



conect

Conference of Environmental
and Climate Technologies

12-14 May 2021

ONLINE

Conference Program

Conference Topics:

Sustainability of Technology
Development

Renewable Energy

Green Transport Systems

Biofuels and Alternative Fuels

Bioeconomy and Low Carbon
Development

Smart Energy and Zero Carbon
Technologies

System Approach Integration in
Energy Sector

Resilience

Resource Efficiency, Circular
Economy and Eco-design

Pollution Prevention

Energy Efficiency Improvement

Energy and Carbon Markets

Energy and Environmental
Modelling

Energy Management, Policy and
Economics

Heat and Power Generation, incl.
District Heating and/or Cooling

Organised by:





About CONECT

CONECT – International Scientific Conference of Environmental and Climate Technologies – is organised by the Institute of Energy Systems and Environment, Riga Technical University.

Its main aim is to acquaint researchers with achievements in the area of energy systems and environmental engineering and to give the scientists, PhD students and professionals an opportunity to present and publish the results of their research.

The conference proceedings will be published in the international scientific journal “**Environmental and Climate Technologies**” and selected papers will be published as the special issue in the international scientific journal “**Environmental Management**” (ELSEVIER) and “**Journal of Cleaner Production**” (ELSEVIER). The journals are indexed in **Scopus** and **Web of Science**.

Venue

The conference will be held online from 12-14 May 2021. Conference will be held on Zoom platform. Participants will receive instructions and links for joining the conference.

Conference language

The official conference language is English.

Connection time for Conference

Wednesday, 12 May from 8:45–9:00

Thursday, 13 May from 8:45–9:00

Guidelines

Oral presentations

All presenters are kindly asked to join the Conference 10 minutes before the sessions in order to prepare for presenting and check their connection. A Technical Assistant and a Session Chair will be available online to provide the assistance.

Duration of each oral presentation in plenary session is 15-25 minutes (as scheduled in the program) and 5 minutes for questions and discussions. Duration of each oral presentation in other sessions is 12 minutes and 3 minutes for questions and discussions.

Poster presentations

There are two poster sessions scheduled:

- SESSION I – on Wednesday, 12 May from **17:00–18:00**
- SESSION II – on Thursday, 13 May from **17:00–18:00**

Suggested template of the posters is available on CONECT web page and posters should be saved in .pdf format before presenting. Authors need to participate in the poster session to present their poster and answer questions. Each poster presenter has 3 minutes to present the research. The presentation is followed by several questions.

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WEDNESDAY, 12 May ONLINE

08:45 – 09:00 Connection time
09:00 – 09:10 Conference opening

PLENARY SESSION I

09:10 – 09:35 **Moderator: Gatis Bazbauers, Riga Technical University, Latvia**
Perspectives to the path towards carbon neutrality in Europe
Peter D. Lund, Aalto University, Finland
09:35 – 09:55 Renewable energy prospects in Europe
Gilles Lepesant, National Center for Scientific Research, France
09:55 – 10:10 Blind Spots in Energy Sector
Dagnija Blumberga, Riga Technical University, Latvia
10:10 – 10:25 Break

