Stirches Energy Park

WELCOME TO THE SECOND CONSULTATION FOR STIRCHES RENEWABLE ENERGY PARK

ib vogt UK Ltd is proposing the development of Stirches Renewable Energy Park, which will include ground-mounted solar panels, a Battery Energy Storage System (BESS), and associated equipment on land northeast of Hawick Substation.

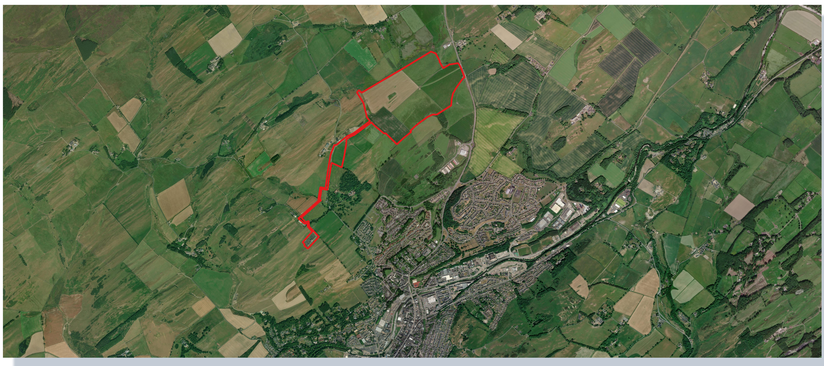

Figure 1 - Site Location Plan, Aerial

ABOUT TODAY'S EVENT

Today's event is the second of two public consultations for Stirches Renewable Energy Park. This event will provide an update on the proposed development and give you the chance to share your thoughts on the detailed plans.

WHAT IS A SECTION 36 APPLICATION?

A Section 36 application refers to applications made under the Electricity Act 1989 for consent to construct, extend, or operate electricity-generating stations with a capacity of over 50 MW onshore. These applications are determined by the Energy Consents Unit (ECU). A key requirement of the Section 36 process is extensive community consultation, which typically involves two rounds. The second round takes place after adjustments have been made, allowing the community to review and comment on the refined project design before final submission.

PROJECT TIMELINE

Stirches Energy Park

HAVE YOUR SAY

We carefully considered the feedback shared in the first consultation and have advanced the design of the Proposed Development with this in mind. Today, we seek to provide more information in response to the queries raised.

Through consultation, emails and feedback forms, we understand the following to be the main concerns for residents:

- Fire and battery safety
- Visual impact
- Ecological impact
- Traffic on local roads

These issues will also be addressed in further detail in our PAC (Pre-application consultation) report as part of the planning application submission to the ECU.

GET IN TOUCH

You can share feedback on this event by completing the questionnaire today or sending an email directly to **info@stirchesrenewableenergy.co.uk**

Alternatively, you can get in touch through our project website at **www.stirchesrenewableenergy.co.uk**

Stirches Energy Park

THE NEED FOR SOLAR

NET ZERO

The UK has made a commitment to achieve a fully decarbonised power system, with Scotland aiming to become 'Net Zero' by 2045. Achieving this goal requires the adoption and widespread deployment of reliable, affordable, clean energy sources such as solar power and energy storage.

CLIMATE CHANGE & POLICY

The Scottish Borders Council has declared a climate emergency, officially recognising the urgent need to address and mitigate the impacts of climate change at a local level. In June 2021, the Scottish Borders Council published its Climate Change Route Map (CCRM), outlining steps toward climate resilience and supporting the development of the renewable energy sector.

RELIANCE ON FOSSIL FUELS

The UK is on track to significantly increase its solar capacity, a crucial step in reducing reliance on volatile fossil fuel markets, particularly natural gas, which has played a major role in the recent energy crisis.

ROOFTOP & GROUND MOUNTED SOLAR

Rooftop solar is expected to meet only a proportion of the UK's solar targets, as such, we need a combination of rooftop and ground-mounted solar to reach net zero.

