ETEKINA

Thermal energy recovery

Recovering more than 40% of the waste heat stream in energy intensive industries

Heat pipe technologies for industrial applications

Challenging exhaust streams

- Corrosive chemical composition
- High flow rates
- High temperature fluctuations

Design solutions

- Choice of optimal heat pipe dimensions, materials, arrangement in the HPHE, working fluid
- State-of-the-art computer simulation to study challenges
- 3 working prototypes for validation

ETEKINA PROTOTYPES

ALUMINIUM

Fagor Ederlan Arrasate-Mondragón, Spain

Unit heat recovery: 88 kW
Average reduction of GHG emissions: 110 tCO_2e/year
Payback time: 24 months

43%
Heat recovery

41%
Heat recovery

CERAMICS

Atlas Concorde Fiorano Modenese, Italy

Unit heat recovery: 700 kW
Average reduction of GHG emissions: 850 tCO_2e/year
Payback time: 24 months

47%
Heat recovery

STEEL

SIJ Metal Ravne Ravne na Koroškem, Slovenia

Unit heat recovery: 350 kW
Average reduction of GHG emissions: 425 tCO_2e/year
Payback time: 9 months

- → Lower energy costs
- → Lower CO_2 emissions
- → Short payback time
- → Increased competitiveness
- → Higher profitability
- → Secure jobs

Partners

ikerlan — MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE
fagorederlangroup
insertec — Furnaces & Refractories
econotherm — WASTE HEAT RECYCLING TECHNOLOGY
Brunel University London
sij metal ravne
Jožef Stefan Institute — Energy Efficiency Centre
atlas concorde
UNIMORE — UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA
ESCI — European Science Communication Institute

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