

# Factsheet for District Heating and Cooling Solutions in Industry

District Heating and Cooling generates heat in a centralized location and delivers it to a local area, often compiling residents, businesses and industry. It offers a great way to **decarbonize heating and cooling** and is **efficient, cost-effective and flexible**. What makes district heating and cooling an outstanding technology for industrial heating is the possibility to transfer waste heat to other buildings that require heating. This creates circularity and additional revenue from waste. At the same time, DHC networks can also make use of geothermal or other renewable sources to provide industries with heating or cooling.

Large heat pump deployment within district heating networks allows to bring temperature to a next level, which is of particular interest when using renewable heat for that network. Thus, district heating becomes even more relevant when coupled with heat pump technologies.

To illustrate the use of DHC in the industrial sector, the **steel giant O.R.I. Martin** located in Brescia is of great interest. With considerable amounts of steel produced, excess heat needs to be managed. Hence, the company sells this waste heat (23,000 MWh) to the nearby city which is connected via a district heating and cooling system to the factory. During winter, this heat directly contributes to the city's heating while in summer it gets transformed into electricity via an ORC turbine. Promoted under the name of iRecovery, Ori Martin together with Turboden and A2A, 2000 families are provided with heat (25GW/h per year) and the equivalent of 700 families' electricity needs are covered. Afterall, 10,000 tons of CO<sub>2</sub> have been reduced.<sup>1</sup>

Another similar installation is located in **Kapfenberg, Austria**. The project showcases how green steel plants can generate renewable waste heat. Powered by green electricity, an electric arc furnace feeds into the local district heating network. The installation recovers 4.55 MW of heat, saving up to 20 GWh in district heating each year and reducing CO<sub>2</sub> emissions by more than 4,000 tons.<sup>2</sup>

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<sup>1</sup> Euroheat and Power. Email exchange.

<sup>2</sup> Voestalpine (2024).