

**4th Generation District Heating concepts, future district heating production and systems**

<b>Agnes Engelter</b>	Enabling the flexible transition from 3rd to 4th generation district heating using dual pipe transmission lines
<b>Alireza Etemad</b>	Machine learning surrogate modelling for hydronic balancing in buildings connected to Thermal Source Networks
<b>Andra Blumberga</b>	Designing climate neutrality policies for the energy sector: insights from a system dynamics model
<b>Anna Cadenbach</b>	Advancing 4GDH: Integrated Simulation and Experimental Evaluation of Six Transformation Pathways
<b>Arash Farnam</b>	A Hierarchical Control Framework for District Heating Networks with BTES Using Dynamic Programming and MPC
<b>Arjuna Nebel</b>	Analysing Temporal Heat Demand Effects of Building Retrofitting on Energy Systems: Endogenous Modeling of Germany's Building Sector in PyPSA-Eur
<b>Arthur Lefebvre</b>	Must-haves beyond linear heat density for cost-effective fourth-generation district heating systems
<b>Carolin Ayasse</b>	Open-Source Data Processing Pipeline for Modeling Spatially Resolved Urban Heat Sector Decarbonization Paths
<b>Charlie Pattison</b>	Decarbonising a hot water system in a 19th century City Hall building with UK listed building status to enable a district heating network connection
<b>Christopher Fielding</b>	Bridging the Performance Gap: Applying Co-Heating Analysis to Retrofit Design
<b>Daniele Anania</b>	Including operational constraints in modelling of district heating decarbonization scenarios
<b>Dmitry Romanov</b>	Cost-effectiveness of coaxial medium-deep borehole thermal energy storages for various waste heat sources and district heating temperatures
<b>Elisa Guelpa</b>	Insights into renewable energy integration in an existing district heating system
<b>Fabian Feuchter</b>	Characteristics and Yield Potential of Vertical Bifacial Agri-Solar Thermal Systems for Dual Land Use and District Heating in Europe
<b>Felix Mergenhagen</b>	Large-Scale Heat Pumps for the Decarbonisation of District Heating: A case study in the German region of Lüneburg
<b>Femke Janssen</b>	Efficiently combining a seasonal heat storage, heat pump and electricity dynamics for a more sustainable HT-DHN
<b>Helena Gailan</b>	Integrating medium-deep geothermal energy system into district heating in Estonia: experience from pilot stations towards to smart systems
<b>Helge Averfalk</b>	Ranagård: Novel low-temperature heat distribution technology evaluation
<b>Henrik Lund Frandsen</b>	Robust and cost effective seasonal storage solutions for the energy system
<b>Henrique Monteiro</b>	Three Dimensional Periodic CFD Analysis of Transient Heat Transfer in CORE Type Transformer Disc Windings
<b>Hrvoje Dorotić</b>	Techno-economic and environmental assessment of underground seasonal thermal energy storage integration in the Zagreb district heating network
<b>Igor Krupenski</b>	Motivation Tariffs in District Heating: Assessing Efficiency Gains in an Urban Network in Estonia
<b>Jake Adamson</b>	Retrofitting heating and hot water measures in a 1970s UK operational courts building to enable connection to a low carbon district heating network
<b>Jan Eric Thorsen</b>	Economic case of building level cascaded substation concepts
<b>Jerik Catal</b>	Decarbonizing Existing Districts – what are the options for Energy Networks
