

TU Delft

CHP unit will see a ROI within four years

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TU Delft strives to remain at the forefront of innovative technology and sustainability. Operations Manager, Ad Winkels, pays particular attention to reliability and the time needed to see a return on investment (ROI). There was discussion about the supplier of the new CHP unit: Centrica Business Solutions (then ENER-G Nedalo) offered the best price and customisation.

The campus of TU Delft has a floor area of around 450,000m². The central boiler room of the beautiful building contains three boilers with a total capacity of 80 MW for block heating via an underground hot water network, seven kilometres in length. However, the two adjacent gas engines for the electrical supply are completely worn out after 23 years of loyal service. The two new MTU engines to be delivered by Centrica Business Solutions will feed heat into the block heating system and supply electricity to the campus.

Strong business case

According to TU Delft's calculations based on the quotation from Centrica Business Solutions, the new CHP unit will soon make money. Based on current market prices for gas and electricity, the ROI period is only four years. The worst-case scenario – “And this really is in the worst possible case,” emphasises Winkels – came out at 13.2 years. These results were the deciding factor, because TU Delft knew from previous experience that these MTU engines would easily run for this long.

Atmosphere of trust

Winkels already had extensive experience of large tendering processes, including those for energy and cleaning services. Therefore he did not expect many problems with the CHP tender.

“We were just going to buy an engine,” he says. “But you soon discover there's a lot more to it. The technology has to be compatible with the rest of the existing installation and district heating network. We want to produce more energy than before, and also more economically. It must all fit physically and the delivery time must be in line with our schedule.” Centrica Business Solutions approaches every project as a custom job, and that was exactly what TU Delft needed. “There was an atmosphere of trust, of ‘this is going to turn out fine,’” says Winkels.

After-treatment of exhaust gases

To ensure that the unit meets the desired CO₂ emission values, a DeNOx system will be installed for after-treatment of the exhaust gases. The contract is worth approximately €2 million in initial investment and the same again for the 10-year maintenance. Ms J. G. Stokkers, Director of Facility Management and Property, and Mr Jurgen Bergman, Managing Director of Centrica Business Solutions in the Netherlands signed the agreement on behalf of the two organisations.

Why Centrica Business Solutions?

Centrica Business Solutions is the oldest supplier of CHP units in the Netherlands. The company has the largest fleet of CHP units in Europe and is the authorised service dealer of MTU, Mercedes and Travis Perkins. With the ENER 1950 for TU Delft, Centrica Business Solutions is proving to be a true CHP specialist. Customers that make intelligent choices in terms of energy will see their returns and savings grow.