

Case study: Petrochemical Plant (Texas)

Reduce your Plant Emissions & Save Significantly in Operating Costs



The Bekaert CEB[®] vapor combustor is proven in various petrochemical plants throughout the world to significantly reduce your NOx and CO emissions, along with effectively treating all your hydrocarbon emissions. In addition, this unique technology will result in drastic operating cost reductions, compared to other flaring and thermal oxidizer technologies, as illustrated in the case study here further.

***25000€ in operating savings per year
NOx and CO emissions ≤ 1 ppmv***

Keep the environment clean when combusting your waste gases

- No luminous flame
- No odour
- No heat
- No smoke
- Low height
- Small footprint

Achievable emissions levels:

NOx < 15 ppm

CO < 10 ppm

CxHy < 10 ppm

Combustion efficiency:

99,99% over full operational range

CEB[®] is a product of

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Emission regulations and compliance issues are no longer a problem with the Bekaert CEB[®] vapor combustor. Indeed, Bekaert CEB[®]s emit the lowest emissions achievable (NO_x, CO, unburned C_xH_y's), while maintaining greater than 99.99% destruction efficiency. This means that you will not only be able to operate under the local regulations, but you could potentially sell additional credits (where applicable).



Equally important is that all this can be achieved at the lowest investment and operational costs. The Bekaert CEB[®] combustors only need a calorific value of vapors or gases equal to 6 MJ/Nm³. In case your waste gas stream is lower than the 6 MJ/Nm³, then the system will automatically regulate the amount of fuel gas needed to be mixed with your vapors to assure complete destruction of your vapors at the lowest fuel gas consumption. For large units, staging possibilities allow the CEB[®] unit to achieve a turndown ratio up to 1/40.



Is space an issue? You only need a footprint of 1,1 x 1,1 m to accommodate a medium unit (same as shown on the pictures). The CEB[®] combustors are very compact and do not generate any heat radiation to the surroundings. This allows you to install the unit where space is limited or even in close proximity to other pieces of equipment.

Bekaert CEB Technologies can deliver you the complete system including shut down valves, flame arrestors, gas trains for make up gas and pilot gas, etc ...



ACTUAL CASE STUDY RESULTS (PETROCHEMICAL PLANT - TEXAS)

Bekaert CEB 350 units have been installed in various petrochemical sites and showed exceptional results. For example, the following have been reached after replacing a thermal oxidizer in one petrochemical location in Texas.

Unit installed	CEB 350
Installation data	2003 (additional units since installed)
NO _x Emissions	Decreased by a factor of 7 to approximately 1 ppmv
CO Emissions	Decreased by more than 2 orders of magnitude to less than 1 ppmv
Destruction Efficiency	Increased 1 order of magnitude from 99.3% to 99.95%* (*limit of the test equipment was 99.95%)
Electrical Savings	Reduced Electrical Demand 22000 € annually
Fuel savings	Reduced Supplemental Fuel Costs 3000 € annually