GRUNDFOS **WATER UTILITY**
CASE STORY, LOOSDRECHT

Grundfos and Vitens come together to find new energy savings underground

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Come together: *Vitens service technicians Drikus Geurtsen and Herman de Greeff install a new Grundfos SP submersible pump into a well at Loosdrecht. Below, De Greeff sprays the pump with chlorine to kill bacteria before lowering it. The seven Grundfos pumps better fit the flow demand of the well field, saving 21% energy.*

Right, Geurtsen empties the extraction pipe of water before removing the old pump.

Grundfos and Vitens come together to find new energy savings underground

On a balmy, autumn day in the Netherlands, a crane lowers the last of seven new pumps into a well at the Loosdrecht well field. Along with the two service technicians operating the crane and working the wrenches and tools at the pit, a small team stands by, snapping occasional pictures and joking with each other: an energy manager, a technical specialist and their boss – all from Vitens, the biggest Dutch drinking water supplier – and a manager from global pump supplier Grundfos.

In some ways, this scene should not be happening. The previous submersible pumps worked fine, and Vitens uses another pump supplier for its well fields.

But Vitens has recently seen proof – via Grundfos – that the pumps at Loosdrecht used too much energy. With a pledge to save an overall 20% in energy over the next ten years, Vitens is willing to try new ways to get there. One way has involved forming a new partnership with Grundfos to see how the global pump supplier can help Vitens to save.

Energy savings tool

It began when Regional Energy Manager Louis Brussee heard about how Grundfos had helped the company's Hardebroek waterworks to save 41% in energy use on its filtration pumps. Grundfos had found the potential savings with a pump audit – a thorough check of the plant's filtration pump system and energy use.

"My colleague there said, 'Try it in your region,'" Brussee says.

When Brussee met with Grundfos Account Manager Marcel van Veen, van Veen asked if Vitens would be willing to help test a new, Grundfos energy measurement tool: Well Field Energy Audit (WFEA). Along with data collection at a large well field, the WFEA software calculates energy use within the complicated area of groundwater extraction.

"We started testing this WFEA tool together at two different pilot sites," says van Veen. "Vitens helped us to improve the tool along the way. They saw the possibility to use this to realise their commitment to energy savings."

The Loosdrecht savings

The WFEA showed that Loosdrecht's energy use was already low, but the pumps in the wells were too big for the job, resulting in too much flow. Therefore the valves from the pits had to be partially closed to keep the flow down, wasting energy.

"Maybe you have a hunch you use too much energy, but you don't know until you can measure exactly where and how you are using it," says Brussee. "The Well Field Energy Audit helps you find your problem. It's not rocket science."

Grundfos thus proposed that Vitens install smaller pumps, helping the whole well field to achieve higher efficiency and energy savings of more than 21%. Those pumps are the seven, new SP125 units, the last one of which is being connected to the flange of the extraction pipe at this site as Brussee and his colleagues look on.

Joukje Keuning, Manager, Vitens Water Control Centre, says, "What's special about this project is that we could not do it alone. It has really been a good partnership."

Why Grundfos

The venture did not come easily at first for everybody. Paul Niekus, technical specialist at Vitens for well field maintenance, had been sceptical of the cooperation with a company outside the usual supplier.

"I thought, 'Why Grundfos?'" remembers Niekus.

That feeling changed when he and Brussee visited the Grundfos headquarters in Denmark.

"When we went to Denmark, all the people we met there – from top management to people on the factory floor – said, 'We must reduce energy.' It was the same message everywhere," Niekus says. "Now it's our turn."

About Vitens

- Vitens is the largest drinking water supplier in The Netherlands, extracting and distributing 350 million m^3 of water per year to 5.4 million customers along 47,500 km of distribution network.

New partnership: *Vitens' Geurtsen and de Greeff install one of seven Grundfos submersible pumps into the well field at Loosdrecht.*

Above left, Louis Brussee (Vitens), Marcel van Veen (Grundfos) and Paul Niekus (Vitens) keep the spirit light during the pump installation.

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Being responsible is our foundation
Thinking ahead makes it possible
Innovation is the essence

Grundfos supplied to Vitens at Loosdrecht:

- **Well Field Energy Audit, with an analysis of the energy use and optimisation points in a site's groundwater abstraction**
- **7 SP 125 submersible pumps**
- **7 motor protection MP 204 units**
- **Grundfos Remote Management (GRM) for monitoring the pumps from any PC in the world.**
- **21% energy savings, or 55,000 kWh/year**

For more information on the WFEA tool, please contact Peter Baggerman, pbaggerman@grundfos.com.

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