<b>Johannes Pelda</b>	Model-based dimensioning of a heat pump and a thermal storage in a CHP-based district heating system and their heat generation pathways towards 2040
<b>Kadri Männasoo</b>	Evaluating the Introduction of a Two-Part District Heating Tariff: Evidence from a Small Network in Estonia
<b>Kai Droste</b>	Simulative Investigation of an Optimized Shallow Geothermal Borehole Layout in a 4th-Generation District Heating Network
<b>Leopold Riedl</b>	Spatial Representation of District Heating: Granularity Levels and Aggregation Methods for Energy System Modeling
<b>Lukas Kranzl</b>	Modeling market adoption of building-side measures for district heating temperature reduction: the role of subsidies and motivational tariffs
<b>Mads Sylvest Eegholm</b>	Deep geothermal energy to efficiently deliver heat to district heating
<b>Maria Pedrosa</b>	Decision-Support Tool for Waste Heat Recovery from Power Transformers for Grid and Heat Decarbonization
<b>Md Asiful Islam</b>	Techno-economic evaluation of power-to-heat integration for a 30% renewable share in an existing fossil-based German district heating system
<b>Mohammad-Reza Kolahi</b>	How Decentralization Cuts Emissions in District Thermal Networks
<b>Mohd Basit Wani</b>	Impact of Integrating Local Renewable Heat Sources with District Heating in Non-Residential Sector: A Case Study in Tallinn, Estonia
<b>Natalia Kozłowska</b>	Integration of a Geothermal Ground Temperature Response in Thermal Network Optimization
<b>Natalie Peracha</b>	Techno-economic assessment of seasonal thermal energy storage in low-exergy district heating networks
<b>Niklas Denter</b>	Electricity-Driven or Heat-Driven? A Comparative Techno-Economic Analysis of Renewable Sector-Coupled District Heating Systems in Germany
<b>Nikolaus Diez</b>	A multi-period optimization approach for renovation pathways in building portfolios under data scarcity and uncertainty
<b>Nirav Patel</b>	Multi-Year Optimization of District Heating Systems with High-Temperature Borehole Thermal Energy Storage
<b>Paweł Wojnarowski</b>	Urban geothermal energy as a component of smart energy systems: multi-use subsurface solutions for local heat decarbonization
<b>Rahul Mohandasani Karuvingal</b>	Simulative Analysis and KPI-Based Selection of Rule-Based Control Strategies in 4th Generation District Heating Substations
<b>Robert Puknat</b>	Heat Pumps vs. Direct Electric Heating: Impact of PV Direct Marketing on the Techno-Economics of Low-Energy Homes
<b>Ruta Vanaga</b>	Adaptive Thermal Coupling Control Layer in PCM–Aerogel Building Façades for Enhanced Energy Performance
<b>Sajedeh Roustaei</b>	A Multi-Criteria Framework for Comparing District Heating Configurations in Shallow Geothermal 5GDHC Systems
<b>Stefan Retschitzegger</b>	Integration of deep geothermal heat in the district heating system of Lviv
<b>Tripti Singh Rajput</b>	TIMES-Based Evaluation of Seasonal Thermal Energy Storage in District Heating System
<b>Uffe Schleiss</b>	Hydronic Balancing Revisited: How Decentralised Pumping Unlocks $\Delta T$ in Legacy Networks
<b>Valerie Fehst</b>	Zone-Level Leak Detection in District Heating Networks Using Multi-Scale Return-Flow Regime Learning
<b>Vittorio Verda</b>	Integration of heat pumps and short/long term thermal storage units for the transition of district heating networks
<b>Wen Liu</b>	A global survey of techno-economic potential of sustainable district heating

