Influence of different technologies on dynamic pricing in district heating systems: Comparative case studies - DTU Orbit (28/09/2019)

District heating markets are often dominated by monopolies in both Denmark and Finland. The same companies, often owned by local municipalities, are usually operating both supplying plants and district heating networks, while the pricing mechanisms are rigid, often agreed upon for one year in advance. The mentioned ownership scheme may cause problems, when one tries to gain a third party access in order to deliver excess heat or heat from cheaper heating plants. In this paper, two case studies were carried out to simulate the district heating systems based on dynamic pricing. Case studies were carried out for Sønderborg, Denmark and Espoo, Finland. The results showed that dynamic pricing fosters feeding the waste heat into the grid, as dynamic pricing reduced the total primary energy consumption and CO₂ emissions in both case studies. In the best scenarios, the weighted average heat price decreased by 25.6% in Sønderborg and 6.6% in Espoo, respectively.

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