DEMAND AND GENERATION

The demand for electricity is expected to increase over the coming years and could more than double by 2050. This could require a fourfold increase in low carbon electricity generation, with most of this likely to come from renewables.

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PROJECT INFORMATION

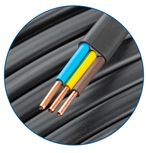
The proposed solar farm will generate up to 30 MW of clean energy, meeting the annual electricity needs of approximately 8,600 average UK households.[1]

Solar panels will be laid out in rows known as arrays, with gaps of around 3 metres between each row. PV arrays are typically 3 metres high.

The estimated carbon dioxide (CO2) savings will be at least 1,391 tonnes of CO2 per year.[2]

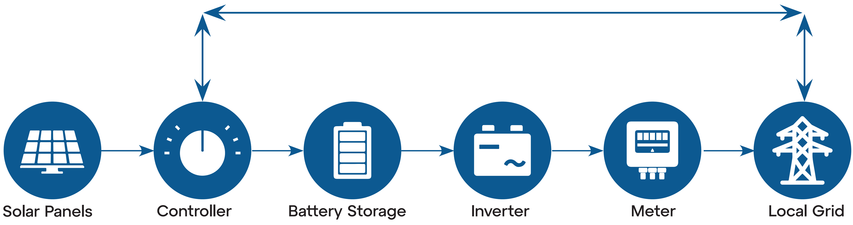
The BESS will enhance grid flexibility and provide power to the local distribution network.

The BESS facility will be formed of battery containers and power conversion units (PCU). It will be located within the site.



The development will export energy to the local grid at Hawick substation via an underground cable.

How A Co-located Solar Farm and BESS Works



1. No. of homes powered = Estimated annual kWh generated ÷ average UK domestic electricity consumption per household.

- **Estimated annual kWh generated = 28,401,840 kWh**
  - 30,000 kW (30MW x 1,000) x 8166 (Number of hours in a year) x 0.108 (load factor of 10.8% / 100). Load factor as per the 'Digest of UK Energy Statistics (DUKES) 2024: Chapter 5', published by the Department for Business, Energy & Industrial Strategy. See Table 6.3 "Load factors for renewable electricity generation" Updated 30th. July 2024. https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes
- **UK domestic average electricity consumption per household = 3,302 kWh**
  - Energy Consumption in the UK (ECUK). Final Energy Consumption Tables. Table C9. Temperature corrected - Average consumption (kWh) 2023. data. Updated 26th September 2024. https://www.gov.uk/government/statistics/energy-consumption-in-the-uk-2024

2. If generation is assumed to displace fossil fuel based generation, the annual estimate CO2 reduction is 5,184 tonnes.

The annual estimated CO2 reduction (displacing grid emissions projected for 2029 – the assessed opening year of the Proposed Development) = Annual kWh generated x Carbon Factor

- Annual kWh generated = 28,401,840 kWh
  - 30,000 kW (30MW x 1,000) x 8166 (Number of hours in a year) x 0.108 (load factor of 10.8% / 100). Load factor as per the 'Digest of UK Energy Statistics (DUKES) 2024: Chapter 5', published by the Department for Business, Energy & Industrial Strategy. See Table 6.3 "Load factors for renewable electricity generation" Updated 30th. July 2024. https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes
- **Carbon Factor (displacing grid emissions projected for 2029 – assessed opening year of the Proposed Development) = 0.000049 tonnes of CO2e per kWh**
  - Carbon Factor as per the Department for Energy Security & Net Zero Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. Data Table 1, Column J, Row 31. Updated 30 November 2023. https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal.

