

## Abstract

Keywords: residential architecture, heat source, ventilation, energy efficiency, user comfort

The subject of the research is to examine the impact of the most commonly used heat sources and ventilation systems on residential architecture. An element of the research was to collect information on currently available heat sources and to use POE qualitative research to identify the most favorable systems in terms of user comfort in the opinion of residents. The next step was to select them in terms of new regulations on energy efficiency, in particular regarding the identification of future solutions in this area, meeting the current and future requirements for architecture. The essence of the work was to specify the changes in the shaping of residential architecture resulting directly from the heat source and ventilation system used in it.

Research on this topic allowed for the following thesis:

**The heat source is an important parameter influencing the modern residential architecture.**

Research has shown that both the heat source and the ventilation system are an important element shaping modern residential architecture. The selection of a specific system will involve designing a building with appropriate compactness, tightness and insulation properties of building partitions. Renewable energy sources are becoming more and more important, and a heat source of the future, which meets both the conditions of energy efficiency and ensuring adequate comfort for users, is a heat pump.