

Welcome

Welcome to Galileo's community consultation event on the proposed installation of a Grid Battery Energy Storage System ('BESS') (up to 50MW) with associated development at land adjacent to the A801, circa 375m north west of Bathgate Substation, Bathgate, West Lothian.

This event forms part of the formal pre-application consultation process which is being undertaken prior to the submission of a formal planning application to West Lothian Council ('the Council') in the coming months. This consultation event gives you the chance to view our current plans for the Project, meet the project team, and provide feedback for us to consider as we develop our proposals.

A second event will take place **Thursday 29 August 2024** from 2pm to 7pm at Armadale Partnership Centre, 7 North Street, Armadale, EH48 3QB.

Please take as much time as you need to review the information presented. Members of the project team are on hand to provide you with answers to any questions or to discuss any comments on the Project.

Please note the
deadline for
feedback is
**12th
September
2024**

Leave Feedback

We would very much value your feedback as we seek to review and refine our plans, and would be grateful if you could take a few minutes to share your views and any comments on our proposal by completing a feedback form before you leave the exhibition.

Alternatively, you can return these by:

-  **Email:** middleriggbess@galileoenergy.co.uk
-  **Or by calling Stantec:** 0141 352 2360.
-  **Or by post:** Stantec, 5th Floor, 9 George Square, Glasgow, G2 1DY

Thank you for taking the time to visit today's event.

Please scan the QR code
with your mobile device to
view our website.



