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ATTRACTING CUSTOMERS TO DISTRICT HEAT SUPPLY: THE CASE OF RIGA

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Abstract – District heating is important in achieving future climate goals. Possibilities of using waste heat from different sources, e.g. subways, hospitals, shops, data centers, rivers are often discussed. Many district heating companies face the challenge of sufficient coverage of connected consumers in a city or region. To expand the operating area, companies should initially attract objects which are close to heat networks to lower the connection costs. The research question is how to attract existing buildings under construction to the district heating system. The present work uses system dynamics modeling for studying the possibilities of the Riga district heat supply company to increase consumer network. Modeling is based on historical data of residential buildings. The results show that old buildings choose to connect to the district heat supply when these are being renovated, or the individual heat supply equipment is out of order. The older the buildings, the more likely these will be connected to the district heating, however, this decision may take at least 70 years. Renovation increases the probability of connection to the district heating, so the impact of subsidies for renovation is important. Regulation that requires connection to the district heating as a priority choice in case of renovation is also important.

Keywords – Buildings; energy efficiency; district heating; system dynamics