**GORE® Filtration Products**
Waste-to-Energy Incineration Industry

Case Study

# GORE® DeNOx Catalytic Filter Bags – Significantly Reducing NOx Concentrations

## A waste incineration plant in Taiwan

## Challenge

As Taiwan tightens control over nitrogen oxide (NOx) emissions, most waste incineration plants that have operated there for many years have to launch renovations to filter particulates and meet the regulatory requirement where NOx concentration in emission shall not exceed 85 ppm (175 mg/Nm³). Some regions even pushed the limits down to below 50 ppm (102 mg/Nm³). It has hence become urgent for these plants to find an advanced filtration technology that can help with their compliance with the high NOx emission standards.

One of the plants approached Gore, hoping to achieve ultra-low NOx emissions through the renovation and remove dioxins from the flue gas at the same time to ensure comprehensive environmental compliance.

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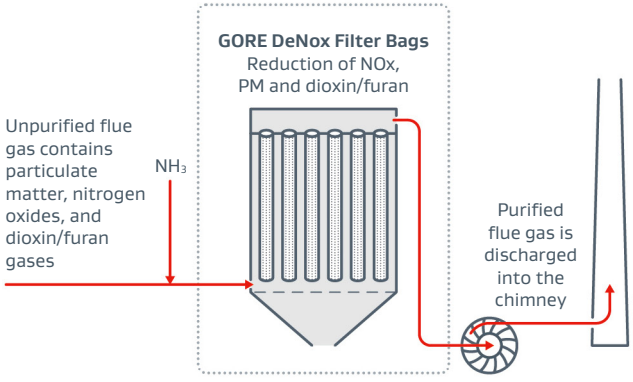
|---|---|
| **Application** | Dust removal system |
| **Inlet temperature** | 220°C |
| **Filtration velocity** | 1m/min |
| **Acid removal process** | Dry sodium bicarbonate method |
| **SO2 concentration** | <2ppm (6mg/Nm³) |
| **Filter material** | GORE® DeNOx Catalytic Filter Bags |

## Solution

GORE® DeNOx Catalytic Filter Bags not only excel in particulates filtration, but also demonstrate a high level of decomposition for nitrogen oxides and dioxins/furans. The customer replaced its traditional filter bags with the technologically advanced and proven GORE® DeNOx Catalytic Filter Bags.

Gore provided full-process technical support and also, assisted the customer in renovating the dry process.

In consideration of Gore's extensive success stories both globally and in Taiwan, as well as its 25-plus years of project experience, it was then believed to be well-positioned to meet the comprehensive environmental compliance needs of waste incineration plants. As a partner, the customer had full confidence in Gore's catalytic filtration technology.



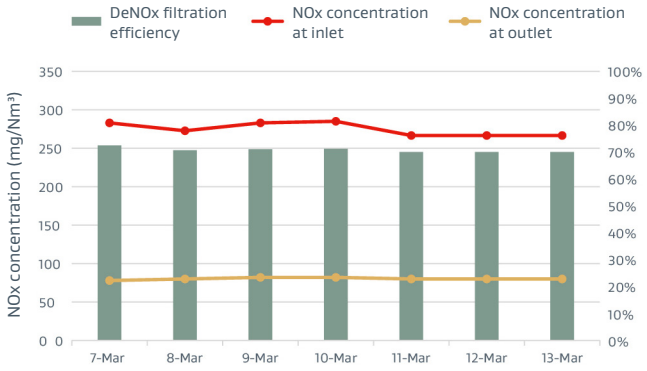

*Together, improving life*

## Results

Gore ultimately helped the customer achieve all-round compliance and realize significant economic and environmental benefits. The incineration plant became a demonstration site for integrated dust removal and denitration practices in Taiwan, providing valuable reference for the industry globally.

The data show that, the NOx concentration is reduced from approximately 280 mg/m³ at the inlet to around 80 mg/m³ at the outlet, and remains stably low, after installing GORE DeNOx Catalytic Filter Bags.

The filtration efficiency, as shown in the figure on the right, remains above 70%. With ammonia injection control, the actual filtration efficiency can reach over 90%.




### Interested in Testing Our Products or Talking to Our Experts?

For additional assistance, please contact a Gore representative.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