WES HAS ALL THE ANSWERS BLOWING IN THE WIND.

Wind Energy Solutions (WES) is a Dutch manufacturer of small to medium-sized wind power turbines with generator capacities ranging from 2.5 kW to 250 kW. These robust, reliable and easy to install products are perfect for smaller businesses, especially those in remote locations. Medium-sized wind turbines, often in combination with diesel generators, are often the least expensive source of power for remote sites that are not connected to the power grid. The wind turbine provides clean and cheap electricity and the diesel generator secures the power for those moments when there is not enough wind.

WES has been manufacturing wind turbines since late 2003. When introducing a new state-of-the-art control cabinet for their turbines, WES chose to equip it with operator panels from Beijer Electronics.

SITUATION: WES supplies small to medium-sized wind power turbines, designed mainly for small businesses. To provide their customers with a new level of functionality, WES introduced a state-of-the-art control cabinet featuring an operator panel from Beijer Electronics.

SOLUTION: When upgrading their wind turbines, WES chose operator panels from Beijer Electronics.

RESULT: The robust, high-quality panels from Beijer Electronics are ideal for installation in remote locations where product reliability is a must.

FROM PERSON TO PROCESS.

Beijer ELECTRONICS

WES Technical Manager Eng. Poul van Slooten working on the test control cabinet of the WES30 mk1 (250 kW) wind turbine equipped with EXTER K20m.

Mr van Slooten standing on the top of the turbine, at 40 m height, where the EXTER K20m panel controls the PLC in the control cabinet and which sends control signals to the top box in the nacelle of the turbine.

"I researched the operator panel from Beijer Electronics and found out it was exactly what we needed."

Wind power is the fastest-growing new source of electricity worldwide and the wind industry has grown phenomenally in the past decade. Today, there are approximately 50,000 wind turbines worldwide, producing roughly as much energy as eight large nuclear power plants could generate. Yet this is but a tiny fraction of wind's potential.

The popularity of wind energy is easily explained. The wind never runs out, and leaves no waste products behind. It is available practically anywhere, which means no reliance on foreign sources. And last, but not least, it is one of the lowest-priced renewable energy technologies available today.

The Dutch raise the wind

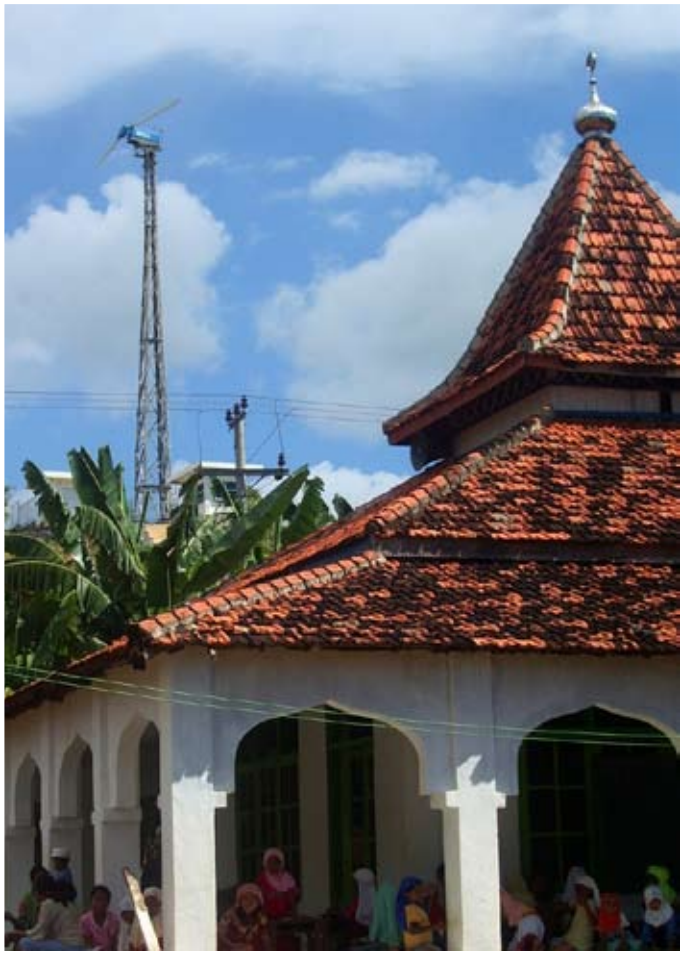
The Dutch have a rich history of using wind power for improving the quality of life. From the milling of wheat and the sawing of wood to the draining of large parts of the Netherlands, the work was done by windmills. While those days are in the past, current developments in wind energy technology are making a similar contribution.

