

# **THE DYNAMICS OF THE PRODUCTION OF THERMAL INSULATION MATERIALS USED IN THE CONSTRUCTION INDUSTRY**

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The important field for energy savings arrangements is the construction industry. About 40% of the energy in the Europe is used in buildings. The strategy of energy consumption decreasing is usually based on the improvements of thermal characteristics of the buildings. It means, the implementation of this strategy is connected with the production of EPS and XPS materials. The paper describes the dynamics of changes in the system which includes the stock of existing buildings. These buildings creates the demand for the production of thermal insulation materials. Another important stock is the amount of manufactured materials. Together with another elements these main stocks create a distribution chain with specific dynamics. The dynamic model was built for the description of the behavior of this system. The model is based on system dynamics methodology and makes possible the calculate amount of the refurbished buildings and to design the capacity of the production facilities to cover the demand. The proposed model is the contribution to the sustainability in the field of the construction sector but also it solves the problem of the profitability for the EPS production company investment activities. The paper is focused mainly on the assessment of the reaction to the step change in the demand in the investigated system.