PANEL SESSION I: Energy Efficiency



10:25 – 10:40 **Moderator: Andra Blumberga, Riga Technical University, Latvia**
Analysis of Energy Retrofit Assessment Methodologies in Buildings by European Research Projects
Markel Arbulu, Xabat Oregi, Olatz Grijalba, University of Basque Country UPV/UPV, Spain
10:40 – 10:55 Positive Energy District (PED) selected projects assessment, study towards the development of further PEDs
Sofia Rueda Castellanos, University of Mons, Belgium, Heriot-Watt University, Scotland
Xabat Oregi, University of the Basque Country, Spain
10:55 – 11:10 Transforming a Conventional Commercial Building to Net Zero Energy Building - Balancing the Economic Aspects with Energy Patterns
Danyal Shuja, Syed Shujaa Safdar Gardezi, Muhammad Rashid Idrees, Capital University of Science and Technology, Pakistan
11:10 – 11:25 Experimental Investigation and Prediction of Charging/Discharging Performance of Phase Change Material based Thermal Energy Storage Unit
Saulius Pakalka, Vilnius Gediminas Technical University, Applied Research Institute for Prospective Technologies, Lithuania
Kęstutis Valančius, Vilnius Gediminas Technical University, Lithuania
11:25 – 11:40 The energy audit of the tall ship STS Fryderyk Chopin
Szymon Firląg, Mariusz Rogulski
Warsaw University of Technology, Poland
11:40 – 11:55 Impact of Grid Gas Requirements on Hydrogen Blending Levels
Eduard Latõšov, Anna Volkova, Tallinn University of Technology, Estonia
Ieva Pakere, Riga Technical University, Latvia
Lina Murauskaite, Lithuanian Energy Institute, Lithuania
11:55 – 12:10 Incorporating user behaviour into system dynamics modelling: a case study of private vs. public transport in Latvia
Alina Safronova, Vladimirs Kirsanovs, Aiga Barisa, Riga Technical University, Latvia
12:10 – 13:00 Break

PANEL SESSION II: Renewable Energy Technologies



- Moderator: Valeria Mezzanotte, University of Milano Bicocca, Italy**
- 13:00 – 13:15 Heat pump potential in the Baltic States. Nordic Energy Research report presentation
Anna Volkova, **Henrik Pieper**, *Tallinn University of Technology, Estonia*
- 13:15 – 13:30 Conductivity Data of Phosphoric Acid Solutions for Efficient Polymer Electrolyte Membrane Fuel Cells
Fosca Conti, *University of Padova, Italy*
Juergen Giffin, Carsten Korte, *Institute of Energy and Climate Research IEK-14: Electrochemical Process Engineering, Germany*
- 13:30 – 13:45 Production of Biodiesel using Calcined Brine Sludge Waste from Chlor-Alkali Industry as a Heterogeneous Catalyst
Pascal Mwenge, Hilary Rutto, *Vaal University of Technology, South Africa*
Christopher Enweremadu, *University of South Africa, South Africa*
- 13:45 – 14:00 Laboratory and outdoor testing of small scale active solar facade module
Janis Narbutis, **Ruta Vanaga**, Andra Blumberga, *Riga Technical University, Latvia*
- 14:00 – 14:15 Energy Performance Gap Analysis in Energy Efficient Residential Buildings in Lithuania
Violeta Motuziene, **Vilūnė Lapinskienė**, Genrika Rynkun, Jonas Bielskus, *Vilnius Gediminas Technical University, Lithuania*
- 14:15 – 14:30 Heat pump usage in Estonian rural district heating networks
Kertu Lepiskaar, Kiur Kalme, Anna Volkova, Andres Siirde, *Tallinn University of Technology, Estonia*
- 14:30 – 14:45 Upgrade from SEAP to SECAP: experience of 6 European municipalities
Anda Jekabsone, José Pablo DELGADO MARÍN, Sofia Martins, Marika Rosa, **Agris Kamenders**, *Riga Technical University, Latvia*
- 14:45 – 15:00 Break

PANEL SESSION III: Energy Sector Policies



- Moderator: Anna Volkova, Tallinn University of Technology, Estonia**
- 15:00 – 15:15 Evaluation of heating and cooling loads for a well-insulated single-family house under variable climate pattern
Aleksejs Prozuments, *Riga Technical University, WWL Houses Ltd., Latvia*
Arturs Staveckis, Jurgis Zemitis, Diana Bajare, *Riga Technical University, Latvia*
- 15:15 – 15:30 Decarbonisation Pathways of Industry in TIMES Model
Signe Allena-Ozolina, **Dzintars Jaunzems**, Ieva Pakere, Andra Blumberga, Gatis Bazbauers, *Riga Technical University, Latvia*
- 15:30 – 15:45 Energy performance of Millennium buildings (1992 – 2014) in Latvia
Ruta Vanaga, Ritvars Freimanis, Juris Antuzs, Zigmars Zundans, Andra Blumberga, *Riga Technical University, Latvia*
- 15:45 – 16:00 Modeling the combined heat and power plants with steam turbines in the study of energy security problems

