

## Quality and Efficiency Improvement of District Heating Systems and Biomass Plants

G. Ulz, F. Promitzer, H. Rothwangl, H. Steiner

### qm heizwerke

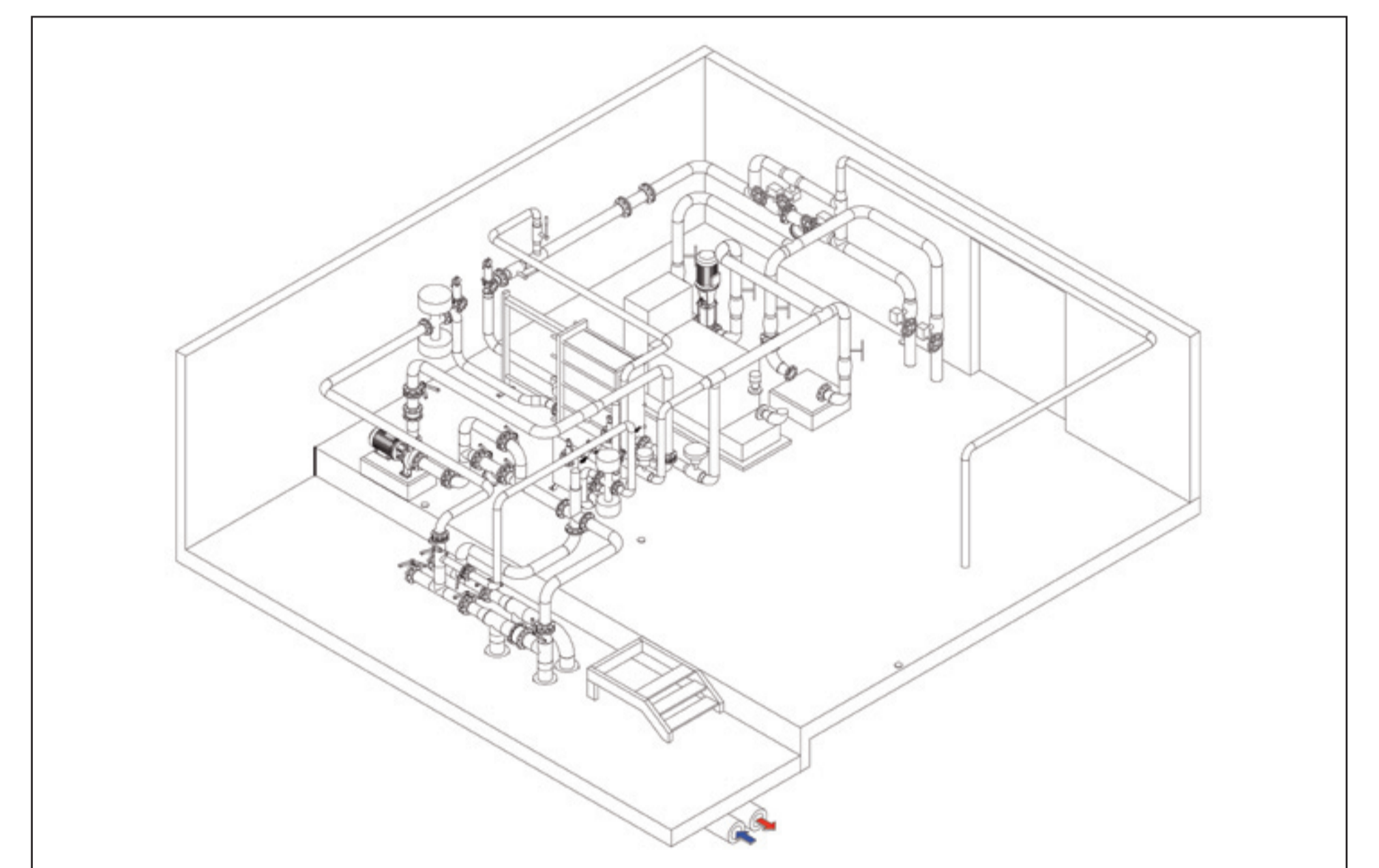
- ... supports builders during the phase of planning, tendering, constructing and operating of biomass heating plants and systems.
- ... trains independent quality delegates, who interact with builders, operators and planners in efficiency and quality matters.
- ... supports during grant application and manages the project data online in a comprehensive database.
- ... offers a standardized and cost efficient monitoring system leading to system optimization.
- ... is funded by the Federal Ministry of Agriculture, Forestry, Environment and Water Management.
- ... is part of the klima:aktiv initiative and partner of the international consortium QM Holzheizwerke.



heating plant Rankweil, Austria

### qm project database (www.qm-heizwerke.at)

- internet platform for complete handling of governmental subsidies
- data entry of technical and business data of biomass heating plants and systems
- right of access via authorization ( builder-owner, planner, subsidising authority, quality delegate)
- relevant documents for granting are generated out of the data stock
- storage of heat-costumers' data including description of technical equipment and heat-supply-contracts
- monitoring of heating plants is enabled
- comprehensive help-index for handling the quality-management system qm heizwerke
- long term data storage



pump station (source: Biowärme Eben)

