

RENEWABLE ENERGY

Wind Hoisting

Some heavy lifting behind new Coega wind turbine project

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A wind turbine was installed at Coega, in Port Elizabeth, in May and was lifted into place by heavy lift and relocation specialist Vanguard's GTK 1100 crane, as part of the first phase of the first commercial wind farm in South Africa.

Vanguard MD **Bryan Hodgkinson** says that the crane arrived in the country just in time to erect the wind turbine. "The GTK 1100 was ideally suited for this assignment and is a significant breakthrough in the heavy lift crane market. It was designed to lift ultraheavy loads to extreme heights and can be deployed in facilities such as wind turbine farms, power stations and refineries," he says.

The V90 2-MW wind turbine boasts a blade diameter of 90 m, and a hub height of 95 m. It weighs 97 t and has three blades, each 44,5 m wide. It arrived at Coega harbour on Saturday, May 8, and was loaded onto four trailers and transported to site.

Upon arrival, the wind turbine was lifted in sections, starting with the four tower sections

being positioned on a preset platform. The nacelle and hub, weighing 97 t, were connected on the ground and lifted into position as a complete unit. Lastly, the blades were lifted into position separately.

The GTK 1100 crane completed the lift in three days, excluding preparation time.

Hodgkinson says that a key benefit of the GTK 1100 is its fast setup. The vertical rigging of the self-erecting tower enables the crane to be operational in just four to six hours.

"The crane has a small footprint of 18 m × 18 m for a reduced job site area and its self-levelling function results in reduced ground preparation. Where other large super lift cranes need between 20 and 40 truckloads of parts to be mobilised to perform such heavy lifts, the GTK 1100 only needs four," he explains.

The GTK 1100 crane at Coega is the seventh of its kind in the world and the first one on African soil. It can accommodate the lifting of 100 t to heights of more than 100 m and has



TURBINE TOWER

The wind turbine was lifted in sections, starting with the four tower sections being positioned on a preset platform

a centre-operated, 56-m working radius. The crane can also operate at these heights with loads of up to 100 t without a counterweight.

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