DEMO CASE

BROWAR GŁUBCZYCE

Waste heat brews cool beer

THE BREWING INDUSTRY

The Głubczyce Brewery, established in 1856, combines historic tradition with modern challenges in the Opole region. To produce its beer, this pilot must boil a grain mixture ("wort") and then use energy-intensive chillers to cool it down to fermentation levels. As a result, they have high-grade waste heat (~98°C) being discarded to the environment.

THE INTERVENTION

The RE-WITCH solution introduces an adsorption chiller to create a circular cooling step. First, excess heat is extracted from the hot wort to drive (regenerate) the chiller. The chiller then cools well water from 15°C down to 8.5°C. This chilled water is distributed to a second heat exchanger to pre-cool the wort. Finally, an electric chiller does the final trim to reach the exact 8°C needed. This perfectly demonstrates how a single medium can serve as both the heat source and the medium to be cooled.

THE IMPACT ON ENERGY CONSUMPTION

TVP Solar will install 50-70kW solar collectors and connect them to the 180kW adsorption chiller provided by SORP. This chiller will be complemented with 500kW conventional chillers.

After the intervention, the Głubczyce Brewery is expected to save 64 MWh/year in electricity, equivalent to 800 cycles. Primary energy savings will amount to 161 MWh/year (equivalent to 2.000 cycles), and 51 tons/year of CO_2 emissions will be avoided.

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