

Reaping the wind

Heavy lift and relocation specialist, Vanguard, a Grindrod joint venture company, made history in Port Elizabeth in May when it used its latest investment, the sophisticated GTK 1100 crane, to install a windturbine as part of the first phase of the first commercial wind farm in South Africa.

“THE GTK 1100 was ideal for this assignment and is a major breakthrough in the heavy lift crane market. Designed to lift ultra heavy loads to extreme heights, its potential lies in being deployed in facilities such as windturbine farms, power stations and refineries,” says Bryan Hodgkinson, managing director, Vanguard.

Massive wind turbine

The V90 2 MW windturbine boasts a blade diameter of 90 m, a hub height of 95 m weighing 97 t and has three blades, each 44,5 m wide. On arrival at Coega harbour, it was loaded onto four trailers and transported to site. There, the windturbine was lifted in sections, starting with the four tower sections being positioned on a pre-set platform. The nacelle and hub were

connected on the ground, creating the heaviest weight of 97 t. It was then lifted into position as a complete unit. Lastly, the blades were lifted into position separately. Lauded for its economical edge and extreme flexibility, the GTK 1100 features a number of unique innovations, which made it possible to complete the entire lift in just three days, excluding the preparation time.

GTK 1100 benefits

A key benefit of the GTK 1100 is its fast set-up. Due to the vertical rigging of the self-erecting tower, it can be operational in just four to six hours. The crane has a small footprint of 18 x 18 m (including the boom set-up) for a minimised job site area and its self-levelling function results in minimal ground preparation. Where other



The GTK 1100 crane hoists the nacelle and hub to the top of the V90 wind turbine tower.

large super lift cranes need between 20 and 40 truckloads of parts to be mobilised in order to perform such heavy lifts, the GTK 1100 only needs four. The seventh crane of its kind in the world and the first and only one on African soil, the GTK 1100 can accommodate lifting 100 tons to heights of more than 100 m and has a 56 m working radius, centre operated. In addition, the crane can operate at these heights with very heavy loads of up to 100 tons without a counterweight.