Victoria Piskunova, Dmitry Krupenev, Egor Krupenev, *Melentiev Energy Systems Institute of Siberian Branch of the Russian Academy of Sciences, Irkutsk National Research Technical University, Russian Federation*

Natalia Pyatkova, *Melentiev Energy Systems Institute of Siberian Branch of the Russian Academy of Sciences, Russian Federation*

16:00 – 16:15

Ranking EU climate and energy policies

Ieva Pakere, Toms Prodanuks, Agris Kamenders, Ivars Veidenbergs, Dagnija Blumberga, *Riga Technical University, Latvia*

16:15 – 16:30

Investigation on relative heat losses and gains of heating and cooling networks

Violeta Madan, Ingo Weidlich, *HafenCity University, Germany*

16:30 – 16:45

Mapping of new business models in domains of technologies and energy for modelling of dynamics of clean energy transition

Madara Rieksta, Gatis Bazbauers, **Andra Blumberga**, Dagnija Blumberga, *Riga Technical University, JSC Rigas Siltums, Latvia*

16:45 – 17:00

Break

17:00 – 18:00

POSTER SESSION I

Moderator: Agris Kamenders, Riga Technical University, Latvia

THURSDAY, 13 May ONLINE

08:45 – 09:00 Connection time
09:00 – 09:10 Best paper announcement

PLENARY SESSION II

09:10 – 09:35 **Moderator: Dagnija Blumberga, Riga Technical University, Latvia**
Strategic thinking and policy for bioeconomy development
Stelios Rozakis, Technical University of Crete, Greece
09:35 – 09:55 Circular Economy contribution to the 2030 Agenda
Lucia Rocchi, University of Perugia, Italy
09:55 – 10:10 CO₂ capture in products. System dynamics modelling.
Gatis Bazbauers, Riga Technical University, Latvia
10:10 – 10:25 Break

PANEL SESSION IV: Bioeconomy

10:25 – 10:40 **Moderator: Stelios Rozakis, Technical University of Crete, Greece**
Cross-border cooperation concept in multifunctional agriculture under RIS3 – a German use case on legume food production
Christopher Meyer, Tallinn University of Technology, Estonia, Hochschule Wismar – University of Applied Sciences: Technology, Business and Design, Germany
Tim Oliver Howe, Christian Stollberg, Laima Gerlitz, Hochschule Wismar – University of Applied Sciences: Technology, Business and Design, Germany
10:40 – 10:55 Temporal trends in phosphorus concentrations and losses from agricultural monitoring sites in Latvia
Ieva Siksnane, Ainis Lagzdins, Latvia University of Life Sciences and Technologies, Latvia
10:55 – 11:10 Biomass Waste Processing into Artificial Humic Substances.
Maris Klavins, Linda Ansonė-Bertina, Lauris Arbidans, Linards Klavins University of Latvia, Latvia
11:10 – 11:25 Effect of surface finish reflectance on energy consumed by lighting
Ammar Alkhalidi, **Shahad Shammout**, Mohamad K. Khawaja, German Jordanian University, Amman, Jordan
11:25 – 11:40 Treatment of storm water from agricultural catchment in pilot scale constructed wetland
Linda Grinberga, Ainis Lagzdins, University of Life Sciences and Technologies, Latvia
Didzis Lauva, Riga Stradins University, Latvia
11:40 – 11:55 Selection of iron-based additives for enhanced anaerobic digestion of sludge using the multi-criteria decision-making approach
Christopher Enweremadu, University of South Africa, South Africa
Samson Ugwu
University of Nigeria, Nigeria, University of South Africa, South Africa
11:55 – 12:10 Bioresource value optimization model
Lauma Zihare, Nidhiben Patel, Maksims Feofilovs, Dagnija Blumberga, Riga Technical University, Latvia
12:10 – 13:00 Break