**CCUS and PtX technologies and the production and use of electrofuels in future energy systems**

<b>Alisson Julio</b>	Municipal System-Level Assessment of CO <sub>2</sub> Availability for eSAF production under Smart Energy Constraints
<b>Christian Breyer</b>	Power-to-X implementation in energy system modelling: Status and outlook
<b>Fabio Sala</b>	Role of Hydrogen and CCUS in the Italian Power System by 2050: Scenario Results and Implications for Flexibility and Security
<b>Helena Thougard Jensen</b>	Integrating CCUS into Municipal-level Energy System Analysis for a Carbon Neutral Society
<b>Mawaheb Mouftahi</b>	Managing Excess Renewable Electricity in Integrated Energy Systems: A Comparative Analysis of Demand Flexibility, Storage, and PtX
<b>Shiyan Chang</b>	Key uncertainties influencing the regional layout of CCS and BECCS
<b>Thibaut Wissocq</b>	Quantifying the Flexibility Potential of District Heating Networks for France's 2035 Electrical Grid

**Energy efficiency in the electricity sector, buildings, transport and industry**

<b>Amela Ajanovic</b>	Energy Efficiency as a Key Enabler of Cost-Effective Transport Electrification
<b>Avril Bullock</b>	Installation to Operation: Quality Assurance of Dwelling Heat Pumps on Ambient Loop Networks
<b>Daniel Muschick</b>	Practical Aspects of Predictive Control of Electric Vehicle Charging Parks as Flexibility Providers
<b>Hanne Kauko</b>	Cross-sector integration of buildings, transport, and industry for peak-load reduction in low-carbon energy systems
<b>Jenni Leinonen</b>	Economics and CO <sub>2</sub> Emission reductions of Electrifying Industrial Steam Production in Volatile Electricity Markets
<b>Jiahe Chu</b>	Design and Evaluation of a Sector-Coupled Energy Management System for Supermarkets as Flexible EV Charging Hubs
<b>Jonas Gözl</b>	An Integrated Modeling Approach for Transformation Measures in Industrial Energy Systems
<b>Kenneth Hoffmann</b>	Affordable and Decarbonized District Heating with Heat Pumps
<b>Marie Münster</b>	Assessing planetary boundaries of a future Danish energy system
<b>Martin Grasenack</b>	An integrated agent-based modelling framework for increasingly electrified industrial sites
<b>Michael Frank</b>	From Robust to Antifragile Industrial Energy System Planning: Comparative Assessment of Optimization Approaches under Uncertainty
<b>Oddgeir Gudmundsson</b>	Case analysis: Energy efficiency of building level versus flat level ventilation-based heat supply systems for low-energy buildings
<b>Pier Paolo Brancaloni</b>	Evaluating the Flexibility Potential of High Temperature Heat Pumps for Defossilized District Heating
<b>Rachel Parziale</b>	Monitoring Heat Pumps in 4 Residential Climate Districts in Germany
<b>Simon Müller</b>	Economic feasibility of waste heat integration from high-power charging stations for electric trucks in district heating networks
<b>Urban Žvar Bašković</b>	Prosumer Activation in Sector-Coupled Energy Systems: Heavy-duty EV Charging as a System Flexibility Challenge for a multi-sector prosumer
<b>Xin Bin</b>	Energy Optimization of Heat Exchanger Network under Fouling and Cleaning Constraints in Multiproduct Liquid Food Process

**Electrification and sector coupling of transport, heating and industry**

<b>Anders N. Andersen</b>	Adding hydrogen storage radically changes design of e-Methanol plants
<b>Anton Achhammer</b>	Integrating Geothermal Potential and Hydrogen Imports in PyPSA-Earth: A Case Study of Japan's Energy Transition
<b>Benjamin Freischlad</b>	Exploring price-based demand response based on variable emission factors of electricity in sector-coupled energy systems
<b>Buster Bukart Hansen</b>	A Bi-Level Sector Coupling Framework for Multi-Actor Energy Systems: Integrating Techno-Economic Optimisation and Cooperative Game Theory
<b>Daniel Zinsmeister</b>	Data-Driven City-Scale Archetypes for Munich's Residential and Non-Residential Building Stock
<b>Heidi Kirppu</b>	Electrified District Heating as a System Balancing Resource in Nordic Power Systems: Operational Flexibility and Asset Utilisation in Finland
<b>Ilona Malmipuro</b>	Electricity market impacts of renewable hydrogen production and implications on the profitability of flexible generation in Finland in 2030
<b>Mathias Berg Rosendal</b>	Prioritising Flexibility Options in Future Energy Systems
<b>Mohammad Hossein Fouladfar</b>	Valuing Hydrogen Waste Heat in District Heating
<b>Phillip Dale</b>	Future assessment of electrical generation and grid constraints in Luxembourg
<b>Thor Alexis Sazon</b>	Energy system implications of planned hydrogen production in Norway
<b>Yuanda Huang</b>	Identifying China's 2060 Green Heating Pathway: Integrating Coupled Power-Heat System Optimization with Multi-Criteria Decision-Making

**Geographical information systems (GIS) and mapping of demands and resources**

<b>Els van der Roest</b>	Does it fit? The spatial impact of different sustainable heating strategies
<b>Franz Mauthner</b>	CoSpatial Heat: A GIS-based framework for integrated heat planning and gas grid decommissioning
<b>Ingela Becker-Grupe</b>	Systematic GIS-based analysis for integration of multiple low-temperature waste heat sources into an existing district heating network
<b>Nicola Tait</b>	Spatial techno-economic modelling of heat decarbonisation solutions for urban energy communities to utilise local heat resources
<b>Nicolas Oliver Marx</b>	Flexible Biochar Production at Small-Scale Biomass-Based District Heating Plants: A GIS-Based Techno-Economic Feasibility Assessment
<b>Patrick WeBeleer</b>	F Heat.connect - Scalable and Modular Approaches for Digital Heat Network Planning Using Geospatial Optimization
<b>Ulrich Ganslmeier</b>	Noise-Aware GIS Mapping of Air-to-Air Heat Pumps: Potential for Replacement of Individual Gas Floor Heating in Munich

