



# Offshore Wind Energy

All offshore projects start onshore. Tensar has the experience and expertise to make a real difference with planning, design, and delivery of onshore facilities for your offshore wind energy project.

To get offshore turbines in place and operational requires extensive onshore enabling works, laydown areas, substation construction, and cabling. All of which involve groundworks for foundations, crane platforms, access roads, and working platforms.

Typically, these onshore works are located in areas of marshland or weak estuarine silt. The coastal location presents technical problems but also impacts on planning constraints, ecological concerns, and other stakeholder issues. Tensar has proven groundworks solutions, which if considered from the earliest stages of a project, can reduce environmental impact and lower construction costs, while addressing many stakeholder concerns.



## TRITON KNOLL OFFSHORE WIND FARM, LINCOLNSHIRE, UK

Subgrade stabilisation, using Tensar geogrid, delivered cost, time and carbon savings for 40km of haul road.

## 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 OFFSHORE WIND ENERGY

- ➞ Temporary and permanent access roads
- ➞ Crane platforms
- ➞ Transformer and substation compounds
- ➞ Laydown and assembly areas
- ➞ Cable trenching and cable pull roads



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

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



Image courtesy of Triton Knoll RWE.

## PLANNING



## DESIGN



## CONSTRUCTION

### 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 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 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.
- ✓ Decarbonising the supply chain.

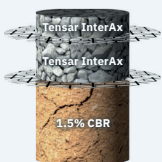
## How does Tensar Technology benefit wind energy projects?

**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 or 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

➞ Cable pull roads

let us help you with your next challenge: [tensarinternational.com](https://tensarinternational.com) email: [tensarinfo-intl@cmc.com](mailto:tensarinfo-intl@cmc.com)



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