PANEL SESSION V: Bioresources



Moderator: Francesco Romagnoli, Riga Technical University, Latvia

- 13:00 – 13:15 Microalgae cultivation integrated into a biogas plant system: a pilot project in the Latvian context
Francesco Romagnoli, Riga, Technical University, Latvia
- 13:15 – 13:30 Capture, Storage and Utilization of Carbon Dioxide by Microalgae and Production of Biomaterials
Marta Bertolini, Fosca Conti
University of Padova, Italy
- 13:30 – 13:45 Assessment of different binders for activated carbon granulation for the use in CO₂ adsorption
Pauls P. Argalis, Ilze Jerane, **Kristine Vegere, Riga Technical University, Latvia**
Aivars Zhurinsh, Latvian State Institute of Wood Chemistry, Latvia
- 13:45 – 14:00 Quality of lake ecosystem and of its role in the spread of invasive species
Oskars Purmalis, Linards Klavins, Maris Klavins, University of Latvia, Latvia
Laura Grinberga, Laboratory of Hydrobiology, Institute of Biology, Latvia
- 14:00 – 14:15 First results on the removal of emerging micropollutants from municipal centrate by microalgae
Valeria Mezzanotte, Francesca Alice Marazzi, Marco Mantovani, University of Milano Bicocca, Italy
Elena Ficara, Polytechnic University of Milan, Italy
Sara Maria Valsecchi, Francesca Cappelli, IRSA-CNR, Italy
- 14:15 – 14:30 Evaluation of the environmental sustainability of hemp as a building material, through Life Cycle Assessment
Luisa Paolotti
University of Perugia, Italy
- 14:30 – 14:45 Effect of polysorbates on the growth of *Rhodotorula glutinis* in oil rich medium
Svetlana Raita, **Kriss Spalvins, Dagnija Blumberga**
Riga Technical University, Latvia
- 14:45 – 15:00 Break

PANEL SESSION VI: Climate policies



Moderator: Claudio Rochas, Riga Technical University, Latvia

- 15:00 – 15:15 Analysis of CO₂ Valorisation Options for Regional Development in Latvia
Viktorija Terjanika, Julija Gusca, **Jelena Pubule, Dagnija Blumberga, Riga Technical University, Latvia**
- 15:15 – 15:30 Avoiding food wastage: the net impact of Maisto Bankas activities. A Carbon footprint approach
Giuditta Meloni, Lucia Rocchi, University of Perugia, Italy

- 15:30 – 15:45 Enhancing urban resilience capacities: An Analytic Network Process-based application
Giulia Datola, Marta Bottero, Elena De Angelis, *Polytechnic University of Turin, Italy*
- 15:45 – 16:00 Towards Green and Smart Seaports: Renewable Energy and Automation Technologies for Bulk Cargo Loading Operations
Robert Philipp, Gunnar Klaus Prause, *Tallinn University of Technology, Estonia*, Wismar Business School, *Germany*, Eunice Omolola Olaniyi, *Turku University, Finland*, Florian Lemke, *Seaport Wismar, Germany*
- 16:00 – 16:15 Trends in Environmental Management Systems research. A content analysis.
Filippo Fiume Fagioli, *University of Urbino Carlo Bo, Italy*, Luisa Paolotti, Antonio Boggia, *University of Perugia, Italy*
- 16:15 – 16:30 The Impact of Data Granularity of Indoor Temperature Measurements on the Calculation of Degree Days
Xue Mei, **Carlos Jimenez-Bescos**, *University of Nottingham, United Kingdom*
- 16:30 – 16:45 Development of New Compact Water Treatment System for Flue-gas Condenser for Households
Oskars Svedovs, **Mikelis Dzikevics**, Vladimirs Kirsanovs, Ivars Veidenbergs, *Riga Technical University, Latvia*
- 16:45 – 17:00 Break
- 17:00 – 18:00 **POSTER SESSION II**
Moderator: Dzintars Jaunzems, Riga Technical University, Latvia