### Institutional and organisational change, energy communities and positive energy districts

<b>Ann-Kathrin Rathmann</b>	Economic Potential of Energy Sharing for SMEs in German Commercial Areas – An oemof Optimization Approach
<b>Christian Bjerrum Jørgensen</b>	Skills Development for the Future of District Heating and Cooling. A Key Enabler for the Green Energy Transition
<b>Cosima Amanda Wörle</b>	Towards Standardised Documentation of Experimental Research in District Heating and Cooling
<b>Hironao Matsubara</b>	Overcoming VRE Curtailment and Fostering Community Power: A Comparative Analysis of Smart Energy Systems in Japan's Decarbonization Leading Areas
<b>John Kapetanakis</b>	Aligning skill development in higher education with workforce needs in the district heating and cooling sector: Insights from a European survey
<b>Jonathan Hachez</b>	Strategic Uncertainty Modeling for Citizen Energy Communities: A Gaussian KDE Approach to Revenue Planning and Negotiation Support
<b>Lisa Hjerrild</b>	From Rights to Responsibilities: Citizens in the 2026 EU Energy Package
<b>Luciano De Tommasi</b>	Procurement of Energy Performance Contracting at Irish Universities—Template for Standardising Energy/Cost Savings Calculations for Proposed Projects
<b>Marko Keber</b>	Strengthening Smart Energy Systems Through Flexibility Mechanisms: Comparative Insights from Southern European Case Studies
<b>Matteo Pozzi</b>	The DHC Academy Alliance: Scaling the Value Chain through a Permanent Education & Training Marketplace
<b>Mirko Morini</b>	Impact of incentive allocation in optimal design of Renewable Energy Communities
<b>Per Alex Sørensen</b>	Skills4DHC. Qualification and recruitment of professionals for the district heating and cooling sector

### Planning and organisational challenges for smart energy systems and energy efficiency

<b>Alessandro Capretti</b>	A district heating decarbonisation plan: behind and beyond the scenes
<b>Alexander Meisinger</b>	Bridging the green hydrogen gap: From carbon revenues to Power-to-X markets in Europe
<b>Bennet Köppchen</b>	Comparing Germany's Pathways to a Decarbonised Heat Supply: A Meta-Analysis of Transition Scenarios for the Heating Sector in the Future Energy System
<b>Brian Vad Mathiesen</b>	Designing the EU27 heat market for 2050: 55% district heating enabled by Energy Efficiency 2.0
<b>Caroline Stiel</b>	Green Heat, Higher Prices? The Price Effects of Decarbonizing District Heating in Germany
<b>Dagnija Blumberga</b>	Costs of Energy Measures Delays
<b>Daniel Møller Sneum</b>	Customers accepting extended connection times, while keeping inflation and costs down – a district heating customer business model that does it all?
<b>Erik Schlahn</b>	Financing and cooperation models for utilities in integrated energy systems – a European taxonomy
<b>Florian Labaude</b>	Integrate local energy systems in regional strategies – Exploring the multilevel dimension in the case of the Eurometropolis of Strasbourg, France.
<b>Frederike Kuperjans</b>	“Planning better when knowing less” - Optimizing Adaptive Transition Pathways for Distributed Multi-Energy Systems Under Deep Uncertainty
<b>Giulia Spirito</b>	Supporting compliance with the Energy Efficiency Directive: a strategic planning tool for District Heating systems.
<b>Ingo Leusbrock</b>	Quality management of district heating and cooling DHC systems - A prerequisite for sustainability, affordability and transparency
<b>Jonathan Vogl</b>	BehaviorGPT: Generating Household Activity and Mobility Schedules for Residential Energy Demand Modeling
<b>Kristina Lygnerud</b>	Characteristics of low temperature district heating business models
<b>Marie-Emilie Ingen Housz</b>	A data driven approach to a realistic urban heat transition in Rotterdam
<b>Miguel Chang</b>	Looking within and beyond energy system modelling - A survey on perceived model biases, model coupling, and integrating non-energy perspectives
<b>Morten Jordt Duedahl</b>	The road to 100% renewables: Why practical detours and incremental change can outperform perfect but limited solutions
<b>Nermina Abdurahmanovic</b>	Modelling and simulation of user behaviour and gamification effects on heat pump flexibility in multifamily buildings
<b>Osamu Kunitomo</b>	A Study on Technology Generations the District Heating and Cooling in Japan - The Necessity for a Definition of Technology Generations in Japan -
<b>Søren Djørup</b>	Economic impacts of thermal energy storage at the national level
<b>Yijie Su</b>	Modeling the Diffusion of Residential Demand-side Management Technologies with Building Performance and Heterogeneous Consumer Preferences
<b>Aadit Malla</b>	Planning cooling adoption: From cost-optimal pathways to real-world barriers

