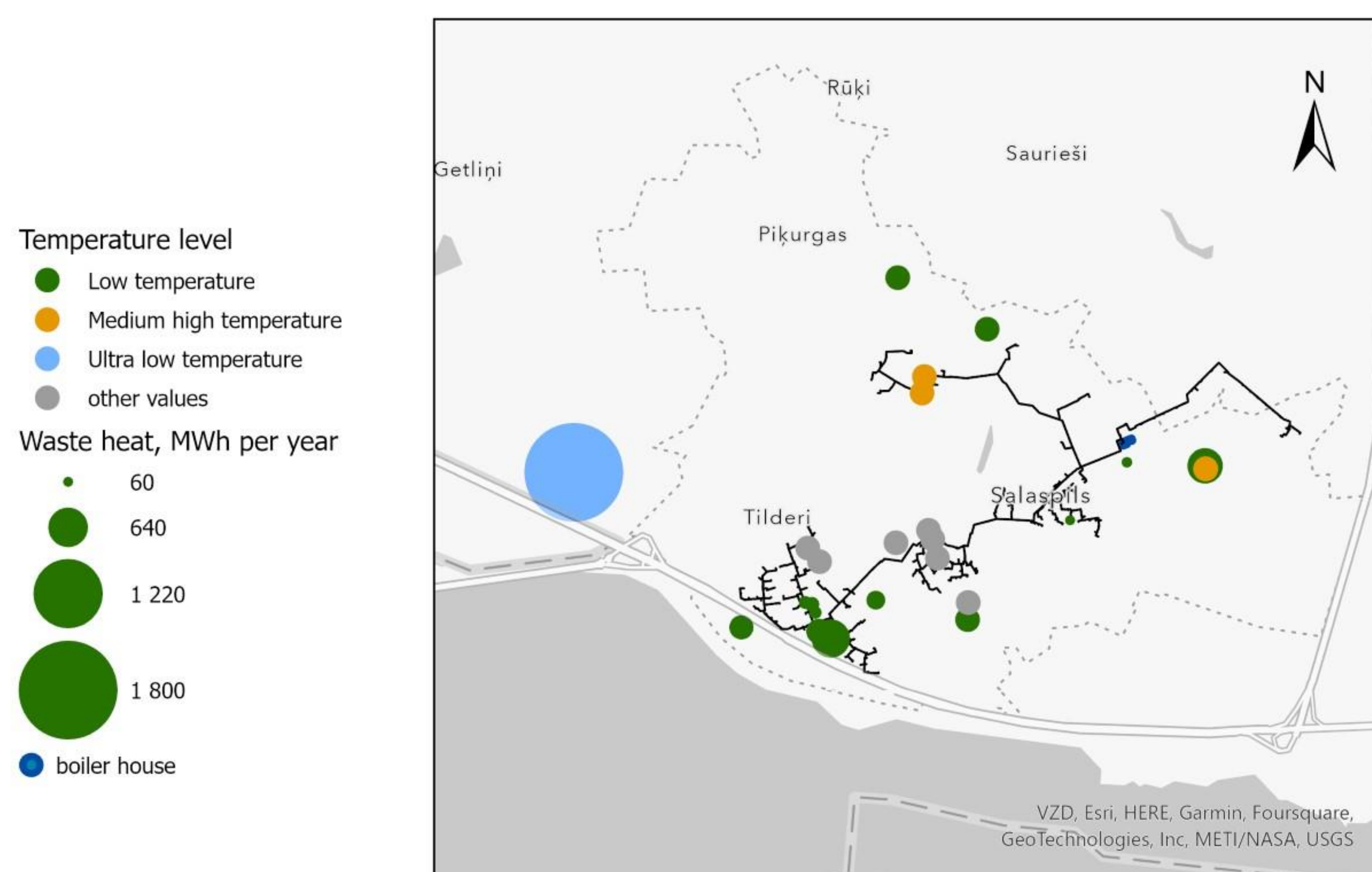


JOINT BALTIC-NORDIC ENERGY RESEARCH PROGRAMME

Waste heat in smart energy systems

Articles

- Pakere I., Blumberga D., Volkova A., Djorup S. **Harmonisation of waste heat in district heating.** *Will be submitted to «Smart energy»*
- Pakere I., Feofilovs M., Blumberga D., Volkova A. **Multi-source district heating system optimisation through technical, economic and life-cycle analyses.** *Will be submitted to «Energy»*



Fact box

Acronym: WasteHeatSES

Duration: 01.02.2022 – 31.01.2023

Funding: 1 837 500 NOK

Project Owner:

Riga Technical University, Latvia

Project Manager:

Dagnija Blumberga, Ieva Pakere

Project Partners:

Tallinn University of Technology, Estonia

Norwegian Research Centre, Norway

Observers:

Latvian District Heating Association, Latvia

Estonian Power and Heat Association, Estonia

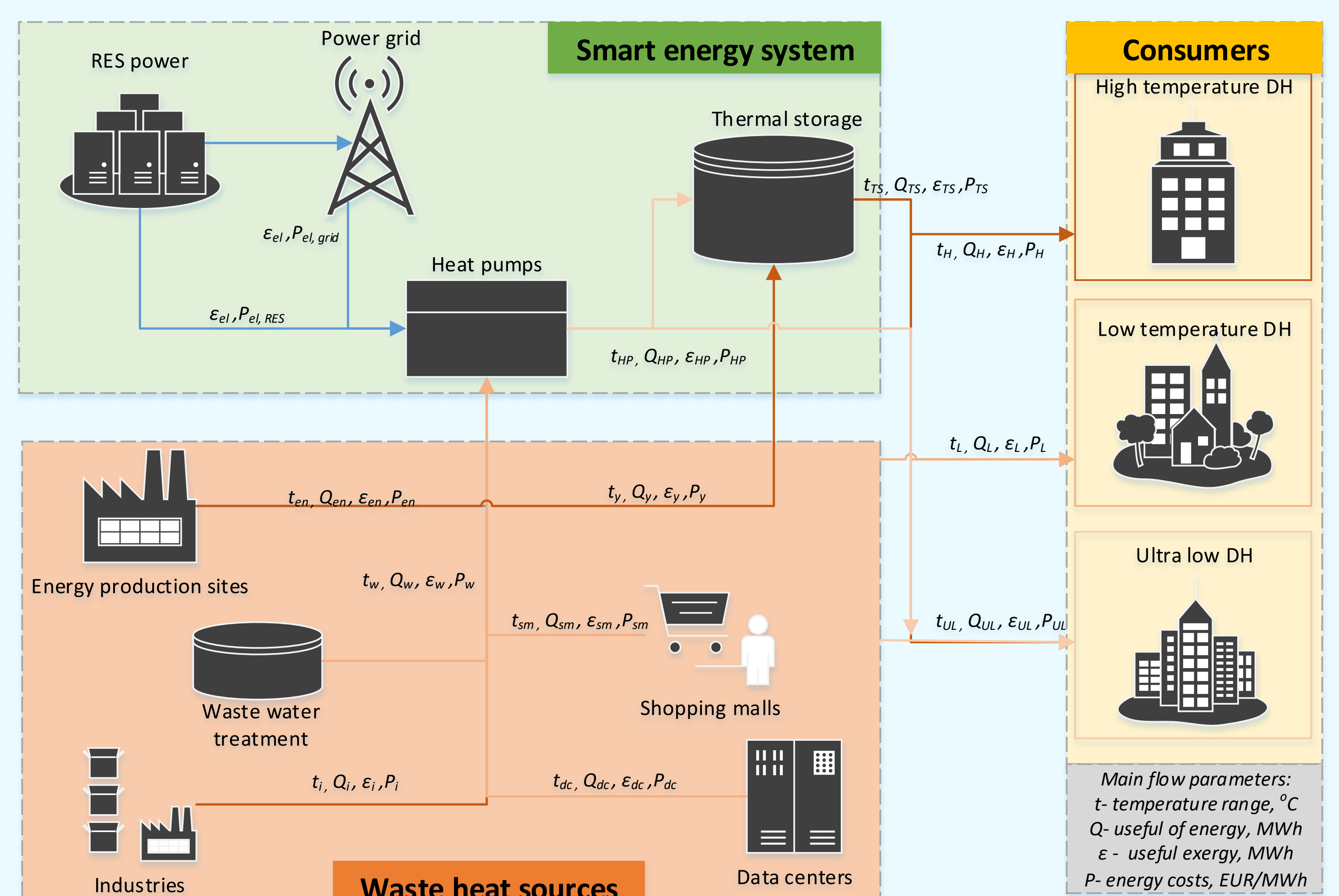
Energy Innovation AS, Norway

Egersund Næring & Havn AS, Norway

Webpage: videszinatne.rtu.lv/en/science/project-and-research/wasteheatses/

Policy recommendations

- To develop and maintain a publicly available database of potential waste heat sources and their main characteristics
- To promote a discussion between district heating companies and waste heat source owners where the local government could participate as the main stakeholder.
- Promoting the transition of district heating companies to the 4th generation heating system should be encouraged in order to make it easier to integrate recovered low-temperature waste heat.



About the Project

The necessity to valorize waste heat from industrial objects, energy production facilities, data centres, supermarkets, wastewater treatment plants, and other heat sources at the regional scale has been emphasized in the existing legislative documents of the European Union. Therefore, potential waste heat sources in the Baltic Nordic region are valorized within the proposed project through **in-depth national potential assessment, technical simulation, and cost-benefit analysis.**

The **exergy cost method** will be applied to valorizing different waste heat flows by assigning an economical cost value, representing the cost of deploying a certain exergy flow through every transformation process.

Based on technical and economic modeling results, the project aims to develop a **decision-making model** for relevant stakeholders and recommendations on suitable conditions for waste heat integration into the future smart energy systems in Nordic and Baltic countries from the legislative organizational and business perspective.