Wind Energy Solutions (WES) was founded in late 2003 and has niched itself on small to medium-size turbines – an excellent strategy, since most manufacturers in the wind energy business are growing bigger and bigger, producing larger turbines. There are also quite a few producers of small turbines for private use, but the middle segment is so far rather unexploited.

Powering small businesses around the world

WES manufactures wind power turbines with generator capacities ranging from 2.5 kW to 250 kW. Their bestsellers are the 80 kW WES18 and it's big sister WES30 (250 kW). The company also manufactures a small 2.5 kW wind turbine for urban use. The customers are mainly agricultural businesses and small grid operators all over the world. Around 95 percent of the sales are outside of the Netherlands.

Each turbine is controlled by a PLC. An operator panel is located on the control panel for friendly user interface. The panel shows actual wind speed, wind direction, rotor-speed and the generated power. It also provides the cumulative kWh production and history data of the above-mentioned parameters. The controller and the electrical system are "fail-safe" designed, which means that in case of a failure the turbine goes in a safe position. The microprocessor shows and records detailed information about the failure.



"We soon found out that Beijer Electronics is a great company to do business with."

A big market for wind turbines are the Indonesian islands. The turbines work very well in cooperation with diesel generators, this means that they are often installed in remote areas were there is no access to electricity. An interesting example of this is that six WES wind turbines were installed on a small island outside Bali specially for the Energy conference held 3rd of December 2007.

A major facelift

In 2005, WES developed a new state-of-the-art control cabinet for their 80 kW turbines. This cabinet was later included in the 250 kW turbine installations as well. With new cabinets came the need for new operator panels. WES had been using panels from Schiele until Beckhoff, the company that supplies WES with the PLCs, pointed them towards Beijer Electronics.

"We place great importance on high quality and we want to be sure that only first class materials are used", says Eng. Poul van Slooten, Technical Manager at WES. "Our technical guy researched the operator panel from Beijer Electronics and found out it was exactly what we needed. The Beijer Electronics display has a very good interface with the Beckhoff PLC."

"We started using the Cimrex 12 panels and we are now upgrading from Cimrex to EXTER K20m on our 80 kW and 250 kW turbines", Poul van Slooten tells us.

Blown away

WES is really satisfied with their choice. "Beijer Electronics' operator panels are robust, high-quality products, which is very important, since our turbines often are installed in very remote and isolated areas that are hard to get to", Poul van Slooten says. "We need products that are strong and dependable, but also easy to work with, since our users are no electronic engineers."

"We soon found out that Beijer Electronics is a great company to do business with. Their technical people are really nice and helpful and the technical support is excellent. We simply love them! Beijer Electronics' technicians were also very helpful in the selection of the first product, Cimrex, and in proposing EXTER as the next model."

Beijer ELECTRONICS

Winds of change

In the idyllic farming landscapes of the 1920s, small, solitary windmills were a common sight. But most wind turbines today dwarf their stand-alone predecessors, and cluster in their own farms by the dozens, or even hundreds. WES is flying against the trend, applying new technology to make wind turbines smaller again. Gargantuan wind farms may be ideal for utilities, but not for individual homes and businesses. End users, not to mention their neighbors, don't want or need giant windmills in their backyards.

WES helps small business owners to lower their electricity bills, avoid the high costs of having power lines extended to a remote location and secure uninterruptible power supply. Not to mention the satisfaction it gives people to generate their own electricity, and do so in a way that reduces global warming emissions.

"With the energy prices ever climbing, WES turbines are a good, viable and economical proposition", sums up Poul van Slooten. "The energy future belongs to wind."

About WES

Wind Energy Solutions (WES) is a Dutch manufacturer of small to medium-sized wind turbines with generator capacities ranging from 2.5 kW to 250 kW. The company's products are the result of 20 years of evolution in wind turbine technology. WES wind turbines have been installed and are operating in many different locations worldwide.

Wind Energy Solutions was established in 2003 by Teamwork Technology, a company specialized in energy solutions for developing countries.

For more information please visit: www.windenergysolutions.nl

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