FRIDAY, 14 May ONLINE

- 09:45 – 10:00 Connection time
- BIOECONOMY CHALLENGES - CASE IN APPLE GARDEN***
Moderator: Jelena Pubule, Riga Technical University, Latvia
- 10:00 – 10:45 Introduction: Definition of the problem of the session
System Dynamics modelling. Bioeconomy case
Introduction to the principles of a co-management approach
- 10:45 – 11:00 Information about organizational issues and division in groups
- 11:00 – 12:00 Preparation of Scenarios in groups (group work)
- 12:00 – 12:30 Presentation of Scenarios (group work)
- 12:30 – 13:00 Results and Discussions
- 13:00 – 14:00 Break
- GROUP MODEL BUILDING***
Moderator: Gatis Bazbauers, Riga Technical University, Latvia
- 14:00 – 14:10 Definition of the problem and aim
- 14:10 – 14:30 Introduction to principles of constructing the causal loop diagrams
- 14:30 – 14:35 Division in groups & additional information
- 14:35 – 15:05 Group work – Session I
- 15:05 – 15:25 Presentation of results of Session I
- 15:25 – 15:35 Expert feedback
- 15:35 – 16:05 Group work – Session II
- 16:05 – 16:25 Presentation of results of Session II
- 16:25 – 16:30 Conclusions
- 16:30 – 17:00 Conference closing

*Please find description of the event in Appendix I below

POSTER SESSION I – 12 May

P 1.1	<i>Stanislav Chicherin, Andrey Zhuikov, Mikhail Kolosov, Lyazzat Junussova, Madina Aliyarova, Aliya Yelemanova</i>	The impact of the future fluctuating energy consumption on a district heating system: case study of Omsk and Krasnoyarsk cities
P 1.2	<i>Violeta Motuziene, Jonas Bielskus, Vilūnė Lapinskienė, Genrika Rynkun</i>	Office Building's Occupancy Prediction Using Extreme Learning Machine Model with Different Optimization Algorithms
P 1.3	<i>Janis Kramens, Edgars Vigants, Ivars Liepins, Linards Vernieks, Viktorija Terjanika</i>	Research of a Biomass Boiler with Stirling Engine Microgeneration Unit
P 1.4	<i>Tomasz Janusz Teleszewski, Dorota Anna Krawczyk, Antonio Rodero</i>	Optimization of the Geometric Parameters of the Thermal Insulation of the Heating System by Using Multi-Pipe Circular Thermal Insulation
P 1.5	<i>Mikelis Dzikevics, Dzintars Jaunzems, Maris Terauds</i>	Bibliometric analysis of the solar thermal system control methods
P 1.6	<i>Francesco Romagnoli, Anton Rayan Priyasad Perera Weerasuriya-Arachchige, Riccardo Paoli, Maksims Feofilovs, Baiba Ilevina</i>	Growth kinetic model for microalgae cultivation in open raceway ponds: A System Dynamics tool
P 1.7	<i>Chankook Park, Minkyu Kim</i>	Characteristics influencing digital technology choice in digitalization projects of power, oil and gas industry
P 1.8	<i>Reinis Aboltins, Dzintars Jaunzems</i>	Climate Policy Integration – A Strategy for Reaching Climate Goals
P 1.9	<i>Roberts Kakis, Ilze Polikarpova, Ieva Pakere, Dagnija Blumberga</i>	Is it possible to obtain more energy from solar DH field? Interpretation of solar DH system data.
P 1.10	<i>Omari Zivzivadze, Isidore Kachakhidze, Archil Geguchadze, Badri Zivzivadze, Anzor Kuparadze, Nata Sulakvelidze,</i>	A study on a recuperative suspension as an alternative energy source
P 1.11	<i>Marika Kacare, Ieva Pakere, Armands Gravelsins Dagnija Blumberga</i>	Spatial analysis of renewable energy sources
P 1.12	<i>Ketevan Tskhakaia, Demur Chomakhidze, Eva Bilkova, Petr Nowak</i>	Small Hydropower Potential and its Development in Georgia
P 1.13	<i>Andrea Jonathan Pagano, Francesco Romagnoli, Emanuele Vannucci</i>	Covid-19 effects on cultural heritage: The case of Villa Adriana and Villa D'Este
P 1.14	<i>Anita Vecina, Antra Kalnbalkite, Signe Gerinovica, Dagnija Blumberga</i>	How is Biodiplomacy Attractiveness in Bioeconomy Education? Case Study
P 1.15	<i>Antra Kalnbalkīte, Jeļena Pubule, Dagnija Blumberga</i>	Education for advancing the implementation of the Green Deal Goals for bioeconomy
P 1.16	<i>Linda Cerdancova, Kristiana Dolge, Dagnija Blumberga</i>	Energy Efficiency Benchmark in Textile Manufacturing Companies
P 1.17	<i>Agata Witkowska, Dorota Anna Krawczyk, Antonio Rodero</i>	Analysis of the heat pump market in Europe with a special regard to France, Spain, Poland and Lithuania

