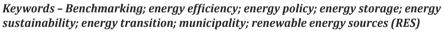
ARE BSR MUNICIPALITIES ON TRACK FOR ENERGY TRANSITION?

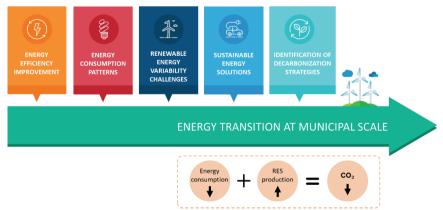
Kristiāna DOLGE1*, Laura Kristiāna VIČMANE2, Ģirts BOHVALOVS3, Dagnija BLUMBERGA4

¹⁻⁴ Riga Technical University, Faculty of Natural Sciences and Technology, Institute of Energy Systems and Environment, Azenes iela 12/K1, Riga, LV-1048, Latvia

Corresponding author. Email address: kristiana.dolge@rtu.lv

Abstract - Climate neutrality targets and the growing decentralization of energy systems have substantially increased the role of municipalities in global energy transition. However, global shifts and national government demands have often left local public authorities unprepared to face numerous challenges related to local space planning, costeffective integration, and decarbonization of electricity, heating, industry, and mobility. Therefore, there is a need to investigate the current state of municipal energy transition and analyze how municipalities face climate neutrality target achievement. This study conducts an integrated energy sustainability assessment to investigate the progress of the energy transition in six municipalities in the Baltic Sea region. A benchmarking approach is applied to compare the different levels of energy efficiency and decarbonization in the municipalities. The study reveals different energy consumption patterns of municipal buildings, which are influenced by various factors such as the type of building (educational, office, social facilities, etc.), the heat source (district heating or individual local heat source) and the energy efficiency management practices applied. In addition, a different trend in the installation of renewable energy capacity can be observed in municipalities in Latvia, Lithuania, Poland and Sweden. The study analyzes the overall gap between the production and consumption of renewable energy to determine the storage potential and the role in the local energy transitions. The findings of this study highlight the key cornerstones in the current state of municipal energy transition, setting a foundation for better and more effective energy policy planning at national and local scales.





Municipality energy sustainability analysis segments integrated in the assessment.

ACKNOWLEDGEMENT

This research is funded by the Interreg Baltic Sea Region's project "Carbon driver energy equilibrium at the municipal scale (Energy Equilibrium)", Project no. #C027.