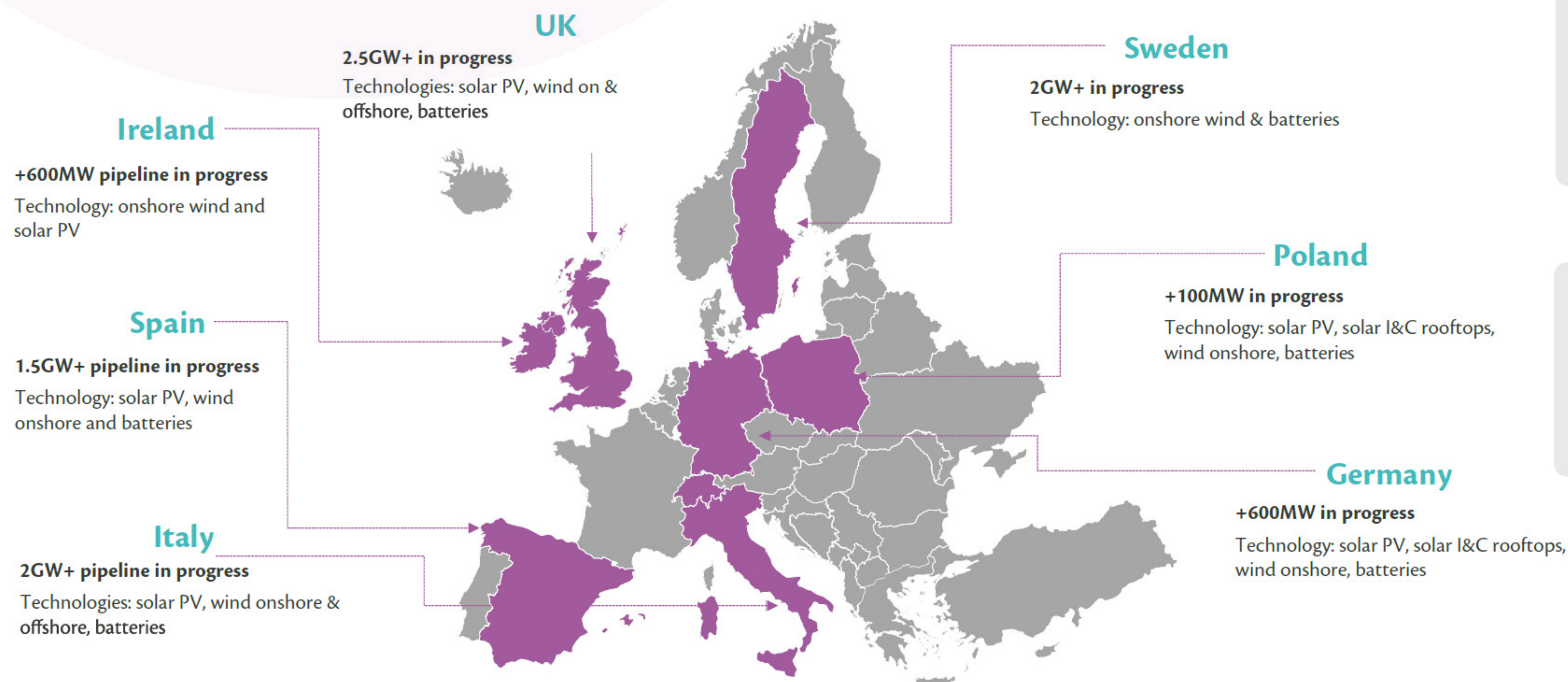
www.middleriggbess.co.uk

About Galileo Empower

Established in 2020, Galileo is a fast-growing renewable energy developer, owner and operator with a mission to play a significant role in the realisation of global emission reduction targets. We aim to do this by developing enough smart, efficient, highquality and integrated green energy projects such that renewable energy becomes the primary source of electricity for all energy consumers in Europe.

Galileo currently has a project development portfolio across multiple European countries, including the UK, Sweden, Italy, Germany, France and Poland.

Our senior management team is made up of leading energy and investment experts that bring decades of international experience across more than thirty markets, and our funders are long-term institutional investors with a global footprint, international mindset and collaborative mentality.



Infratil is an owner and operator of businesses in the energy (mainly renewables), transport, data centres and social infrastructure sectors. Infratil is listed on both the New Zealand and Australian Stock Exchanges (IFT.NZ, IFZ.AX) and currently owns assets in excess of NZ\$6.5 billion.



The Commonwealth Superannuation Corporation looks after superfunds designed specifically for Australian Government and Defence Force employees. Over A\$44 billion invested in high-quality private and public assets including wind farms, waste management infrastructure projects, and renewable energy initiatives that add to the net new supply of facilities.



The New Zealand Super Fund is a NZ\$45 billion sovereign wealth fund established by the New Zealand Government to partially pre-fund the future cost of universal pension payments. A long-term, growth-oriented investor, the Fund has returned 9.7% p.a. since inception in 2003. The Fund is managed by the Guardians of New Zealand Superannuation, a Crown entity.



The Morrison & Co Growth Infrastructure Fund ('MGIF') MGIF was established in 2018 to provide institutional and sophisticated investors with access to attractive risk-adjusted returns through investments in unlisted infrastructure assets. The primary focus of MGIF will be on growth infrastructure and investments utilising a sustainability approach.

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The Site & Context

The Site

The proposed site is located c.700m to the west of the urban boundary of Bathgate and c.550m to the northeast of the urban boundary of Armadale, with a total area of approximately 3.5ha. The site currently comprises agricultural land, which is used for grazing and is bisected by several telecommunication wires and associated posts. The northern, eastern and southern boundaries of the site are defined by fencing, with a number of scattered mature trees also running along the eastern boundary of the site. The western boundary of the site is defined by an embankment, atop which sits a belt of mature trees, providing screening from the site to the A801, which lies directly adjacent to the site.

Battery Storage – Context

Battery storage technologies, which are also sometimes referred to as ‘Battery Energy Storage Systems’ (or ‘BESS’), facilitate the storage and release of energy generated from renewables, such as wind and solar farms.

Batteries of varying scale are an ideal technology to support the increasing dependency on low carbon technology in the UK’s energy generation mix and facilitate the stability of the network as balancing supply and demand. National Grid highlights energy storage as a key growth area and estimates that as much as 30GW installed capacity could be required by 2050.

BESS has a key part to play in ensuring homes and businesses can be powered by low carbon energy, even when the sun is not shining, or the wind is not blowing. For example, the UK has the largest installed capacity of offshore wind in the world, but the value of clean energy can be increased by improving the ability to capture this energy and purposefully deploy it, increasing production and potentially reducing costs.



Example Battery Storage facility



Context plan



Please scan the QR code with your mobile device to view our website.