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- Carbon Factor (displacing grid emissions projected for 2029 – assessed opening year of the Proposed Development) = 0.000049 tonnes of CO2e per kWh
  - Carbon Factor as per 'Department for Energy Security & Net Zero "Greenhouse gas reporting: conversion factors 2024" spreadsheet. Data Table "Fuels", Column D, Row 42. Updated 8 July 2024. https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-fact

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OUR TEAM

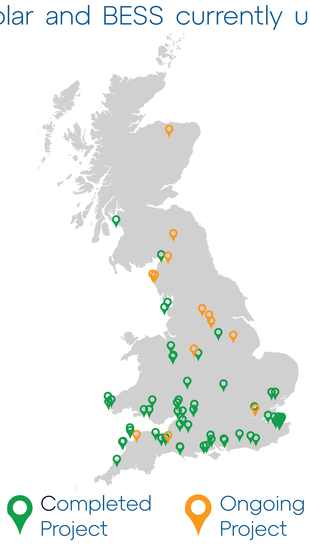
ib vogt UK

Stirches Renewable Energy Park is being developed by ib vogt UK, a leading utility-scale solar developer with a 20-year track record in the renewable energy sector.

ib vogt UK is headquartered in London with a team of experienced engineers, project developers, planners, and land and grid managers.

ib vogt is a leading solar and battery storage developer in the UK and has built almost 500 MW of solar projects across the nation with another 300+ MW of solar and BESS currently under construction.

486.8 MWp	PV Plants in operation
177.9 MWp	PV Plants under construction
667 MWp	PV Plants commercialised
7.16 GWp	PV and BESS pipeline
150 MWp	BESS under construction



ITPENERGISED, NOW SLR CONSULTING

ITPEnergised became part of the SLR Consulting group of companies in January 2024 and, in December 2024, the ITPEnergised team fully transferred over to SLR Consulting. The Stirches team personnel have remained unchanged since the project commenced.

SLR

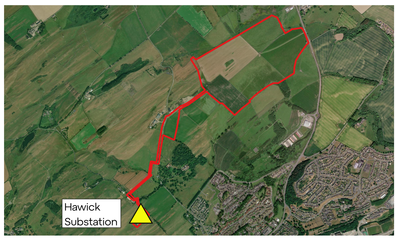
SLR Consulting is a leading consultancy providing expert environmental, energy, and engineering services, with a strong focus on renewable energy projects. Having worked extensively across the UK on a wide range of projects, SLR Consulting ensures that developments meet the highest standards in sustainability and environmental management.

With considerable experience in managing the environmental aspects of large-scale developments, SLR Consulting brings a deep understanding of both the technical and regulatory requirements involved. Their approach is to balance project objectives with environmental protection, ensuring that projects like Stirches Renewable Energy Park contribute positively to the local environment and community.

Stirches Energy Park

PROJECT LOCATION

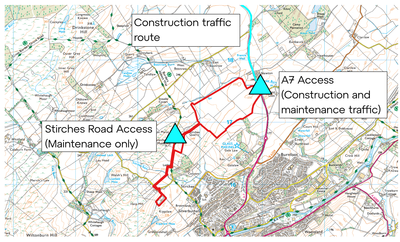
ib vogt UK worked with SLR Consulting to determine an optimal location for this development, taking into account the following factors:



Grid Connection

EXISTING INFRASTRUCTURE

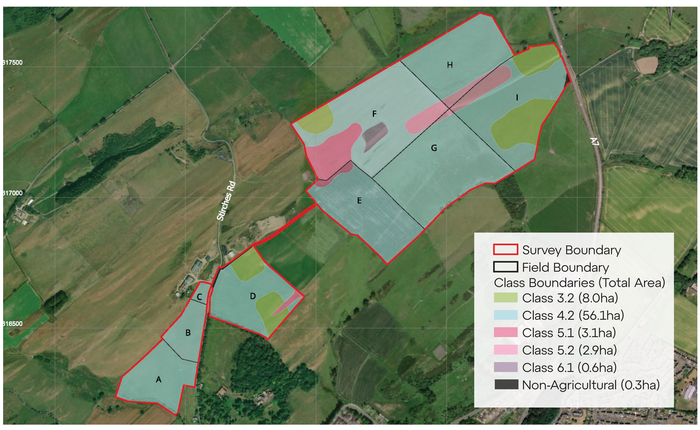
The site is conveniently located near the Hawick Substation. The proximity of this substation reduces the length of underground cabling. New overhead lines will not be required.