P 1.18	<i>Olga Miryuk</i>	Environmental Aspects of Resource-Saving Cement Technology
P 1.19	<i>Ieva Farenhorste-Mikane, Gatis Bazbauers, Andra Blumberga, Dagnija Blumberga, Ivars Ijabs</i>	Modeling of institutional capacity within study of energy transition dynamics
P 1.20	<i>Syed Shujaa Safdar Gardezi, Nasir Shafiq, Ishtiaq Hassan, Usman Arshid, Waris Ali Khan</i>	Life Cycle Carbon Footprint Assessments, Case Study of Malaysian Housing Sector
P 1.21	<i>Genadijs Sahmenko, Maris Sinka, Eva Namsona, Aleksandrs Korjakins, Diana Bajare</i>	Sustainable wall solutions using foam concrete and hemp composites
P 1.22	<i>Zane Indzere, Anna Kubule, Lauma Zihare, Ilze Vamza, Dagnija Blumberga</i>	Analysis of Bioeconomy Affecting Factors – Climate Change and Production
P 1.23	<i>Krista Laktuka, Ieva Pakere, Dace Lauka</i>	Long-term Policy Recommendations for Improving the Efficiency of Heating and Cooling
P 1.24	<i>Nidhiben Patel, Antra Kalnbalkite, Dagnija Blumberga</i>	Fruit Waste into Value-added Products
P 1.25	<i>Liga Rozentale, Dagnija Blumberga</i>	Cost-benefit and multi-criteria analysis of wind energy parks' development potential in Latvia
P 1.26	<i>Ritvars Freimanis, Andra Blumberga</i>	Laboratory testing of internal insulation systems
P 1.28	<i>Ilze Luksta, Girts Bohvalovs, Gatis Bazbauers, Andra Blumberga, Dagnija Blumberga</i>	Production of renewable insulation material - new business model of bioeconomy for clean energy transition
P 1.29	<i>Janis Lilo, Gatis Bazbauers, Andra Blumberga, Dagnija Blumberga, Girts Bohvalovs</i>	CO ₂ -to-biofuel - business and institutional aspects of implementation dynamics
P 1.30	<i>Aiman Albatayneh, Mohammed N.Assaf, Muna Al – Qroum, Dariusz Alterman</i>	Energy saving and CO ₂ mitigation as a result of reshaping transportation in Jordan to focus on the use of electric passenger cars
P 1.31	<i>Fabian Diaz Sanchez, Alberto T. Penteado, Jens-Uwe Repke, Alvaro Orjuela, JulijaGusca</i>	Integrated Environmental Sustainability Assessment of the Bioempowered Oxidative Coupling of Methane Process
POSTER SESSION II – 13 May		
P 2.1	<i>Gunars Valdmanis, Gatis Bazbauers</i>	Relation between electric vehicles and operation performance of power grid
P 2.2	<i>Girts Bumanis, Danute Vaiciukyniene</i>	Mechanical properties of alkali activated material based on red clay and silica gel precursor
P 2.3	<i>Ilona Pavlovskā, Zanna Martinsone, Aneka Klavina, Lasma Akulova, Linda Paegle</i>	Emissions from 3D printers as occupational environmental pollutants
P 2.4	<i>Aija Ruse, Jelena Pubule</i>	The boundaries of scientific innovation in the EU Green Deal context
P 2.5	<i>Mariusz Rogulski, Artur Badyda, Szymon Firlag</i>	The share of pollution from land sources in PM levels in the region of Danish straits, North and Baltic Seas
P 2.6	<i>Agita Gancone, Jelena Pubule, Dagnija Blumberga</i>	Valorization methodology for agriculture sector climate change mitigation measures
P 2.7	<i>Aray Abildayeva, Khalima Turgumbayeva, Dagnija Blumberga</i>	Systematization of material flows of natural and secondary raw materials of phosphorus industry of the Republic of Kazakhstan

