BSP - Hertz II Battery Energy Storage System

Project Fact Sheet

Project Overview

BSP is developing the Battery Energy Storage System (BESS) plant, Evecon Solar 435 OÜ ("Hertz II" or the "Project") in Harju County, Estonia.

Figure 1 - Approximate Hertz II Site Boundary and Setting

BSP Company Background

BSP is a Joint Venture (JV) founded in 2024 between the three shareholders Evecon OÜ[1], Corsica Sole[2], and Mirova[3]. BSP is focused on the development, construction and operation of high-performance BESS projects in Estonia and the Baltic region. The JV aims to facilitate the transition and synchronisation of the Baltic countries towards renewable energy sources by providing faster power response with automatic frequency restoration to balance energy supply fluctuations as renewable technologies are increasingly integrated into the grid.

The Company's sole country of operation is Estonia.

The Project

The Project includes the installation and operation of a Battery Energy Storage System which is made up of battery pack units that will capture and store energy for later use. The Project aims

[1] Evecon OU: https://en.evecon.ee/
[2] Corsica Sole: https://corsicasole.com/
[3] Mirova: https://www.mirova.com/en

to enhance energy reliability in Baltic energy grids and also support the integration of renewable energy sources within the grid system. The objectives of the Project include:

- Provides fast power response to instant balancing needs
- Provides energy reserve to deal with renewable power fluctuations.
- Reduce greenhouse gas emissions and support the green energy transition.

Construction of the Project is expected to start in Q2 2025 and is expected to be completed and operational by Q3 2026.

Battery Energy Storage Systems Technology

What are Battery Energy Storage Systems?

Battery Energy Storage Systems (BESS) are an advanced technology used to store electrical energy for later use. These systems play an important role in the modernisation of the energy grid by providing a reliable and efficient method of balancing energy supply and demand. BESS can be used to store excess energy generated by renewable sources (such as wind and solar power) and release this as required in times of higher demand. This improves the stability of the grid and supports the transition towards renewable energy.

Figure 2 - Photos of a Battery Energy Storage Systems

How do Battery Energy Storage Systems work?

BESS projects include the following four key components:

- Batteries – used to store the electrical energy.
- Inverters – used to convert stored energy back into a usable form for the grid.
- Transformers – used to adjust the voltage level between the system and the grid.
- Battery and energy management system – used to control all the components in the system.
- Control systems – for energy management, security and fire suppression used to manage the operation of the BESS efficiently and safely.

What are the stages of developing a Battery Energy Storage System?

Developing a BESS project involves several key stages as shown below:

1. **Site preparation**: laying of access toads and installation of temporary construction and security fences
2. **Earth works**: Perform earthworks to level the entire site, preparing it for foundation work.
3. **Foundation Installation**: Construct foundations to support the battery containers and other equipment.
4. **Equipment Delivery and Installation:** Transport and install battery container systems and electrical equipment, ensuring all components are properly connected and secured.
5. **Commissioning and Testing**: Commission the system to ensure correct installation and intended operation. Thoroughly test to verify performance and safety before full operation.

Project Benefits

The Project will offer a number of environmental and social benefits to the local area including:

- **Environmental:**
  - **Support for the integration of renewable energy sources** by providing a buffer for the intermittent nature of renewables such as solar and wind. The BESS project is able to stabilise the peaks in demand and supply in this way, making it easier to increase the proportion of renewable energy sources at the grid level.
  - **Reduced greenhouse gas (GHG) emissions** in the long term as by facilitating the integration of renewable energy sources and storing excess energy produced and releasing it when needed. This reduces the grid's reliance on fossil fuels and lowers GHG emissions as a result.
- **Local Economy and Energy Reliability:**
  - The BESS project will be able to enable energy arbitrage and therefore may result in **cost savings**. This is because the system can store energy when demand and therefore prices are lower, and release the excess when demand and prices are higher, providing a more cost-effective supply of energy to consumers.
  - The Project will also enable Estonia to successfully transition to cover 100% of its electricity consumption by 2030 using renewable energy. The BESS will provide the **balancing services** necessary to accommodate intermittent energies (wind and solar) on the electricity grid
- **Social**:
  - The Project will support the stability of the grid, improving reliability of supply by regulating frequency. The BESS system will be able to quickly respond to changes in grid frequency and will provide the essential regulation to maintain stability. **Improved energy reliability for the local communities** using the grid, particularly during winter months where power outages may be more common and renewable energy sources such as solar power are less reliable.

Potential Project Impacts and Mitigation Measures

The potential environmental that may be posed by the Project relate to construction, repair and maintenance of the BESS facility. The following potential impacts have been identified alongside the mitigation measures that will be in place to avoid or minimise the risk:

- **Fire safety:** there is a small potential risk for thermal fires due to the flammable materials used within the batteries and the compact nature of the facility. However, the battery storage systems are built with robust fail-to-save systems which will shut down the facility in the event of any faults. Additionally, the site will have a comprehensive fire suppression system including fire alarms, extinguishers, and a direct link to the local fire service station. The project design ensures that the groups of battery units are spaced adequately apart to reduce spread in the event of a fire. Furthermore, as a key fire avoidance measure, lightning protection towers will be placed around the facility and properly earthed.
- **Noise:** the BESS facility can produce a low, constant level of noise during operation which may cause disturbance to nearby residents and businesses. To mitigate this, BSP will consult with all nearby residents and businesses and will undertake noise monitoring assessments to establish any potential impacts on sensitive receptors. Following this, BSP will implement the necessary noise mitigation measures such as sound barriers, and silencers to the site to reduce disturbance.
- **Battery Waste:** batteries have a limited lifespan and will need to be replaced when they reach the end of their life. The waste from these batteries contains materials like lithium and nickel, which can impact the environment if not managed properly. Currently, the contractor is responsible for handling the BESS units when they are no longer usable and recycling them. BSP will create a Decommissioning Plan that outlines the basic steps for safely shutting down the Project site at the end of its life, including restoring the site according to local laws, permit requirements, and international best practices.
- **Biodiversity:** the site has been used for arable farming until recently, so no habitat loss or impact is expected. Additionally, the site is located at an adequate distance from hedgerows and adjacent forest.
- **Site Safety and Security:** For the safety of the community and to protect against electrocution risks, security fencing, CCTV, and safety signs will be installed to prevent unauthorized access.
- **Air Quality:** emissions from construction are expected to be minimal, mainly coming from heavy goods vehicles transporting materials and diesel-powered equipment on site. During the operational phase, the BESS sites will not have any direct sources of air emissions.

BSP have an Environmental and Social Action Plan for the project, which includes commitments to ensure the fully effective management of all environmental, social and safety considerations for the project. This includes the delivery of all lenders policy requirements and compliance areas, including items such as ensuring all required safety and fire arrangements are in place, control of any site impacts, the provision of information to the host community and other stakeholders and the need for effective response to any enquiries or complaints.

Contact BSP

For any enquiries, seek further information or any clarifications, please use the contact information below:

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