Transport Links and Access

TRANSPORT LINKS

The site has easy access to nearby roads, which will aid construction and maintenance. The location for the BESS has been chosen to avoid overloading local roads and bridges, with direct access available from the A7, reducing the need for construction vehicles to travel through Hawick.



Land Capacity for Agriculture, LCA

AGRICULTURAL LAND CLASSIFICATION

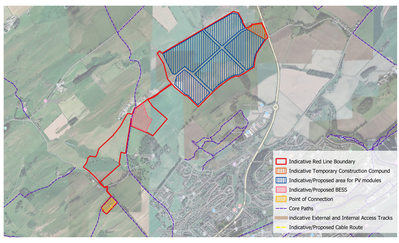
There are no environmental designations on the site. A land capacity for agriculture survey has been undertaken and has found that the site mainly consists of Class 4.2 land, which is not classified as prime agricultural land. There is a great opportunity to enhance biodiversity within the site.

Stirches Energy Park

DESIGN EVOLUTION

Early Design

The early design stages were shaped by the location of the Grid Offer connection and availability of land in the area. At this stage, we focused on suitable land near the point of connection (Hawick Substation) to avoid electricity losses, achieve a financially viable cable route to the substation and avoid land subject to ecology, heritage and landscape designations. At this stage, we instructed early feasibility work addressing landscape, planning, and acoustics, and conducted ecological surveys. These helped to shape the second stage of design.

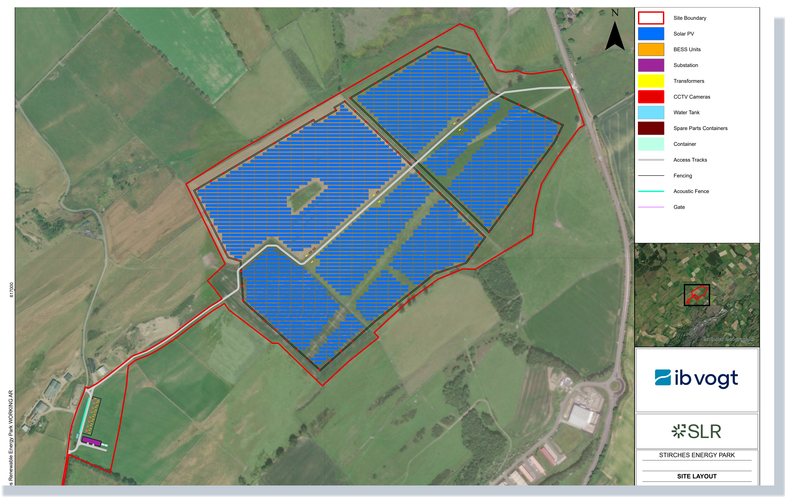


Environmental Impact Assessment, EIA Screening

Early studies allowed us to optimise the design and siting of the project, based on landscape and visual appraisals, as well as noise impact assessment. The location chosen for the proposed PV development allows us to achieve the 30MW export capacity required by the Grid Offer, as well as minimise visibility from Hawick, roads, walking routes and other public vantage points. Also, the proposed siting of the PV area allowed us to minimise the impact on local landscape character.

BESS Location

The proposed location of the BESS takes advantage of natural screening to the northeast and south of the BESS. In addition, the location for the BESS station has been chosen to avoid noise disturbance at properties in the wider area.



Advanced Design

To enable visualisations shown at the second round of community consultation we paused the design in mid-March. We also created a landscaping scheme for the site to improve the screening of the proposed development, as well as significantly enhance biodiversity. The detailed ecology and landscape plans will be available to view as part of the technical studies submitted along with the planning application to the ECU.

