



Hamburg is the District Heating Capital of Germany

Case Story - Hamburg HafenCity, Germany

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In Germany, the use of district heating is not quite that widespread, compared to in some other EU-countries. One exception, however, is Hamburg, which has a vast district heating network supplying 19% of all households with district heating, compared to just 8-14% in the rest of the country. Politicians in charge have declared that the district heating infrastructure will continue to be expanded; their goal is to connect 50 000 additional households to the district heating network by year 2020.

HafenCity: Superlative City Development

With HafenCity, a whole new city quarter has been created in the heart of Hamburg. It is currently the largest inner-city development project (155 hectares of harbour area!) - and it is setting standards throughout Europe

with its mix of apartments, offices, recreational facilities, retail trade and culture. This is also true of its energy supply, as city planners chose the most sustainable and economically advantageous long-term solution: All buildings are supplied with district heating.

The goal for HafenCity was to develop an energy supply concept that fulfilled the strictest economic and environmental requirements. In essence, the concept is based on the combination of the existing, well-proven Hamburg district heating system with decentralised, local heating distribution units. The fuel used is mainly coal, along with household and industrial waste, natural gas, and very small quantities of light fuel oil. To further reduce carbon dioxide emissions, the existing HafenCity heating plant is equipped as a pilot plant with a steam turbine and a fuel cell. In addition, two new combined heat and power plants are

planned in the Überseequartier and at the cruise ship terminal. Buildings which are mainly for residential use will be equipped with solar energy panels for the central domestic hot water supply.

Danfoss reference projects in HafenCity

For several projects, the person in charge chose Danfoss systems and automatic controls. This sophisticated well proven technology and the comprehensive range of products on offer satisfy both installers and planners, as the two following statements prove:

Olaf Ebeling is a plumbing, heating and air conditioning expert at the company Arne Stüber Heizung und Sanitär GmbH. He is primarily responsible for the area of plumbing and installation, whilst also working as



construction supervisor. "If the operator or planner does not specifically request a different manufacturer, we always choose Danfoss products. They offer a good balance of technology, performance and price. The installation is simple, and, as an installer, it is easy to get at all the parts. The connections are flexible, and there are no major problems on building sites. We are also very satisfied with the adherence to delivery dates and the fast response to technical support and when ordering spare parts."

In HafenCity, Arne Stüber Heizung und Sanitär GmbH has installed Danfoss equipment in several new buildings in the "Am Kaiser Kai" area – the complete district heating transfer station in buildings No. 33, 31, 29 and 27. This included projects with underfloor heating and others with radiator heating - Danfoss controls are easily fitted in both versions: "It works very

well", says Olaf Ebeling. "All of the houses are already occupied, and the tenants seem to be happy with the installed heating controls. We haven't had any complaints so far, at least."

Project manager Judith Huber-Jahn (of the company Reese Beratende Ingenieure) also sticks with trusted products for control of district heating and domestic hot water supply: "Given a choice, I would certainly opt for Danfoss products. The quality of the equipment is outstanding, and the available service and support is also a big plus. For more complex installations, Danfoss specialists help us with questions regarding the construction and design. And if something does not go according to plan on a construction site, Danfoss employees are on hand to come and advise us on site."

Conclusion

The district heating supply in Hafen-City is a cost-effective and sustainable solution. Hamburg's prestigious project is a model for successful city development and not just for architectural reasons. The energy concept also sets standards. The Danfoss control equipment installed in a wide range of buildings for the distribution of district heating ensures that every single kilowatt of energy is used as efficiently as possible, to the benefit of house owners, tenants and the energy supplier.





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