



Completed scene of the project in October 2021



Working Platform
Nº 464

KOSY Bac Lieu Phase 1 Wind Power Plant

📍 Bac Lieu Province, Vietnam

CONSTRUCTED IN 2021

Benefits

42% reduction
in working platform thickness

Ease of installation
allowed for quicker construction
and kept the project moving

Proven savings
in reduced aggregate,
construction time & costs.

Multi MSL to accelerate the construction progress

Mechanically stabilised layers (MSL) incorporating Tensor's stabilisation geogrids not only created safe and stable working platforms for the operation of heavy crawler cranes over the weak muddy clay but also accelerated construction and reduced costs. The project was kept on track to meet the commercial operation date.

CLIENT'S CHALLENGE

The wind farm was constructed on challenging ground conditions with consistent areas approximately 20m thick of very low strength clay (CBRs around 0.5% from the ground surface, and slightly increasing with depth). A working platform was needed to support heavy crane operations over weak and saturated subgrade whilst also being economical and easy to build due to the tight schedule.

TENSOR SOLUTION

The design of the working platforms employed 3 layers of Tensor's stabilisation geogrid incorporated into stone aggregate to create the MSL. The multi Tensor MSL platforms are around 42% thinner than conventional design without geogrid, while meeting loading requirements and minimising the aggregate. In addition to this, it helps to reduce construction time and cost as it is safe, rapid and easy to construct on site.



(Left & Right) Zoomlion ZCC9800W crawler crane in operation on the multi Tensar MSL platform

PROJECT BACKGROUND

Kosy Bac Lieu Windfarm in Bac Lieu province, commenced construction in Oct 2020 and is the first onshore wind farm of Kosy Group. The project includes 9 Goldwind turbines, with a capacity of 40.5MW, and is expected to provide an average power output of about 116.7 million kWh annually.

Digging out and replacing the muddy clay with imported materials to form stable and safe working platforms would have been time-consuming and expensive. The Covid-19 restriction in 2021 posted greater challenges due to lack of construction materials and logistic problem. It was imperative to find a practicable alternative.

By working with consultant Vatec and the client, Tensar geogrids incorporated within stone aggregate were proposed to form the Mechanically Stabilised Layer (MSL). This multi-MSL platform was capable of supporting the operation of heavy crawler cranes Zoomlion ZCC9800W and Demag CC3800 to erect the turbine components.

Tensar was able to optimise the platform layer thickness designs to reduce the construction requirements in terms of material and time. These optimised designs also helped the Client to meet the deadline of COD (Commercial Operation Date) following the FIT (Feed-In Tariff) policy of the Vietnam government. The Tensar solution contributed to reduced carbon footprint on this windfarm project which was specifically important for the renewable energy scheme.

Main contractor

Atlantic Group
Development JSC

Consultant

Vatec Energy Engineering
Consulting Co., Ltd

Client

Bac Lieu Kosy Wind
Electric JSC – a member of
Kosy Group