid balancing and peak power supply.

We are currently progressing our design and would welcome the views of the local community as part of this consultation. Your feedback will then be considered and, alongside our environmental assessments, will help to shape our application.



Battery storage - the basics

BESS is a well-established technology, and we have outlined how it works below:



1 Battery Energy Storage Systems (BESS):

These allow for the capture and storage of energy – from both renewables and the electricity network – when production exceeds demand. This stored energy can be released back into the grid during times of higher demand, ensuring a consistent and reliable energy supply.

2 Power Conversion System (PCS):

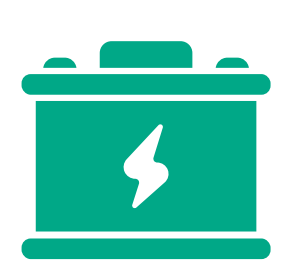
Batteries store and deliver electricity as Direct Current (DC), while most electrical systems require Alternating Current (AC). The PCS incorporates inverters to convert the electricity from AC to DC to store the electricity and then back to AC from DC to supply back to the grid.

3 Grid Connection:

A substation is used to connect the BESS to the National Grid. The substation typically consists of electrical equipment, transformers and pylons, with connections to overhead powerlines and/or underground cables, facilitating the transfer of electricity to and from the grid.

How the BESS works

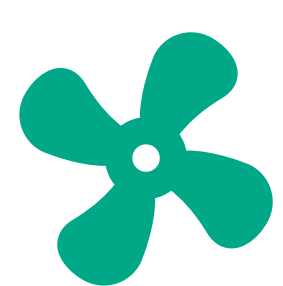
The BESS comprises a number of components, all housed in units similar in size and shape to 20 feet shipping containers, approximately 6m in length, 2.5m in width and 3m height:



Lithium-ion batteries store the energy ready for it to be supplied when needed. These are stacked on top of each other to form a battery rack and are connected together to reach the required voltage and current of the BESS. Lithium-ion technology is well tested and is widely used in our day-to-day lives, such as in smartphones.



The battery management system (BMS) acts as the brain of the BESS and works to safeguard the batteries from damage in various scenarios. It constantly monitors the state of charge, state of health, voltage, temperature and current. It ensures the safety and longevity of the batteries.



A heating, ventilation and air conditioning system (HVAC) regulates the operating temperature within the system's enclosure to ensure good air distribution. This prevents the batteries from overheating, which in turn means that the batteries last longer and perform better.



A fire suppression system is integrated into the BESS design, it is activated only in the unlikely event of battery overheating, providing an additional layer of safety.



Security: The BESS and associated substation will be secured by perimeter fencing and monitored by a CCTV system, which will face the battery storage and substation areas. Motion sensor lighting will be employed only in critical locations to minimize unnecessary light pollution.



Landscaping: The project includes landscaping to provide visual screening and contribute to biodiversity net gain in the area.



Operation: BESS are generally quiet and require minimal maintenance once operational. A team of qualified engineers will monitor our BESS 24/7 from a remote location. Routine site inspections will be conducted by engineers who would visit the site frequently in a small van or car to inspect the BESS and associated infrastructure, ensuring everything is functioning correctly.



Environmental considerations

We carefully consider the environmental characteristics of potential sites when preparing proposals for a BESS, as well as possible impacts on people living nearby, and a range of environmental receptors such as biodiversity and heritage.

The design of the project will ensure that it will be well integrated with the surrounding environment. Baseline assessments of the site and surrounding environment have been conducted, which has informed the layout and design of the BESS facility.

The surveys/assessments which we have undertaken include:

- Preliminary Ecological Appraisal and protected species surveys.
- Landscape and heritage site visits
- Agricultural Land Classification surveys
- Noise surveys
- Phase 1 Preliminary Risk Assessment

This assessment included a 2 km study area around the site to evaluate visibility and landscape and visual impact. The site is strategically located to be well-hidden from nearby properties and views highlighted in the Rampton and Woodbeck Neighbourhood Plan.

This placement of the development as close as possible to existing energy infrastructure, alongside the inclusion of woodland screen planting, seeks to minimise landscape and visual impacts, including those from adjacent public rights of way.



Existing view from Torksey Ferry Road at junction with Nightleys Road



View from Torksey Ferry Road at junction with Nightleys Road after 10 years



Existing view from Torksey Ferry Road



View from Torksey Ferry Road after 1 year

Ecology

The development prioritises protecting the existing trees and hedgerows, alongside new native tree and shrub planting to enhance local biodiversity, in alignment with Bassetlaw District Council's environmental policies. The project will achieve a minimum of 10% biodiversity net gain through a combination of preserving habitats, maintaining ecological links, safeguarding key species, and implementing supplementary measures. These measures include areas of native species-rich grassland, additional planting, and introducing wildflowers, all aimed at boosting biodiversity and further enhancing the ecological value of the site.





Flood Compensation Area

Our assessments have identified a need to manage the potential impacts from the worst possible case of flooding from the River Trent.

As part of our plans, we are therefore proposing a flood compensation area across a site southeast of Laneham and southwest of Church Laneham. This would allow flood water to accumulate safely and be drained to the River Trent via the existing drainage infrastructure maintained by the Trent Valley Internal Drainage Board.

The inclusion of this second parcel of land is intended to provide a long-term and sustainable solution for compensatory flood management to mitigate the impacts of a worst-case design flood event during the 25-year design life of the BESS facility and beyond.

The extensive flood modeling and analysis of topography within the area indicates that the works required for flood compensation are likely to require the extraction of some overburden with some material exported off-site to sustainable end-users. The remainder of the material will be redistributed on site in a manner as to permit the continued use of the land. Topsoil will be wholly reused on site.



Construction and operation

Should Trent BESS receive planning permission, we expect to start construction in 2026 . It would take up to 18 months to build the project with work finishing in 2027. During this period, there would be a temporary compound for storage, worker welfare facilities and a site office.

We will prepare an Outline Construction Traffic Management Plan (CTMP) and a Transport Assessment (TA) which will be agreed with Bassetlaw District Council and Nottinghamshire County Council as highway authority. The CTMP will set out how we will manage construction activities and any traffic moving to and from the site during construction, with the TA identifying any requirements for mitigation or proposals to improve safety.

Our current transport strategy involves the main access to the site from Torksey Ferry Road, with upgrades to the existing vehicle access. The current proposal for the flood compensation site is for it to be accessed from Laneham Road to the west. We are also currently reviewing road improvements to make sure vehicles can move safely to and from the site.



We aim to work with qualified local suppliers wherever possible to support the project. If you are interested, please register your company details with our team.



Have your say

Thank you for taking the time to learn about our plans. Your feedback is greatly appreciated, and where applicable, we will aim to reflect your input in our evolving proposals.

Please complete a questionnaire, either here today or online, and let us know any views you might have of the project. All feedback should be returned by Friday 8th November 2024.

Next steps

Once we have reviewed all the feedback, we will finalise our plans and submit a full planning application to Bassetlaw District Council. We expect this to be in autumn 2024. As part of the application, we will include a document summarising the comments received from the local community and the engagement undertaken for the project.

Bassetlaw District Council will then carry out its own statutory consultation before making a final decision on the application. This process will give stakeholders, residents, and other interested parties another opportunity to provide feedback on our proposals.

