DEMO CASE

icp since 1924

Waste heat makes cool paper

THE PAPER INDUSTRY

Cartiera dell'Adda and ICP, Srl belong to Paper Board Alliance, the largest European manufacturer of recycled light cardboard. Their current production relies on air and vapor compressing - two energy-intensive systems that pose increased potential benefit from energy efficiency intervetions.

THE INTERVENTION

To optimize these energy-intensive processes, the project focuses on the plant's four 132 kW air compressors. Instead of letting the heat generated by these compressors go to waste, two of them are retrofitted with heat recovery units. These units capture the excess thermal energy as hot water (at 75°C) and deliver it to drive an adsorption chiller. The cooled water (at 55°C) then returns to the compressors. This creates a circular loop where cooling one system directly powers another.

THE IMPACT ON ENERGY CONSUMPTION

The solution for this case develops two-fold: while a new adsorption chiller will be installed by SORP, the existing vapor compression chillers will be retrofitted.
The RE-WITCH intervention will ensure that 58% of the plant's cooling demand are covered by waste-heat-driven adsorption devices. This results in an expected electricity saving of up to 35%.

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RE-WITCH