Policy Context

Climate Change & Policy Context

The Project is set against the backdrop of the climate emergency, and the need to transition to renewable energy sources, whilst reducing greenhouse gas emissions globally from polluting fossil fuels. The Project would contribute to local and national aspirations to reduce emissions and grow the renewable energy sector. A recent Department for Energy Security and Net Zero review confirmed that:

The transition to a decarbonised power system will significantly increase the need for low carbon sources of flexibility to replace unabated gas generation and ensure we can continue to balance supply and demand at all times in a net zero world. To ensure security of supply in 2035, we expect to need 55GW of short-duration flexibility and between 30 to 50GW of long-duration flexibility.” (Pages 67-68, Review of Electricity Market Arrangements, Second Consultation Document, Department for Energy Security and Net Zero).

In terms of planning policy, the Development Plan for the site comprises National Planning Framework 4 (‘NPF4’) and the adopted West Lothian Local Development Plan (‘LDP’)

NPF4

At a national level, within NPF4, energy storage is supported in principle, with NPF4 Policy 11 – Energy stating that “development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported. These include:’ ... ‘iii. energy storage, such as battery storage and pumped storage hydro”.

West Lothian LDP

At a local level, the LDP proposals map identifies the site as falling within the Countryside Belt (Policy ENV7), however other policies in the LDP provide ‘in principle’ support for renewable energy development, subject to them being environmentally acceptable and being in accordance with other relevant LDP policy.

Policy NE7 – Countryside Belts and Settlement Setting details that “within designated Countryside Belts, development will not be permitted unless it can be demonstrated that the proposal satisfies the following criteria:”... “a) the proposal is environmentally acceptable and the criteria set out in the Policies ENV 1 – ENV 6 of the Local Development Plan can be met; or b) the proposal will not undermine any of the strategic purposes as set out above.”

Policy NRG1 – Climate Change and Sustainability establishes WLC’s commitment to a reduction of greenhouse gas emissions through a wide range of measures to mitigate and adapt to climate change, assisting in achieving Scottish Government’s Climate Change Adaptation Programme and the promotion of sustainable land uses, developments and designs. This includes the Council’s Climate Change Strategy 2015-2020 which aims to drive change by addressing energy sourcing and use.

Policy NRG4 – Other Renewable Energy Technologies sets out that there is in principle support for renewable energy schemes provided that: “a) the proposal is environmentally acceptable; b) the proposal accords with other policies set out in the Local Development Plan, specifically ENV 1, ENV 5, ENV 11, & EMG 1 relating to landscape character, carbon rich soils and the water environment; and c) there would be no significant impacts on the natural and historic environment or on local communities.”

Policy ENV3 – Other Development in the Countryside notes that “Development in the countryside will only be permitted where the following guiding principles are taken into account: a) the development is justified for agriculture, horticulture, forestry, countryside recreation or tourism or other rural business use; and b) the proposal provides for the restoration of a brownfield site where there is no realistic prospect of it being returned to agriculture or woodland use and the site has no significant natural heritage value in its current condition; or c. the proposal is for the replacement of a building in the countryside which is of a poor design or in a poor structural condition”.