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ENVIRONMENTAL ASSESSMENT

NOISE

A noise assessment is underway to evaluate potential noise levels during the construction and operation of the project. Early findings from the assessment have led to the implementation of measures to ensure that noise impact on nearby residents is kept to a minimum. This includes an acoustic barrier adjacent to the BESS, limiting fan speeds and fitting attenuation kits. With these mitigation measures in place, no significant noise impacts are expected.

Transport and Access

The Proposed Development will generate some vehicle movements while it is being built, but only a handful once it is operational. The application will be accompanied by a Transport Statement report. This report will consider the transport aspects of the proposed development and present details of the proposed access arrangements, estimates of the number of vehicle movements that could be generated during construction and the likely routes of those vehicles.

During construction, the Site will be accessed from the eastern boundary from an existing junction on the A7, which will be upgraded to current design standards to accommodate the construction traffic associated with the Proposed Development. Assuming a 6 months construction period, there will be 12 HGV vehicle roundtrips a day on average. Once operational, the Site will be accessed from both the A7 and an upgraded junction on Stirches Road, which currently acts as the main access point for Stirches Mains Farm.

Once operational Site access would only be used by the occasional vehicle as staff carry out periodic maintenance and inspections. It's unlikely that there would be more than a handful of vehicle movements to and from the Proposed Development during any given month and these would likely be by cars, small vans or pick-up trucks.

HYDROLOGY

A flood risk assessment is being undertaken to determine whether the site is at risk of flooding. Early findings have shown that the site is not located in a high-risk flood area and is unlikely to present an additional risk of flooding to the local area. Drainage is being incorporated into the design to effectively manage any surface water runoff in accordance with sustainable drainage principles.

Since our first exhibition, consultation has been undertaken with Scottish Water and the solar panel design amended to ensure appropriate buffer zones around existing water pipes running through the site.

Cultural Heritage

The project archaeologist is assessing potential impacts on any historical or cultural landmarks near the site, and heritage assets on or buried within the site. Site survey work has found that there are no designated heritage assets within the site boundary and little potential for buried archaeology.

The Proposed Development will ensure that local heritage is conserved, and any important discoveries carefully recorded. These assessments are being carried out in line with guidelines from Historic Environment Scotland and the Chartered Institute for Archaeologists (CIFA). The project has been designed to avoid and minimise any negative effects on these culturally valuable areas.

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ENVIRONMENTAL ASSESSMENT

GLINT AND GLARE

A glint and glare assessment is being undertaken to review the impact of glint and glare from solar panels on nearby homes, roads, or aircraft. If needed, adjustments will be made to the panel positioning to reduce any potential glint or glare. The proposed planting as part of the Landscape Mitigation Strategy will screen views of the panels from local residents, footpath and road users.

ECOLOGY

A full Ecological Impact Assessment (EcIA) is being undertaken in support of the application. All ecological survey work for the site is now complete, and this has helped us to identify any potential ecological features that could be affected by the Proposed Development. All mitigation and enhancement measures identified are built into the scheme design, including setback distances for existing hedgerows, retention and buffering of trees, and protection zones for wildlife habitats and species recorded as present on site.

Biodiversity enhancement has been central to the design of the Proposed Development. The proposed mitigation and enhancement has been informed by the survey work to ensure that biodiversity present is protected and enhanced in line with national policy. There are many opportunities for biodiversity net gain, including native tree planting and the enhancement of existing hedgerows,

- We are continuing to build upon the proposed biodiversity enhancement.
- All survey results will inform the EcIA and Outline Biodiversity Enhancement.
- Management Plan to be submitted with the application.

FIRE RISK

We understand that fire safety is a key concern. Safety incidents for modern grid-scale BESS are rare. Between 2018 and 2023, the global grid-scale BESS failure rate dropped by 97%. Newer system designs use smaller, modularised cabinets which has improved fire safety.