P 2.8	<i>Beate Zlaugotne, Jelena Pubule, Julija Gusca, Silvija Nora-Kalnins</i>	Quantitative and qualitative assessment of healthcare waste and resource potential assessment
P 2.9	<i>Dilip Khatiwada, Farzin Golzar, Brijesh Mainali, Aarthi Aishwarya Devendran</i>	Circularity in the Management of Municipal Solid Waste (MSW) in Cities – A Systematic Review and Its Application in the City of Curitiba
P 2.10	<i>Tamara Grizane, Dagnija Blumberga</i>	Environmentally Responsible Behaviour in Tourism during COVID-19
P 2.11	<i>Gulnara Altynbaeva, Olga Kadnikova, A. M. Aydarhanov, M. O. Toretayev</i>	Industrial waste water of the feed industry: technological and ecological problems.
P 2.12	<i>Maxat Shanbayev, Khalima Turgumbayeva, Dagnija Blumberga, Aziza Aipenova</i>	Environmental and economic advantages of disposal of phosphoric industry waste
P 2.13	<i>Fabian Diaz, Jacopo Andreas Vignati, Beatrice Marchi, Riccardo Paoli, Simone Zanoni, Francesco Romagnoli</i>	Effects of Energy Efficiency Measures in the beef cold chain: A Life Cycle-based study
P 2.14	<i>Emilija Demikyte, Sandra Sakalauskaite, Neringa Kuliesiene, Simona Tuckute, Marius Urbonavicius, Sarunas Varnagiris, Rimantas Daugelavicius, Martynas Lelis</i>	Ni underlayer effect for the structure development and visible light photocatalytic efficiency of carbon-doped TiO ₂ film
P 2.15	<i>Deimante Vasiliauske, Sandra Sakalauskaite, Neringa Kuliesiene, Simona Tuckute, Marius Urbonavicius, Sarunas Varnagiris, Rimantas Daugelavicius, Martynas Lelis</i>	Synergistic generation of reactive oxygen species by visible light activated TiO ₂ and S.enterica interaction
P 2.16	<i>Signe Gerinovica, Dagnija Blumberga, Antra Kalnbalkite, Anita Vecina,</i>	To be, or not to be - the question of forestry resources in bio-diplomacy
P 2.17	<i>Kristiana Dolge, Reinis Azis, Dagnija Blumberga</i>	Can Manufacturing Industry Produce More by Consuming Less?
P 2.18	<i>Ketija Bumbiere, Jelena Pubule, Dagnija Blumberga</i>	Sustainability of biogas production – climate aspects
P 2.19	<i>Vigneshkumar Chellappa, Vasundhara Srivastava</i>	Science Mapping Approach Based Review of Thermal Comfort Studies in Indian Residential Buildings
P 2.20	<i>Lauma Balode, Kristiana Dolge, Dagnija Blumberga</i>	From multicriteria decision analysis to composite sustainability index for policy impact assessment in national energy and climate plans
P 2.21	<i>Maxat Shanbayev, Khalima Turgumbayeva, Dagnija Blumberga, Tuleuzhan Beysekova</i>	Features of the technology of application of industrial waste in the construction of constructive layers of roadwear
P 2.22	<i>Lasma Livzeniece, Jelena Pubule</i>	SUSTAINABILITY ASSESSMENT OF WIND ENERGY IN LATVIA: sustainability SWOT and multi-criteria analysis
P 2.23	<i>Giulia Sandrini, Beatrice Cò, Giuseppe Tomasoni, Marco Gadola</i>	The environmental sustainability of batteries for electric vehicle traction in a life cycle perspective
P 2.24	<i>Ruta Vanaga, Ritvars Freimanis, Andra Blumberga</i>	Laboratory testing of small scale solar facade module with PCM and adjustable insulation