Proposals

Proposed Development

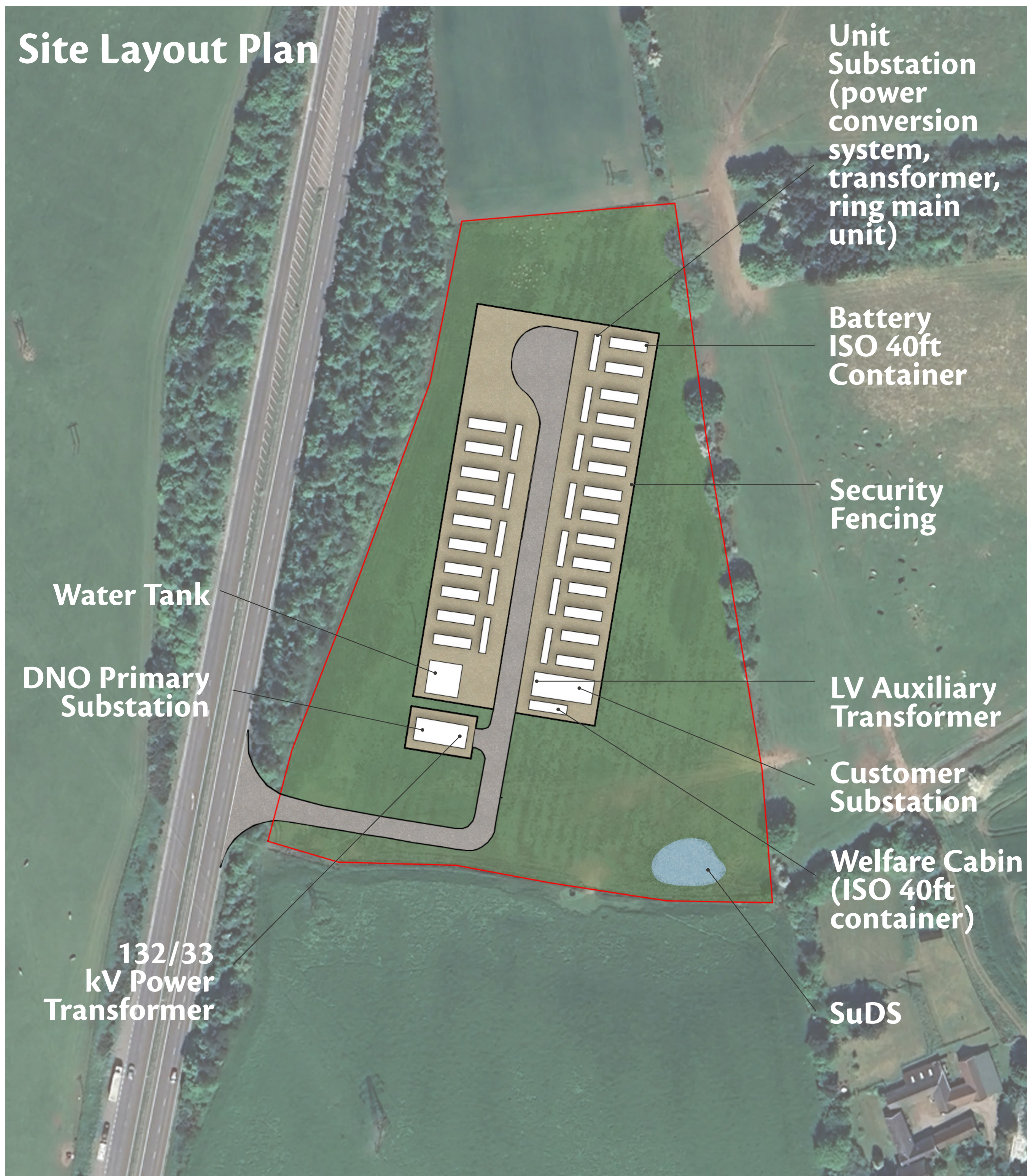
We consider a range of factors when evaluating land available to deliver a utility-scale BESS, including planning and environmental factors, existing use and quality of land, as well as any designations and constraints. The key elements of the proposed BESS facility and associated development are as follows:

- Battery energy storage modular racks, typically with indicative size of c.3m high;
- MV Skids (Power Conversion System, Transformer and Ring Main Unit together) with an indicative size of c.3.5m high;
- A switch room, control room and welfare container with an indicative height of c.3.5m
- Fencing around the site boundary, which will be 2.4m high “V” mesh security fence;
- Security lighting and infrared CCTV columns with an indicative height of 4.5m; and
- Associated infrastructure (access, drainage, landscaping etc).

One of the factors ultimately informing site choice when looking at potential locations for new utility-scale battery storage development is available capacity on the local grid. BESS developments have to be located within close proximity of a viable grid connection that has sufficient capacity to import and export power, storing this and releasing it into the grid at times of peak demand.

It is anticipated that the development will connect into the existing substation which is located on the south side of the A89, close to the site. Delivery and installation of the cable route will be carried out by a party holding a licence under Section 6 of the Electricity Act 1989 utilising their ‘Permitted Development’ rights. Accordingly, the cable route does not form part of the proposed development for which planning permission is being sought.

Site Layout Plan



Environmental & Technical Considerations

A range of technical assessments are being undertaken to allow our team to understand and respond positively to the opportunities and constraints of the site. These reports will be available when the formal planning application is submitted, however, initial baseline work suggests that there are no significant constraints to development that cannot be appropriately mitigated.