Grid-scale facilities have to comply with fire safety requirements and health and safety laws. Robust fire safety measures will be adopted in consultation with the local Fire and Rescue Service.

An initial Outline Battery Safety Management Plan (OBSMP) will be submitted with the application, which will outline the safety measures and protocols for the BESS. The key components of the OBSMP include:

- Safety Requirements
- Risk Assessment
- Mitigation Strategies
- Stakeholder Engagement
- Future Planning

The OBSMP will outline measures such as monitoring systems to detect any unusual activity and shut down the BESS automatically if needed, ventilation systems, and emergency water supplies that could be used in a rare event of a fire.

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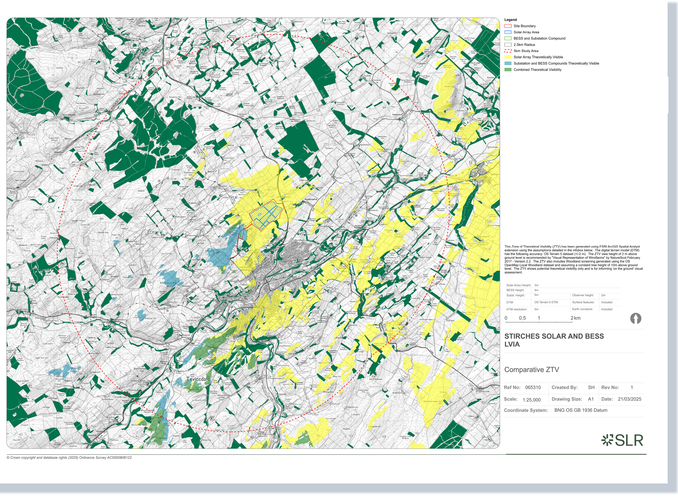
LANDSCAPE AND VISUAL IMPACT

Landscape Strategy Plan



Comparative Zone of Theoretical Visibility

LANDSCAPE

A landscape and visual assessment is being conducted to evaluate how the development sits within the surrounding area.

Landscape and visual impact have been key considerations for the project from a very early stage. The development has been designed with sufficient distance from the nearest residential properties and the A7 to contain views from the road and residents. The study also looks at the wider landscape to ensure the project does not impact the character of the area.

Careful consideration has been given to the location of the panels and BESS to minimise visibility from sensitive areas. The goal is to ensure that the development fits in with the local landscape and respects the visual character of the surrounding environment.

We have presented some photomontages of what the Proposed Development is likely to look like from key viewpoints in the local area. The project has been designed to blend into the natural landscape as much as possible. Existing trees, hedgerows, stone dykes and historic field boundaries will be retained, and additional planting will be introduced to screen the development from view and reduce its visual impact. The development has been set down low in the landscape to avoid visibility arising in Hawick and to contain the development within natural landform pockets.

A Landscape Mitigation Strategy has been drafted to further ensure satisfactory wider visual amenity and to help integrate elements of the development successfully into the receiving landscape, as well as to improve local biodiversity.

