Tensar®
A Division of CMC

RENEWABLE ENERGY SOLUTIONS

Battery Energy Storage Systems (BESS)

Firm foundations and safe permanent access over any ground. Tensar has the experience and expertise to make a real difference with groundworks design for your energy storage project.

SHILTON LANE BESS, SCOTLAND
Construction of a state-of-the-art 40MW battery energy storage facility on a green-field site needed a flat, clean and stable working platform. To learn more, please **scan the QR code.**

Battery energy storage systems are integral to balance the grid due to fluctuating demand and ensure generating assets can store electricity while the grid undergoes upgrades.

They need to be located where the grid struggles to meet peak demand, or close to renewable energy sources. This often means building on weak soils, or brownfield sites close to urban areas.

This presents geotechnical challenges for access roads and working areas during construction — including ensuring high quality permanent access for maintenance and fire access during its working life. Tensar has proven groundworks solutions, which if considered from the earliest stages of a project, can reduce environmental impact and lower construction costs.

DECARBONISE

Minimising the construction carbon footprint of any project is essential. It is particularly so for renewable energy projects. Tensar solutions deliver meaningful savings in total carbon emissions by significantly reducing the volume of quarried aggregate required on a project — helping to decarbonise the project supply chain.

PROTECT

Every hydrogen production and storage project will impact the local environment. Stakeholder concerns will need to be addressed at the planning stage and measures should be taken in the design and construction stage to minimise and mitigate impacts on hydrology, ecology, local infrastructure, and communities. Tensar solutions, when adopted from the outset, can help to protect the environment while minimising hydrological and ecological impacts, as well as aid progress towards biodiversity net gain targets.

REDUCE

Local communities and infrastructure can be heavily affected during the construction of any major project. Low volume rural roads are particularly at risk from the higher truck loading from construction traffic. Tensar solutions significantly reduce the volume of aggregate required and material excavated and removed from site. This alleviates the traffic management schedule by reducing vehicle movement on and off site, improving safety — minimising damage and congestion to local roads and reducing impact on local communities.

TRIED & TESTED

With Tensar Renewable Energy Solutions, you can save time, cost and carbon, and have a positive community impact on your next project.

TENSAR® SOLUTIONS FOR BESS

- Access roads
- Noise reducing perimeter green slope systems
- Crane platforms
- Cable trenching
- Foundation support
- Site compounds

The three key project stages where **Tensar can make a difference.**

When can Tensar involvement have maximum effect and benefit your project?

PLANNING

Planning Input

- Preliminary proposals and outline design for planning purposes.
- Environmental impact assessment — minimise and mitigate effect on hydrology and ecology.
- Decarbonisation measures.
- Planning enquiry support.

DESIGN

Design Input

- Scheme proposals advice based on 40+ years experience.
- Optimised and detailed design solutions with quantified carbon savings.
- Free Tensar+ cloud-based design software.
- Costed alternative solutions.

CONSTRUCTION

Construction Input

- Value engineering of crane platforms, laydown areas, compounds and temporary access roads.
- Expert on-site support.
- Unrivalled experience in construction over extremely weak soils and peatland.
- Decarbonsing the supply chain.

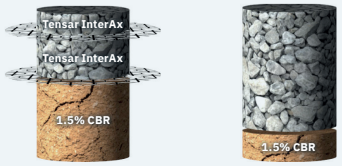
How does Tensar® Technology benefit BESS projects?

Tensar InterAx geogrids are engineered to stabilise and strengthen granular soils. The geogrid interlocks with the granular particles, stabilising the soil to create a stronger, stiffer material (MSL Mechanically Stabilised Layer).

By incorporating one of more layers of Tensar geogrid in a layer of aggregate, the bearing capacity is increased, protecting the weaker soils below. This enables thinner aggregate layers to be used, reducing cost and construction time.

Access Track

With geogrid | Without geogrid



44% reduction in thickness (Typical)

Compound Area

With geogrid | Without geogrid

50% reduction in thickness (Typical)

Permanent Roads

With geogrid | Without geogrid

50% reduction in thickness (Typical)

Access roads | Working platforms | Crane platforms | Site compounds

let us help you with your next challenge: tensarinternational.com email: tensarinfo-intl@cmc.com

We're CMC. You'll find our products strengthening and reinforcing the infrastructure nearly everywhere on the planet – in sports stadiums and public buildings as well as highways, bridges, railways and other structures. To serve this global market, CMC maintains facilities across the United States, Europe and Asia. These sites include everything from local recycling centers, steel mini-mills and micro-mills to large-scale fabrication centers, heat-treating facilities as well as other operations. **cmc.com**