



CONECT
2024



**RIGA TECHNICAL
UNIVERSITY**

XVII International Scientific Conference of Environmental and Climate Technologies

BOOK OF ABSTRACTS

15–17 May 2024 | Riga, Latvia

CONNECT 2024
XVII International Scientific Conference of
Environmental and Climate Technologies

BOOK OF ABSTRACTS

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© Riga Technical University, 2024
ISBN 978-9934-37-065-6 (pdf)

Images: Anna Marta Babre
Design: Paula Lore
Main managing editor: Dace Lauka
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ISSN 2592-9704

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CONECT 2024

XVII International Scientific Conference of Environmental and Climate Technologies

Welcome to CONECT 2024 – an international scientific conference that has been held since 2008 and annually brings together scientists, researchers, PhD students and professionals from all over the world.

The conference's purpose is to acquaint with achievements in the area of energy systems and environmental engineering and to give an opportunity to exchange and share experiences and publish research results.

The three-day event will feature an impressive line-up of speakers from around the world in Plenary and Panel sessions on the following topics:

- Bioresources
- Biotechnologies
- District Heating
- Energy Efficiency
- Environmental and Energy Policies and Frameworks
- Low Carbon Development and Bioeconomy
- Renewable Energy Technologies
- Sustainability and Resilience





The conference papers are published in the international scientific journal “Environmental and Climate Technologies” (ISSN: 2255-8837) indexed in SCOPUS and Web of Science.

The conference is organized by the Institute of Energy Systems and Environment (IESE) of Riga Technical University



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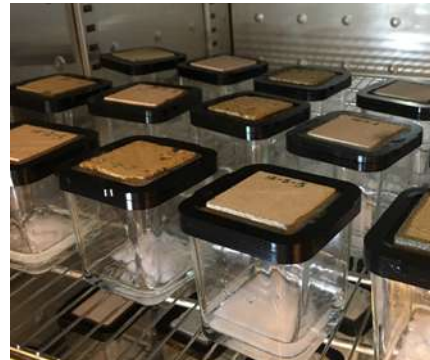
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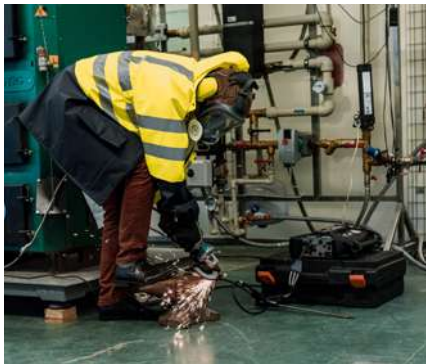
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This is testified by our partners' unwavering interest in cooperation with us both in research sectors well-balanced in climate technologies and resilience, energy and environmental policy, environmental governance and energy management and resolution of engineering-technical issues in industrial, agricultural, energy and waste management companies.

IESE commitment to sustainability fosters innovation and subsequently supports future projects.

The balanced advancement in the IESE scientific research capacities is made sustainable through cooperation with partners in Latvia, the European Union member states, Norway, the USA, Colombia, Canada, Taiwan, India, and other countries. We participate in joint projects within the Baltic Sea Region, HORIZON and the Nordic Energy Research programmes. Our commitment to collaboration and our international focus has been the key factors in attracting investment and facilitated the resolution of several environmental and engineering issues.





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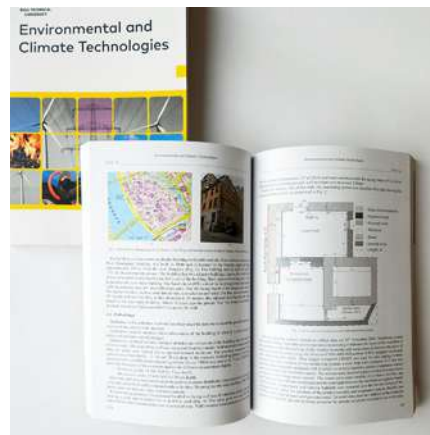
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The accommodation of CONECT 2024 participants is taken care of by the Mogotel hotel group.

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<https://doi.org/10.7250/CONNECT.2024.010>

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