

# No flies on crane for wind farm

## COEGA: High wind speeds are interfering with erection work

**SABRINA DEAN**

SITE manager Dane Zijlstra walks over, his face filled with anxiety as he says it looks like there's going to be heavy wind tomorrow.

Although Vanguard's new crane can withstand pretty windy work, the high speeds at a wind farm site often fall outside safe working parameters.

The new crane is the R70m GTK 1100, a joint venture between Vanguard and Grindrod.

And the high wind speeds are interfering with the erection of the first wind turbine at the Coega Industrial Development Zone outside Port Elizabeth.

Zijlstra has full confidence in Vanguard's mega-lifting device, but even this sophisticated machine has to bow to pressure from the elements.

The crane, one of only 10 in the world and the only one in the southern hemisphere, is specifically designed for wind turbine erection, but it can also be used for work on refineries and power stations.

It is capable of lifting up to 100 tons to a height of 100m. It comprises a vertical, self-erecting tower with a 450-ton superstructure and has a 56m working radius.

One of the major benefits of this crane is its manoeuvrability. Total relocation to a new site uses only four to six flatbed trucks and it takes six to 10 hours to have the entire operation ready for action.

Its nearest competition, which is said to do a great job once it's at the site, is the Crawler. This monstrosity requires between 20 to 40 trucks to relocate from a site. It apparently takes about five days to re-assemble

and needs a lot more personnel to operate it.

Zijlstra says that the Crawler demands a larger operating site, making it more intrusive in sensitive biomes where wind farms often thrive.

By contrast, the GTK 1100 has a small footprint – only 18x18m – and its self-levelling function means that minimum ground preparation is required at the site.

Another pro is that it can quickly and easily be moved from windmill to windmill in a scenario where more than one of the monolithic turbines is being erected.

This first wind turbine, capable of generating 1,8MW of power, is intended to be ready to provide electricity to Port Elizabeth's Nelson Mandela Bay stadium for the World Cup.

But the pilot turbine is only the first step by Belgian investor Electrawind. It has invested R1,2bn in establishing a 25-turbine commercial wind farm at Coega. It is during this type of project that the crane will come into its own.

Zijlstra says an entire windmill can be erected in two to three days. And the manoeuvrability means that the crew can quickly get to the next spot to continue work without having to dismantle the machine.

In an industry where time and accessibility are measured in costs, the GTK 1100 comes through with flying colours.

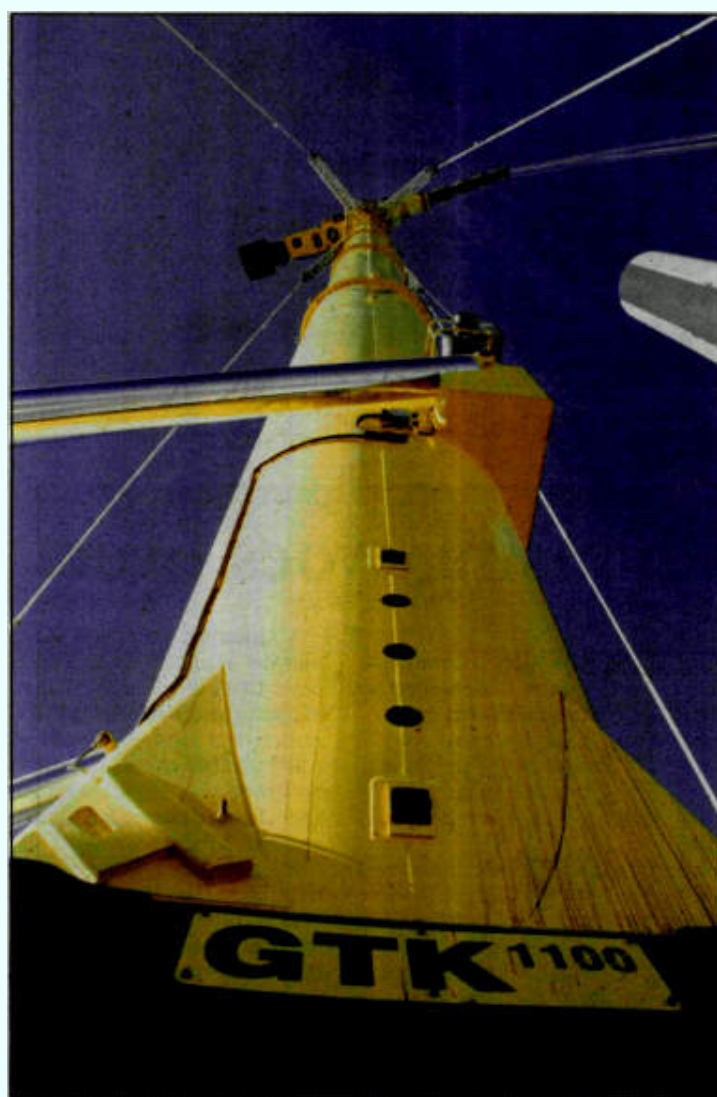
Every hour spent at a construction site costs money. Every crew member carries an extra cost and every square metre needed to operate carries a monetary and environmental cost.



**TO POWER PE'S WORLD CUP STADIUM.** A worker looks on as the nacelle (a cover housing that holds equipment on a wind turbine) is lifted to the top of the first windmill at the planned wind farm in the Coega Industrial Development Zone with the help of the R70-million GTK1100 specialist windmill erection crane. The crane, a joint venture between Vanguard and Grindrod, can lift weights of 100 tons to heights of more than 100m. This first windmill is intended to power Port Elizabeth's Nelson Mandela Bay Stadium during the World Cup next month.  
Picture: Sabrina Dean.



**CONTROLLING THE SUPERSTRUCTURE.** The 450-ton superstructure at the top of the tower of the GTK 1100 crane is directed from the ground via remote control. The first windmill in the planned wind farm at the Coega Industrial Development Zone was erected last week with the R70-million GTK1100 specialist windmill erection crane. Picture: Sabrina Dean.



**THE PILOT.** The first windmill in the planned wind farm at the Coega Industrial Development Zone. Picture: Sabrina Dean.