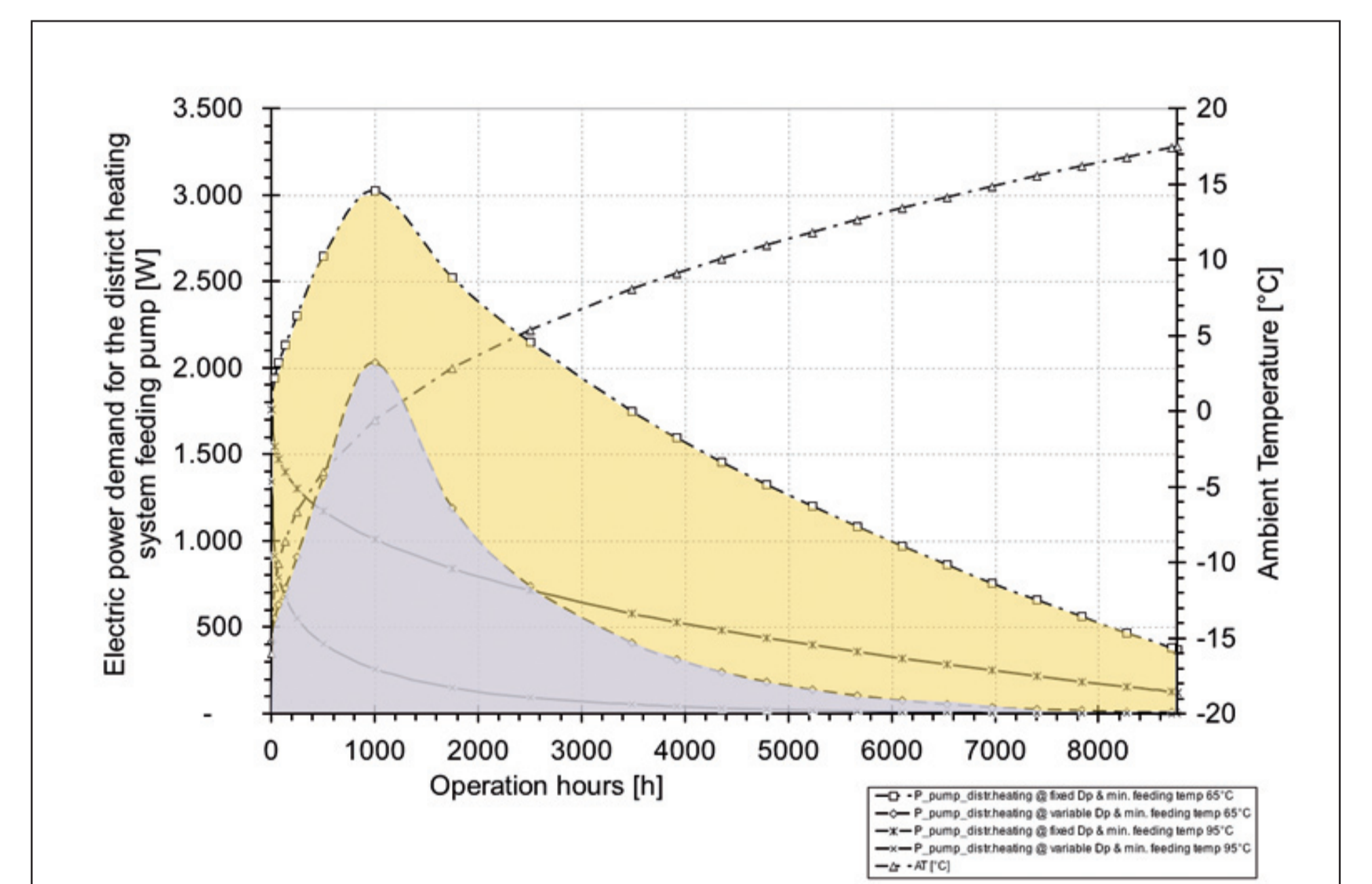
### monitoring

The state of knowledge as well as modern measurement generate substantial room for improvement. Operators of heating plants and systems are supported via in-depth analyses of the heating plants by qm heizwerke. Following the analyses, individual suggestions for improvement are worked out and realized.

Two types of monitoring are offered by qm heizwerke:

1. The **Quick Quality Check (QQC)** is a very cost-saving and efficient method. An operational check is carried out. The operating parameters are analyzed. Outcomes are recommendations for measures with shortest payback periods.
2. The **all-inclusive plant-monitoring** over several weeks leads to profound knowledge of the operating behavior. It offers specific optimization measures. Provided fuel, power requirement and pollutant emissions are reduced. The economic situation of the owner improves. Additional energy resources are opened up through reductions.

Consolidated findings of the monitoring activities are inputs for developing qm heizwerke and are presented to planners and builder-owners at appropriate trainings.



Energy related electricity demand for the district heating net pump

### training the quality delegates

The training of quality delegates is one of the most important parts of the quality management system qm heizwerke in Austria. Only qualified planners are authorized to work as quality delegates. They are specifically trained for this task. Due to the close contact between program management and quality delegate, the qm process is highly efficient.

Feedback-days - taking place periodically - keep the qm projects at the highest level.



Austrian quality delegates

### qm heizwerke program management

#### LandesEnergieVerein Steiermark

Burggasse 9/II  
A 8010 Graz  
T: +43 (0)316 877-3389  
F: +43 (0)316 877-3391  
E: info@qm-heizwerke.at  
I: www.qm-heizwerke.at