

Excess heat from data centre in Val d'Europe, France

This case study is part of a project catalogue produced by [ReUseHeat](#) to provide inspiration on how to utilize excess heat from urban sources for heating and cooling purposes. The catalogue contains 25 existing or planned projects out of which 12 cases are Danish and 13 cases are from other European countries^[2].

Facts about this case

Installed heating capacity: 7.8 MW
Heating source: Cooling of data centre
Production: Approximately 20,000 MWh annually. The data centre is operating all year round
Investment costs: € 3.46 M (€ 1.0 M aide from ADEME)

Period: Project begun in 2013
Organization: Dalkia
Link to web page: <https://www.dalkia.fr/>
Contact information:
Dalkia, Quartier Valmy - Space 21, 33 Rond Square, 92.981 Paris La Défense Cedex



Source: Dalkia^[1]

Description

A new heating system near Val'dEurope outside Paris aims to utilize excess heat from a local data centre. A new local district heating network with a total of 4km distribution pipelines is to be constructed and heat nearby buildings.

The data centre is in the area Bailly-Romainvilliers, which is a new development zone under construction. A future business park is to be located next to a data centre. The data centre will operate 24 hours a day, all year around and to avoid overheating, the servers are continually cooled using a refrigerator system. Excess heat from the server cooling is recovered and used in heating in nearby buildings. The project to utilize excess heat from the data centre is organized by Dalkia.

The system is composed of two heat exchangers connected to the heat recovery network. Further, a natural gas boiler is used to boost temperatures when needed and act as peak-load in periods of high heat demand. The heat exchangers are capable of providing district heating water temperatures between 48 and 55 degrees Celsius, corresponding to a total thermal capacity of 7.8MW which can be extracted from the data centre. It is expected, that the data centre can provide 90% of the future heat requirements of connected buildings, which include both the current aquatic centre and the future business park. Hereby an annual heating loss of 20,000MWh is avoided and more than 4000 ton of CO₂-equivalents are saved annually. The probability of the project being fully realized is boosted by this sustainable energy recovery. Hereby, overall heat costs are reduced, and the heat prices are further benefited from a reduced VAT.

The total project is estimated to cost e 3.46 M, of which the project receive aid from ADEME, the French Environment and Energy Management Agency, of e 1.0 M. The overall project is a decentralized alternative to urban district heating networks with no investment risks to be borne by public actors. The energy recovery is both green and sustainable as it benefits from a local energy source, accordingly reducing the environmental impact. As the data centre operates all year round, the heat prices are low and are expected to be relatively stable.^[2]

References

1. [Dalkia](#)
2. Handbook - 25 cases of urban waste heat recovery