### Renewable energy sources and waste heat sources including PtX for district heating

<b>Armin Ardehali</b>	Competing for electrons or molecules? Infrastructure planning in an eco-industrial cluster
<b>Benedetto Nastasi</b>	Switching to Renewable Fuels in District Cooling for Buildings and Data Centers
<b>Joel Bertilsson</b>	From Power Demand to Heat Supply: Optimizing Data Center Placement in the Nordics
<b>Luis Enrique Ruiz Perdomo</b>	Hybrid Modelling of Data Center Energy Consumption and Waste Heat as a Basis for Integration into Smart Energy Systems
<b>Sabine Mönch</b>	Waste Heat Integration in Low-Temperature Urban District Heating: An Energy System Modelling Case Study on Heating and Cooling Interactions
<b>Sam Roozbehani</b>	Integrated Planning and Control of Eco Industrial Clusters for Frequency Service Provision

### Smart energy systems tools and methodologies

<b>Abdulraheem Salaymeh</b>	Multidimensional Evaluation of Heat Source–Demand Matching and Techno-Economic Trade-Offs in Heat Transition Pathways
<b>Ali Mohammad Nia</b>	Sustainable Sector Integration and Multi-Objective Optimization of Heat Symbiosis by Real-Time Digital Twin Technology
<b>Ali Soleimani</b>	Towards trust in smart hybrid HVAC control systems from stakeholders' perspective
<b>August Brækken</b>	The role of building heating conversion in regional energy system transitions
<b>Ben Spook</b>	Stochastic Consumer-Level MPC for Reliable Operation of District Heating Networks with Transport Delays
<b>Bram van der Heijde</b>	Developing and Testing Supervisory Control for District Heating and Cooling with Virtual Demonstrators
<b>Christian Holm Christiansen</b>	Semantic modelling of DHC substations: lessons from a multi-ontology exercise within IEA DHC Annex TS9
<b>Dietrich Schmidt</b>	REALIZING AUTOCOMMISSIONING AND Optimizing SUBSTATION OPERATIONS THROUGH MACHINE LEARNING
<b>Enrico Ghidoni</b>	Techno-economic and hydraulic feasibility evaluation of energy saving strategies for reduced circulation heat losses in domestic hot water systems
<b>Felix Hallett</b>	Re-evaluating Cooling Demand Diversity to Optimise Residential CHW Network Design
<b>Felix Till Schattmann</b>	Accelerating Building Energy Simulations with Neural Network Surrogate Models
<b>Fiona Feurstein</b>	Assessing Steady-State and Transient Methods for Thermal Simulation of District Heating Networks
<b>François Lédée</b>	Experimental comparison of smart controllers on a small district heating network
<b>Hesham Ali</b>	Using a marine digital twin to identify promising seawater heat pump applications in Baltic Sea district energy systems
<b>Hossein Alimohammadi</b>	Thermodynamic Optimization of Heat Source Placement in District Heating Networks for Reduced Mixing Losses
<b>Jakob Fuchsberger</b>	A Framework for Cooperative, Optimization-based Control of Coupled Energy Systems
<b>Jan Westphal</b>	A control strategy for reducing heat losses in summer operation of a district heating network
<b>Jasper Müller</b>	Development of Operational Strategies for a Hybrid 4GDH Network using Dynamic Thermo-Hydraulic Simulation
<b>Jelena Ziemele</b>	Wastewater Heat Utilization in Riga: Challenges and Opportunities
<b>Jorrit Heylen</b>	How to Design Heating Networks? A Benchmark of Optimal Pipe Sizing and Design Guidelines, and Exploring the Potential of Peak Temperature Boosting.
<b>Juan Rodriguez Santiago</b>	Optimal Design and Control of Heat Pump Systems under Dynamic Energy Conditions in European Residential Buildings
<b>Julian Plautz</b>	Methodology for allocating network losses to consumers, applied at the Göttingen North Campus
<b>Laura Block</b>	Semi-Automated Fault Detection in District Heating Substations Using Machine Learning
<b>Matteo Giacomo Prina</b>	How Climate Change Reshapes the Alpine optimal Energy Mix?
<b>Mazarine Roquet</b>	Use of digital twins to help the design of thermal networks: a case study application
<b>Michel Speetjens</b>	Capturing 3D unsteady heat transfer in variable-flow variable-temperature district-heating pipeline networks by a compact pipe model
<b>Milad Mohammadyari</b>	On the Convergence of ADMM-Based Distributed Optimization for Nonconvex Demand Response in District Heating Systems
<b>Moritz Zuschlag</b>	Analysis of the flexibility potential of monoenergetic and hybrid energy hubs for third- and fourth-generation district heating
<b>Morten Karstoft Rasmussen</b>	From Smart Meter Data to Action: Software-Defined Alarms for District Heating Optimization
<b>Maarten Blommaert</b>	Hybrid Electric Heater Substations for Cost-Effective, Low-Temperature District Heating Networks: A Physics-Based Optimization Approach
<b>Nicholas Tedjosantoso</b>	Towards Scalable District Heating Network Simulation: A Tensor-Based Multilinear Approach
<b>Nyasha Grecu</b>	What is the optimal solution? Methods for considering uncertainty in district heating decarbonization
<b>Paula Oberfeier</b>	Time Series Aggregation Methods for Municipal Energy System Modeling: Application to District Heating Systems with Renewable Heat Sources
<b>Plamen Bogdanov</b>	Improving substation operation for fifth generation district heating and cooling networks: MPC development and evaluation in dynamic simulation
<b>Ralf-Roman Schmidt</b>	From Data to Value: Quantifying the Economic Benefits of Digitalisation and the Role of Data Spaces in District Heating Networks
<b>Santiago Valencia-Cañola</b>	Physical and thermo-economic feasibility of a variable-geometry ejector refrigeration system
<b>Shihua Luo</b>	Multi-Scenario Optimization of China's Power Sector Toward 2060 Under Renewable Cost Uncertainty via Ensemble Surrogate Modeling and Active Learning
<b>Siddharth Sasidharan</b>	Control-Oriented Modelling for Flexible Low-Temperature District Heating and Cooling Networks
<b>Svenja Joseph</b>	Virtualization of digital substations: A comparative analysis of three implementation strategies and field test validation
<b>Tanel Kirs</b>	Measuring District Heating Network Effect on District Cooling Network Losses in an Urban Environment
<b>Valentin Kaisermayer</b>	Harnessing Building Energy Flexibility with Model Predictive Control