P 2.25	<i>Kamel Haine, Dagnija Blumberga</i>	Evaluation of solar energy efficiency by composite index over four continents
P 2.26	<i>Monika Stonkutė</i>	Experimental research on application of yeast in heavy metal removal from polluted water
P 2.27	<i>Erika Jasvina, Ruta Vanaga</i>	Concept of passive control for dynamic building envelope component
P 2.28	<i>Anda Zandberga, Julija Gusca</i>	Correlation analysis of textile waste generation
P 2.29	<i>Zane Kusnere, Kriss Spalvins, Dagnija Blumberga</i>	Wood ash filter as packing material for trickling biofilters used for biomethanation
P 2.30	<i>Giedrė Juozapavičiūtė, Marina Valentukevičienė and Kriss Spalvins</i>	Glucose Recovery From Textile Waste By Performing Enzymatic Hydrolysis And It's Multi-criteria Analysis
P 2.31	<i>Gideon Masedi Nii Ayi Lomoko, Dainius Paliulis, Karlis Valters</i>	Application of wheat bran for the removal of copper ions from polluted water
P 2.32	<i>Edgars Kavals, Julija Gusca</i>	Monetization of ecotourism services. Case study of Tērvete Nature Park
P 2.33	<i>Rudite Vesere, Silvija Nora Kalnins, Dagnija Blumberga</i>	Role of green jobs within the framework of the circular economy model for more efficient use of resources, the reduction of waste and waste management
P 2.34	<i>Edvarts Emersons, Ritvars Freimanis, Andra Blumberga, Ruta Vanaga</i>	Comsol Modelling of Thermal Energy Storage Facade
P 2.35	<i>Ilze Vamza, Karlis Valters, Arnis Dzalbs, Edgars Kudurs, Dagnija Blumberga</i>	Criteria for choosing thermal packaging for temperature sensitive goods transportation: Latvia case

APPENDIX I

Co-creation event “Bioeconomy challenges – case in apple garden”

We kindly invite you to participate in the co-creation event “Bioeconomy challenges – case in apple garden”. A major challenge in implementing bioeconomy and green innovation is the availability of a skilled workforce and the interaction between academia and industry. These challenges can be solved by using a co-management approach, which we can compare with tango dance, combining two disciplines representing conceptually different goals and expectations. During this session you will gain a new experience and learn how to advance cooperation between the main players towards development, public engagement, and commercialization of bioeconomy projects.

Anyone who is interested in bioeconomy, co-management approach between the academic sector and industry is very welcome to participate. No specific prerequisites required.

Group model building session “Institutional capacity in the context of transition to sustainable energy systems”

We kindly invite you to participate in Group model building session “Institutional capacity in the context of transition to sustainable energy systems.” Aim of the session is to define main elements and relations of the institutional capacity which are needed for successful energy transition. You will learn how to construct causal loop diagram and apply system’s thinking to a complex problem. Your ideas will contribute to development of the simulator for transition to sustainable energy systems.

Anyone who is interested in global energy and climate issues is very welcome to participate. No specific prerequisites required.