Transportation & Access

Although the access point to the site is yet to be fully confirmed, discussions are ongoing with West Lothian Council Roads Service and it is anticipated that a new vehicular access to the site will be formed via a new left in/ left out junction directly from the A801 dual carriageway, to the west of the site.

During the construction of the development there are anticipated to be up to 4 HGV movements and 30 light vehicle (Cars/Vans) movements per day. Once operational the traffic movements are expected to be minimal - i.e. four two-way vehicle movements per month.

Construction traffic will join the A801 from the north or eastbound junctions of the M8 travelling north towards the Heatherfield Roundabout and then continuing on the A801 until the proposed site access is reached. Current estimates suggest that the construction period for the development will be c.36-40 weeks.

Noise

A Noise Impact Assessment ('NIA') is currently being undertaken and will accompany the planning application when submitted. Within this NIA, appropriate mitigation measures will be identified, where necessary, to avoid any adverse impact to any noise sensitive land uses in the surrounding area. Given the low number of residential dwellings near the site, it is not anticipated that there will be any adverse impacts on residential amenity.

Flooding & Drainage

SEPA flood maps identify that all land within the site is outwith any areas of medium to high risk of coastal, river or surface water flooding. Surface water from the development will be mitigated and managed using Sustainable Drainage Systems ('SuDS') which will be designed in accordance with best practice measures. SuDS techniques aim to mimic pre-development runoff conditions, control flows to the rate of runoff that might have been experienced at the site prior to the development and mitigate potential increase in flood risk to downstream receptors as a result of the development. Further details of flood risk and the outline drainage strategy will be presented in a Flood Risk Assessment ('FRA') and Drainage Impact Assessment ('DIA') report which will accompany the planning application.

Ecology

An ecological desk study has been undertaken and found there are no statutory designated sites within 2 km of the proposed development with ecological connectivity to the site. There are a total of 11 non-statutory designated sites within 2 km of the proposed development. The closest site is Colinshiel Wood, a Local Biodiversity Site, located approximately 180 m from the site boundary which has no ecological connectivity to the site. There are total of 43 notable woodland areas (ancient and native) woodlands within 2km.

The site is dominated by semi-improved grazed grassland with native woodland to the west of the field and scattered mature broadleaved trees located along the eastern edge of the field. A Tree Survey will be submitted with the planning application and all practicable means to avoid any impact to the trees will be taken.

Bespoke ecological enhancement measures for the development, incorporated within the design, along with long-term management requirements will inform the planning application, along with a Biodiversity Enhancement Strategy. The planning application will demonstrate that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention.

Given the scale of the development and the distance between the site and the areas of conservation designation, no direct or indirect impacts are expected.

Environmental & Technical Considerations

Ground Conditions

Stantec is carrying out a desk-based Ground Conditions Assessment (desk study) of the proposed development. The desk study includes a collection of all the relevant information on the site, such as the geology, ground levels, current and historical land uses, the water environment, ecological systems and potentially sensitive receptors (for example human health and properties). The objective is to identify unacceptable risks to sensitive receptors from the potential contaminated condition of the land so that appropriate action can be considered and taken to address those risks, as well as identifying any land stability hazards that may require management.

Based on the information available at this early stage of the desk study, the site is not considered to be affected by site-wide contamination. It is likely that some small areas of Made Ground (man-made ground) are present along the east and west site boundary relating to a ‘Tip’ associated with a former off-site colliery (coal mine) mapped to the east and the development of the A801 to the west. Following the desk study, the next steps will include an intrusive ground investigation to characterise the ground conditions at the site and to inform the detailed design of the development.

