NURIZON

CASE STUDY

Barton Battery Energy Storage System (BESS)

Empowering a Sustainable Future through Smart Engineering Design

Large-scale renewable energy

The Barton Battery Energy Storage System (BESS), located in Preston, Lancashire, represents a significant step forward in the United Kingdom's transition to sustainable energy. Nurizon. was responsible for delivering the full civil and structural engineering design for this large-scale renewable energy infrastructure project. Working alongside Excalon Energy as project coordinators and quantity surveyors, Nurizon played a central role in transforming Barton into a future-ready hub for energy storage and grid stability.

At its core, the Barton BESS project is designed to store renewable electricity and release it on demand — enhancing energy reliability, supporting the UK's clean energy transition, and promoting long-term grid resilience. Through innovative design and precise engineering, Nurizon ensured that every element of the infrastructure aligned with environmental best practices and technical excellence. The project's design phase covered RIBA Stages 3 and 4 (Detailed Engineering Design), with construction timelines aligned to the client and contractor's delivery programme.

Nurizon's scope of work was both extensive and multidisciplinary

The team provided expertise across civil and structural engineering, geotechnical investigation, for the bulk earthworks, engineered platforms, road access design, and reinforced concrete and piling designs. In addition, the team developed a comprehensive stormwater management system, detailed tender documentation, and a Bill of Quantities to ensure design precision and cost control.

This integrated approach provided the client with a complete, tender-ready design package that reflected Nurizon's technical strength and commitment to sustainable infrastructure delivery.

Our structural design innovations were impactful.

Nurizon developed modular foundation systems capable of supporting high-load battery structures, ensuring durability, stability, and ease of installation. These designs were developed under ISO 9001-certified processes, ensuring that every stage of engineering adhered to rigorous quality, safety, and environmental standards. The outcome is a resilient, future-proof platform that supports heavy electrical infrastructure while maintaining sustainability and operational efficiency.

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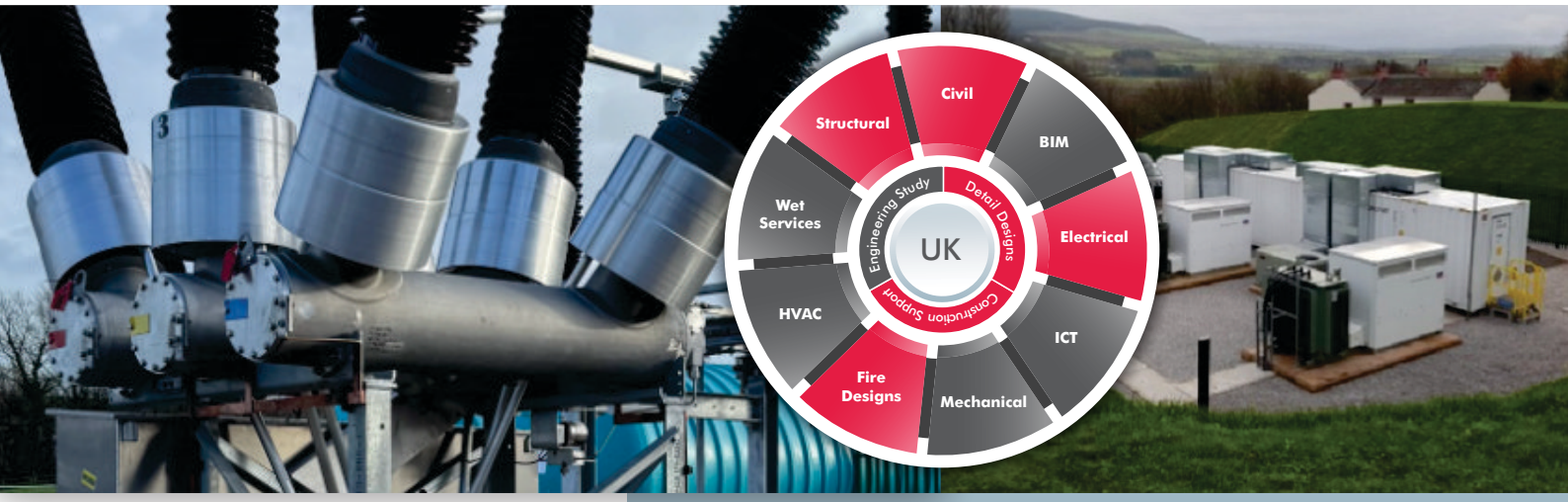

Seamless design process

Through close collaboration with Excalon Energy, and local authorities, Nurizon delivered a seamless design process that balanced compliance, constructability, and sustainability. The result is a fully engineered, tender-ready design that not only supports the UK's renewable energy goals but also demonstrates Nurizon's commitment to technical excellence and responsible engineering.

Innovative, high-performance engineering

The Barton BESS project stands as a showcase of Nurizon's ability to deliver innovative, high-performance engineering solutions for complex renewable energy developments.

By combining sustainable design principles with technical precision, Nurizon continues to empower energy resilience and shape a smarter, cleaner, and more sustainable future.

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Engineering **Solutions**
Inspired by **Vision**

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