

**Case study: Petrochemical Plant (Texas)**

# Reduce your Plant Emissions & Save Significantly in Operating Costs



The Bekaert CEB<sup>®</sup> 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.

***\$40,000 in operating savings per year***  
***NOx and CO emissions ≤ 1 ppmv***

**CEB 50**

Keep the environment clean when combusting your waste gases

- No luminous flame
- No odor
- No heat radiation
- No smoke
- Low height
- Small footprint

**Achievable emissions levels:**

NOx < 15 ppm < 0.018 lbs/MMBtu  
 CO < 10 ppm < 0.008 lbs/MMBtu  
 CxHy < 10 ppm < 0.004 lbs/MMBtu

**Combustion efficiency:**

99.99% over full operational range

CEB 50 is a product of

**Bekaert CEB Technologies**

1395 S. Marietta Parkway  
 Building 700, Suite 708  
 Marietta, GA 30067  
 USA  
 T : + 1 770 514 2215  
 F : + 1 770 423 9181

infoceb@bekaert.com  
[www.bekaert.com/flaring](http://www.bekaert.com/flaring)

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 (NOx, CO, unburned CxHy'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 150 btu/ft3. In case your waste gas stream is lower than the 150 btu/ft3, 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 4ft x 4ft 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)
NOx Emissions	Decreased by a factor of 7 to approximately <b>1 ppmv</b>
CO Emissions	Decreased by more than 2 orders of magnitude to <b>less than 1 ppmv</b>
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 <b>\$35,000</b> annually
Fuel savings	Reduced Supplemental Fuel Costs <b>\$5,000</b> annually