



## Recovery of waste heat outgoing from one metallurgy furnace



thyssenkrupp

Isbergues, Hauts de France - France

Industry



Metallurgy

Décarbonisation



1450 tonnes of CO<sub>2</sub>  
saved per year\*

Gain énergétique

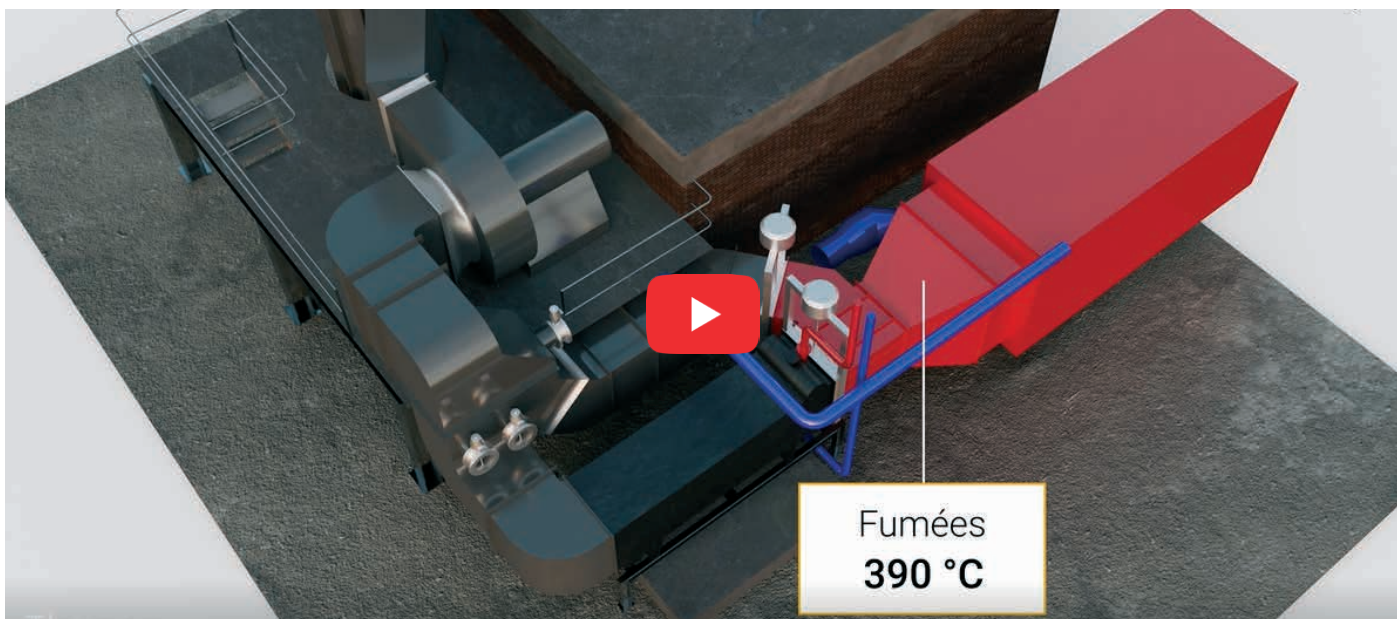


6000 MWh saved  
per year, equivalent to 10%

## The project

ThyssenKrupp wants to reduce its consumption of natural gas at its site  
and thus reduce its CO<sub>2</sub> emissions.

The aim is to use the waste heat from the fumes from one furnace to pre-heat  
the water used by the boiler.



\*Based on an emission rate of 0.201 kgCO<sub>2</sub>/kWh consumed

## **Customer needs - requests**

[ThyssenKrupp](#) wanted to find a way of reducing its consumption of natural gas on its site, and therefore reducing its CO2 emissions. The aim of this study was to hybridise the boiler producing the superheated water required for the customer's process. One furnace was studied and integrated with a waste heat recovery solution to preheat the water loop in the boiler return.

## **Project process**

➤ Analysis of the waste heat available in the furnaces and the boiler's energy requirements.

Following this characterisation, Eco-Tech Ceram looked for the most appropriate solutions to satisfy the energy requirement as far as possible.

Each of the solutions was presented to the customer in a full report complying with the Ademe's specifications for feasibility studies.

## **Eco-Tech Ceram achievements**

- Study of a 1.2 MW exchanger and 2 350 kW exchangers
  - Sizing of flue gas ducts and control dampers
  - Assumption of responsibility
  - Thermal and aeraulic study of the solutions
  - Design of the solution
  - Energy and environmental assessment
  - Costing of the solution and related work (burner modifications, asbestos removal, etc.)
  - Economic study of the solution and financial package
- 
- Installation of flue gas/water heat exchangers
  - Hybridisation of the boiler producing the superheated water required for the process
  - 1 furnace was studied and integrated into a waste heat recovery solution to preheat the water loop at boiler return level.

## **Description of the proposed solution**

Recovery of waste heat from the flue gases of three furnaces to preheat the water used by the process boiler via flue gas/water heat exchangers.



The **energy transition** and the **decarbonisation** of industry are no longer unattainable challenges!

Contact us



[antoine.meffre@ecotechceram.com](mailto:antoine.meffre@ecotechceram.com)



Phone: +33 6 58 09 15 00



<https://www.ecotechceram.com/>



5 Rue de Vidailhan 31130 Balma - France

