

Reducing Freshwater Consumption



GE's advanced water treatment technology has helped DuPont achieve significant improvements in water conservation efforts at its Dordrecht facility in the Netherlands, one of the biggest DuPont production plants in Europe. Through a comprehensive water management assessment, GE found opportunities to help DuPont's Dordrecht plant decrease the plant's water footprint by improving efficiency at the site's cooling tower.

Cooling water systems are essential to production in many industrial plants, including chemical-processing facilities, and they can require a considerable amount of water to run. Maintaining cooling system efficiency to manage costs and minimize water footprint is a critical aspect of any industrial operation.

By implementing a comprehensive water treatment program that included advanced GenGard chemistry and a sophisticated dosing system, GE reduced chloride concentration in the intake cooling water, almost doubling overall system efficiency. This increase in efficiency allowed the plant to reduce freshwater intake by 91,000 m³ per year, achieving a 20 percent reduction in water usage in the cooling water, the equivalent to the amount of water consumed by 650 average Dutch households.

"The project is in line with DuPont's sustainability efforts that include a commitment to reducing water consumption by at least 30 percent over the next 10 years at manufacturing sites where freshwater supply is either scarce or limited," said Gordon P. Tait, site manager of DuPont Dordrecht. "In addition to supporting our

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Published on Chem.Info (<http://www.chem.info>)

sustainability goals, this technology will allow us to run a more efficient operation, and will help us protect critical assets from corrosion, deposition and biological fouling.”

In addition to water reduction, the project improved safety at the site by reducing acid deliveries by truck from 130 to only 15 per year. This also has a positive impact by reducing CO2 emissions.

GenGard, the chemical technology at the center of the solution, offers the capability to use lower quality water in the cooling process, while avoiding corrosion and fouling problems. This provides savings in operating costs and improves the efficiency of the cooling system, which results in greater production output, water conservation and the ability to use alternative water sources.

GE has awarded DuPont an ecomagination Leadership Award to recognize the company for its noteworthy reductions in water consumption, chemicals and waste using GE technology. This is the second time this DuPont facility received such a distinction. GE’s ecomagination Leadership Award recognizes the achievements of industrial users that significantly surpass and improve environmental and industrial operational goals, while balancing industrial demands.

“We are pleased to present DuPont with an ecomagination Leadership Award for its commitment to sustainable water usage,” said Jeff Fulgham, chief sustainability officer of water and process technologies for GE Power & Water. “DuPont’s commitment shows that, increasingly, what’s good for the environment also can be good for business. With a bottom line financial return to DuPont of \$175,000 from this project, the company proved that water conservation also can have a positive impact on operational costs. The company’s pioneering leadership has set an example for others to aspire to and follow.”

GE’s ecomagination commitment is both a business strategy for growth at GE and a promise to contribute positively to the environment in the process. As part of that commitment, GE has committed to reducing the company’s freshwater consumption by 25 percent by the year 2015. That is one of the world’s most aggressive corporate water targets to date, and it is expected to free up 7.4 million cubic meters (2 billion gallons) of freshwater a year — enough water to fill more than 3,000 Olympic-sized swimming pools.

For more information, please visit www.dupont.com [1] and/or www.ge.com [2].

Source URL (retrieved on 01/27/2015 - 4:41pm):

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