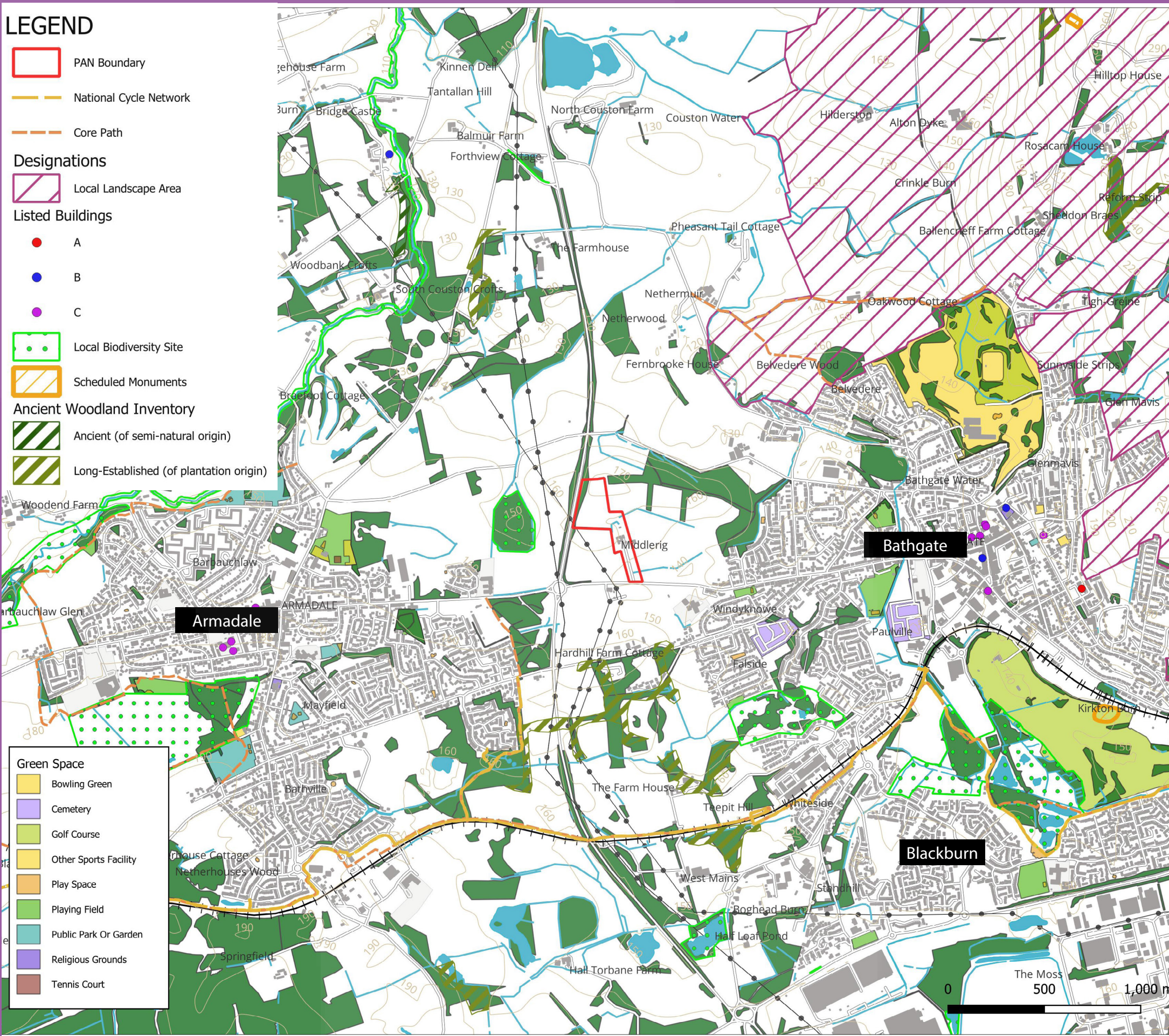
Initial findings suggest that the site has been subject to mining activity in the past, with Coal Authority and British Geological Society mapping indicating that there are four coal seams which outcrop within the site boundary. However, there are no records of mine entries on the site or mineworkings beneath the site at shallow depth (which are likely to impact on surface stability). A Coal Mining Risk Assessment will be undertaken to investigate this further and will accompany the planning submission.