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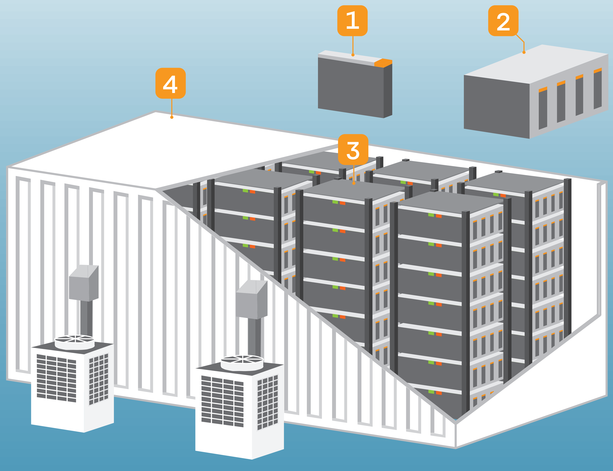
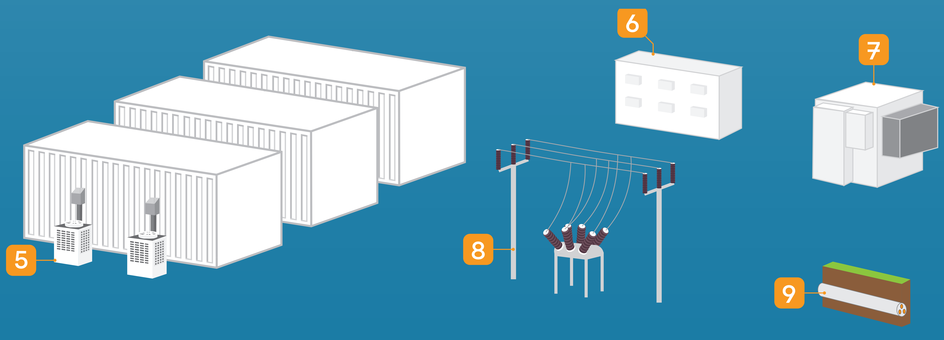
BATTERY ENERGY STORAGE SYSTEM (BESS)



1. **Cells** store electrical energy as chemical energy.
2. **Modules** are containers of connected cells equiped with a management and monitoring system.
3. **Racks** hold the modules inside the container.
4. **Container** houses the racks and management systems including security, status monitoring, and fire suppression systems.



5. **Auxiliary Systems** maintain a safe and secure operating environment inside the containers.
6. **Inverters** convert between the direct current (DC) in the batteries and the alternating current (AC) in the local grid.
7. **Transformers** convert the low voltage electicity in the BESS to medium voltage.
8. **Substations** further increase the voltage to match that used in the local distribution network.
9. **Underground Cables** connect the BESS to the national grid substation where the electricity enters the local grid.

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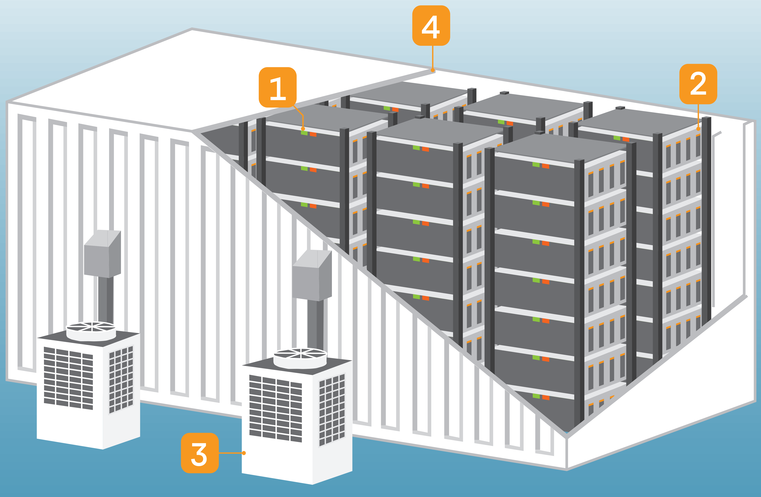
BESS SAFETY SYSTEMS

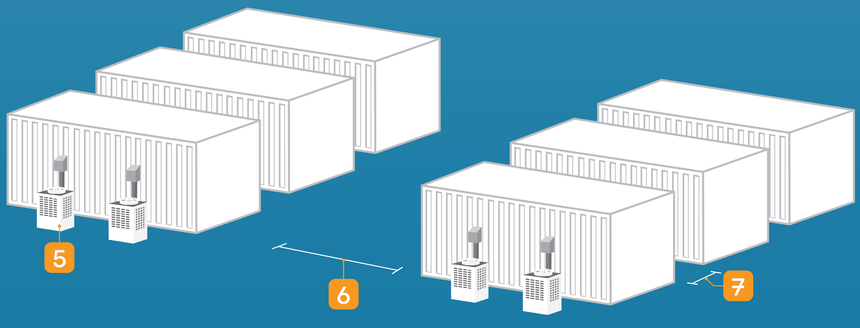


1 **Monitoring and Control Systems** continuously monitor battery health and performance to detect anomolies early.

