

LEADING IN  
PRODUCTION  
EFFICIENCY

A high-angle photograph of an industrial facility, likely a wastewater treatment plant, featuring extensive stainless steel piping, walkways, and large cylindrical tanks. In the background, a body of water and residential buildings are visible under a clear sky. A solid blue rectangular graphic element is positioned on the right side of the image.

# Dürr Air Pollution Control Ventilation Air Methane

2022  
Geneva/Switzerland

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# VAM RTO

Dürr's experience in coal mine ventilation air methane abatement since 1994



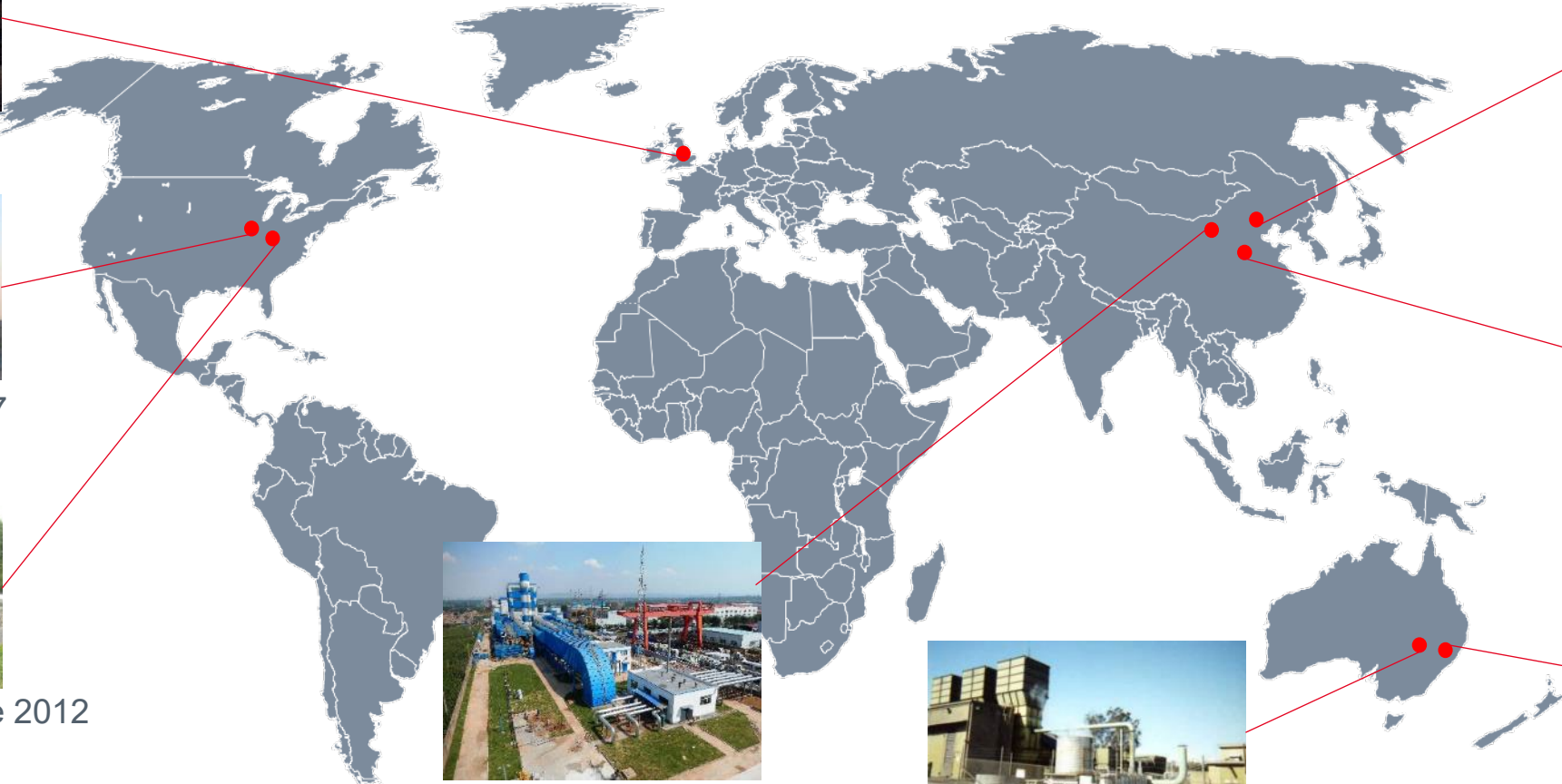
Thoresby mine, 1994  
10,000 Nm<sup>3</sup>/h



Enlow fork mine 2007  
10,000 Nm<sup>3</sup>/h



Verdeo McElroy mine 2012  
250,000 Nm<sup>3</sup>/h  
6 MW steam turbine



Datong mine, 2011  
370,000 Nm<sup>3</sup>/h  
Hot water generation



Zhengzhou mine, 2008  
62,500 Nm<sup>3</sup>/h  
Hot water generation



GaoHe mine, 2014  
1,020,000 Nm<sup>3</sup>/h  
20 MW steam turbine



Appin Colliery mine, 2001  
10,000 Nm<sup>3</sup>/h



West Cliff mine, 2006  
250,000 Nm<sup>3</sup>/h  
6 MW steam turbine

# Ventilation Air Methane VAM

## Example for cost estimation

(all values estimate; variable depending on specific installation country):

Coal mine with 500,000 m<sup>3</sup>/h capacity, mean methane concentration of 0.6 Vol.%

➔ **Climate effect of 400,000 t/a CO<sub>2</sub> (factor 25 CH<sub>4</sub> vs CO<sub>2</sub>)**

Investment abatement plant <10 Mio. €

Investment infrastructure (ducts, laser measurement, power supply, groundworks) << 2 Mio. €

Capital costs (6%, linear depreciation) = <1,560,000 €/a

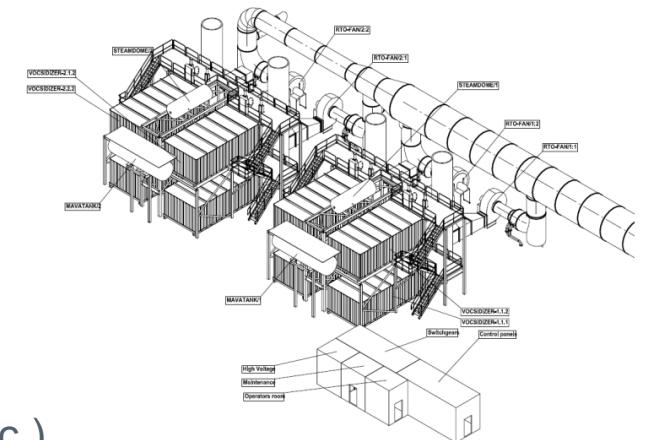
Operation costs (maint.+fans 120 €/MWh): < 400,000 €/a

➔ **Costs for CO<sub>2</sub> reduction (based on 10 year operation): <4,90 €/t**

(benefits for CO<sub>2</sub> credits not considered)

➔ **Additional 24 MWth excess energy available for external use (steam, electricity etc.)**

As comparison: Costs for CO<sub>2</sub> reduction based on carbon storage: 65-85 €/t<sup>1</sup>



<sup>1</sup>: Steinkraus, A. (2015), »Coal and Gas - From Cradle to Grave with Carbon Capture and Storage«, Economics Department Working Paper Series No. 14

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[www.durr.com](http://www.durr.com)

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# Ventilation Air Methane

“Subject to change. The information in this presentation contains only general descriptions or performance characteristics, which may vary in different cases. The requested performance characteristics are only binding if they are expressly agreed in the contract.”

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