Landscape & Visual

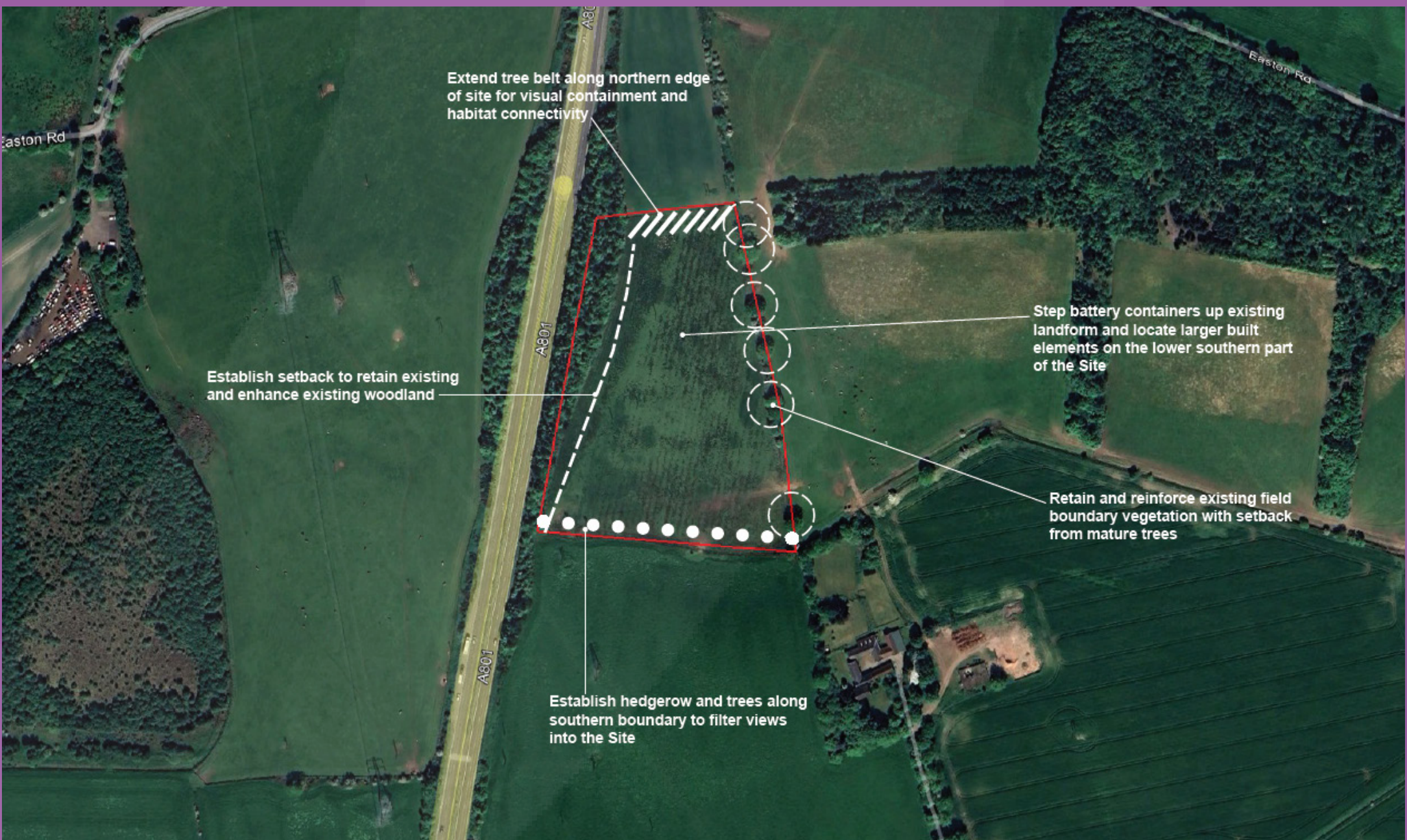
Other than the site being located within Countryside Belt, there are no other landscape designations covering the site and there are no cultural heritage designations such as Listed Buildings within close proximity to the site. The site is identified as land capability 3.2 (not considered to be prime agricultural land) as per the national scale land capability for agriculture. A Landscape and Visual Appraisal (‘LVA’) is currently being undertaken to identify the likely landscape and visual effects of the proposed development. Initial findings are being used to inform the design and layout of the proposed development, and the finalised report will accompany the planning application when submitted.

Generally, the site is part of a ‘Lowland Plateau’ landscape character, covering the broad and settled valley floor, as part of a pastoral landscape. There is evidence of historical mining activity, and the area is already characterised by widespread residential and commercial development and major transport corridors and infrastructure, such as the A801.