2 **Emergency Shutoffs** immediately disconnect the battery from the grid in case of an anomaly.

3 **Thermal Management Systems** maintain optimum battery temperature with fans or liquid cooling.

4 **Fire Detection and Suppression Systems:** water or gas-based suppression systems.



5 **Ventiliation Systems** disperse heat and gases generated during a fire.

6 **Site Layout** provides access for fire service vehicles.

7 **Seperation Distances** between BESS units, vegetation, and buildings.

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PROPOSED TIMELINE AND NEXT STEPS

Site Selection

After identifying an opportunity for a connection at the Hawick substation, land within a viable distance was analysed from a planning perspective to determine the least disruptive location. The Stirches site was identified in this search and the landowners expressed interest in a project.

Pre-Planning

Prior to submitting an application, surveys were conducted to better understand the site, community members were consulted, and the design optimised based on these findings.

Application Submission

The application will be submitted to the energy consent unit which, in consultation with the Scottish Borders Council, will issue a decision.
Ib Vogt will continue to communicate with the community throughout the consenting process.

Grid

In summer 2025 the project will receive a revised Gate 2 grid offer and connection date after the National Electricity System Operator (NESO) completes its ongoing connection reform programme. The applicant is already engaging in conversations with the local DNO (SPEN), iDNO, and ICP.

Construction

If the project is approved, construction usually begins about one year after consent. The construction process takes about 9-12 months and runs from spring through December, though the active construction phase typically lasts for only 6 months.

Operation

The project has a 40 year lifespan and will only need to be visited once or twice a year in a small maintenance van. The site will be monitored 24/7, including through CCTV.

Decommissioning

After the end of the approved life of the project, the site is decommissioned and returned to its original condition as a greenfield site. Solar panels and batteries will be recycled to enable the raw materials to be reused.

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Images - Freepik

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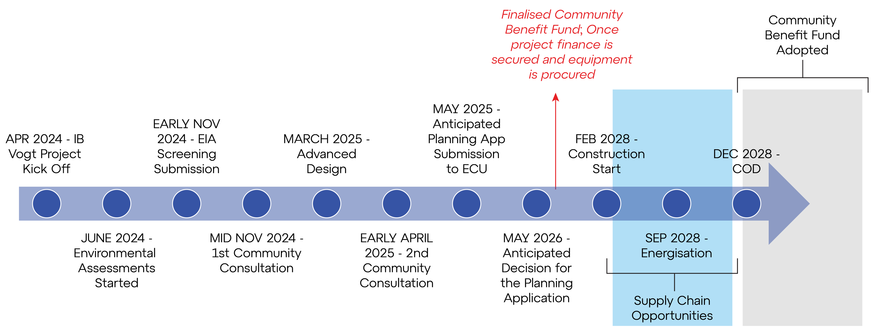
COMMUNITY ENGAGEMENT

As an industry leader, ib vogt UK has sought to engage with the local community from the early stages of the development. This allows us to identify and develop initiatives to address specific local needs. We want to support existing community projects and help new, local ideas become reality.

Community Benefit Fund Adoption Timeline



SUPPLY CHAIN OPPORTUNITIES

If planning consent is granted, ib vogt UK will encourage local suppliers and contractors to get in touch to outline what services could be provided by local businesses to help the local economy. This may include, but is not limited to:

- Fence installation and security contractors
- Grass-cutting and vegetation management contractors
- Shepherd and sheep farmers
- Rodent and pest control services
- Landscape and ecology contractors
- Engagement with local schools and colleges to conduct educational tours covering electrical engineering, as well as ecology.

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