



Energy Savings Through Optimization Of The Use Of Heat And Power

Industrial & Commercial

At A Glance

Installation:
1 X OP16-3B

Location: Tilburg,
The Netherlands

Output:
Electricity: 1.7 MWe

Customer:
FujiFilm Europe B.V.

The Challenge

The production facility of Fujifilm in Tilburg produces plates for offset printing. During operations, the plant generates a blast off air stream of 30.000nm³/h, containing approximately 235kg/h of solvents (7.8g/nm³).

The solvent content must be reduced down to 50mg/nm³, equivalent to a destruction rate higher than 99%.

The fluctuations in air flow and in solvent content made the installation of a standard recuperated oxidizer economically unsustainable due to the high consumption of natural gas.

The Solution

In collaboration with OPRA and its partners, Fujifilm has defined an innovative solution, integrating a Combine Cycle Gas Turbine in the solvent destruction process. The flue gas of the OP16 turbine preheats the polluted air stream in a heat exchanger. Thanks to the thermal energy contained in the exhaust, the air temperature is raised from 80°C to 400°C before entering the incinerator. As solvent destruction occurs at 900°C, nearly half of the required heat input is provided by the gas turbine, in addition to the 1.7MWe of electrical power produced for local needs.

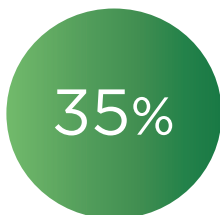
The residual heat is then used to produce high pressure steam to operate a steam turbine.



The Results

With the smart use of the OP16's thermal energy, this successful integration reaches a high overall energy efficiency and results in a 35% reduction in energy costs compared to the use of a standard oxidizer. This also represents a 40% reduction in emissions, due to the lower natural gas consumption for the entire process.

This is another example of the benefits of integrating the OP16 gas turbine into industrial processes to optimize the use of all available energy sources.



Savings on Energy Costs



Reduction Of Emissions



Preventive Maintenance Per Year

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