The site is naturally well screened from the A801 (west) due to the presence of existing trees / woodland (which will be retained) and the embankment. The site rises to the north so consideration will be given to locating development on lower parts of the site and also provision of additional landscape planting / screening along the northern / southern boundaries, as this will act to significantly reduce the extent of landscape and visual effects.



Landscape Context Plan



Opportunities And Constraints Plan

Frequently Asked Questions

1. WHAT ARE THE BENEFITS OF BESS?

The significant benefit that BESS provide is the ability to redistribute the energy from when it was generated to when it is needed whilst providing additional and essential flexibility services to our grid network, for example, to keep the frequency at the right level which in turn, avoids black out events and secures the future of our electricity network in the UK.

In essence, BESS facilities store the excess energy that is produced during high winds or sunny days and then export that stored energy back to the grid when generation is low. Energy storage provides a vital 'balancing role', helping to ensure that the grid remains stable at times of stress and enabling the rollout of zero carbon energy. This will ultimately assist with more affordable energy bills as renewable energy is one of the cheapest sources of power.

2. WHAT SECURITY MEASURES WILL BE IN PLACE?

There will be a 2.4m high fence around the perimeter of the site and there will be v mesh fencing around the transformers. In addition, there will be a discrete infra-red beam detection system with no artificial light or noise. The beam detection system is also located within the fence perimeter close to the containers so is not visually obtrusive.

3. HAVE YOU CONSULTED WITH SCOTTISH FIRE & RESCUE SERVICE?

The Scottish Fire and Rescue Service has been invited to comment on the proposals and any recommendations they make will be taken on board at this early stage and incorporated into the design of the proposed development.

4. HOW LONG WILL CONSTRUCTION TAKE?

The construction period typically lasts between 36-40 weeks depending on the size of the site.

5. WHAT IS THE LIKELIHOOD OF A FIRE OCCURRING?

The chances of a fire are extremely rare given the latest technology used, but a number of measures have been put in place to address this. For example, each battery container will have a fire detection and suppression system and will be continually monitored by a battery management system, which would report any faults.

If a fault or increase in heat is detected through this monitoring, there will be a series of measures used, such as automatic power disconnection, sprinklers and inert gases, which reduce the level of oxygen available.

In the event of a fire, the suppression systems contained within the unit would use a non-toxic gas which is not damaging to the environment to put this out. A venting system would also prevent flammable gases from building up in the battery unit. Units are also sufficiently separated to prevent any fire spreading.

We are not aware that the equipment used as part of the scheme leads to any toxic fumes.

A Fire Safety Management Plan will be submitted as part of any future application, following consultation with the fire service. This document sets out the design specifics of the scheme along with details of fire identification, suppression and mitigation systems that will be used in managing and operating the site.

6. WHO IS RESPONSIBLE FOR DECOMMISSIONING?

This will be the responsibility of Galileo as applicant and all of the equipment will be removed and recycled at the end of the lease term. The ground will be left in a good ecological, landscape and level condition. This will be a requirement of any planning approval granted.

NEXT STEPS & TIMELINE

We continue to progress a number of surveys and information from these and from this community consultation event will inform further refinements to the Project layout and design.

We will host another community consultation event on 29 August 2024 (2pm to 7pm at Armadale Partnership Centre, 7 North Street, Armadale, EH48 3QB). This will allow us to share an updated design, information on how the proposals have developed and why, and to seek further feedback from local residents and stakeholders.

 April/May 2024

Initial Site
assessment and
surveys underway

June 2024

Submission of
proposal of
application notice



June 2024

Submission of
pre-application
enquiry to
West Lothian Council

June 2024

Environmental
Impact Assessment
screening request
issued



August 2024

Community
consultation events

September/
October 2024

Further refinement
of proposals in
light of community
feedback and
technical work



October 2024

Submission of
planning
application to
West Lothian Council

March 2025

Determination
of application
(estimated)



Please note the
deadline for
feedback is
**12th
September
2024**

Keeping in touch

If you have any questions, want more information on the plans or would like to discuss the project with the development team, please get in touch at any time.

Email: middleriggness@galileoenergy.co.uk

Phone: 0141 352 2360.

Post: Stantec, 5th Floor, 9 George Square,
Glasgow, G2 1DY

Feedback can also be provided via the
project website:
www.middleriggness.co.uk

Thank you

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