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Exergy to supply Cementi Rossi with heat recovery ORC plant

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Exergy has studied a compact and tailor-made ORC solution for Cementi Rossi to convert around 16 MW of available heat from the exhaust fumes of the clinker cooling plant into 3.5 MW of electricity. The Exergy plant will use an air-cooled condensing system and the high-efficiency Radiale Outflow turbine as an expander of an organic fluid with non-flammable characteristics to ensure maximum safety in the plant.

The electricity produced by the ORC module will feed about 30% of the cement needs of the cement plant, thus increasing the efficiency and the overall profitability of the plant and at the same time reducing the environmental impact. Once in operation it is estimated that the ORC will contribute to an annual savings of about 5400 t of oil equivalent deriving from the lack of consumption of primary electricity produced from fossil fuels and, consequently, of about 17 000 t of CO₂ emissions.

Claudio Spadacini, CEO and founder of Exergy, said: "The ORC for heat recovery is a very effective and widely proven technology for cement factories. Our ORC systems help to maximise the efficiency of the production process in cement factories. For Cementi Rossi, in particular, we worked on a tailor-made solution, opting for the choice of a non-flammable fluid in the cycle and a very compact plant design, with a high degree of prefabrication of the components to reduce costs and time assembly. We are happy that Cementi Rossi has chosen us as a partner in this project, we hope to realise others together in the future especially because this is the sector on which we are aiming for the next years."