PROS & CONS OF USING EFFECTIVE WIDTH CONCEPT FOR ESTIMATION OF DISTRICT HEATING DISTRIBUTION GRID COSTS

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Abstract

The linear heat density is a decisive parameter in economic viability of implementing DH system. By introduction of the concept of effective width, Persson and Werner proposed an analytical way of estimating the linear heat density [1]. The greatest advantage of this approach is its simplicity in applying it. This approach was updated in 2019 with a set of new constant factors as well as update of effective width definition for areas with high plot ratios. Despite the fact that the approach is based on the empirical data from Sweden, it has been widely used in for case studies in other countries both in literature and in research projects. In this study, the results obtained by the approach is compared with results of a detailed grid model (DHMIN Model) for two case studies in Romania and Denmark. After this comparison, the advantages and disadvantages of using each approach are enumerated. The outcomes of this comparison will contribute to better interpretation of costs and linear heat densities obtained based on the effective width concept.

Referenzen

[1] Persson U, Wiechers E, Möller B, Werner S. Heat Roadmap Europe: Heat distribution costs. Energy 2019;176:604–22. https://doi.org/10.1016/j.energy.2019.03.189.

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