### Smart energy components, infrastructures and storage options

<b>Adrien Vautrin</b>	Reduce-Order Model of a Cavern Thermal Energy Storage based on Semi-Analytical Approach
<b>Anas Algaref</b>	A TESPpy-Based District Cooling Modeling Tool for Energy Flexibility Characterization in Sector-Coupled Energy Systems
<b>Antonia Queitsch</b>	Market Behavior of Thermal Energy Storage Power Plants in an Agent-Based Electricity Market Model
<b>Chia-Ling Yang</b>	Automatic Frequency Restoration Reserve Provision from District Heating Systems with Large-Scale Heat Pumps: A Feasibility Assessment
<b>Dominik Gryboś</b>	Real-Time Optimization of the Discharge Process Control Strategy in Micro-CAES Systems for Adaptive Power Flexibility in Micro/Nano-Grids
<b>Evi Monique Kasper</b>	Measurement-Based Load Disaggregation for State Reconstruction in Medium-Voltage Grids with Limited Observability
<b>Iliia Skorniakov</b>	Industrial behind-the-meter battery storage profitability under future price volatility: 2030 Nordic-Baltic analysis
<b>Jacek Leszczyński</b>	Multiscale CAES technologies – an overview
<b>Jan Markowski</b>	Energy Efficiency Analysis of a Multi-Piston Expander for smart Micro-CAES System.
<b>Johan Dalgren</b>	The impact on DHS due to temperature losses in decentralized Thermal Energy Storage and how to reduce peak production at discharge
<b>Johanna Roth</b>	An exergetic comparison of distinct Carnot Battery concepts for industrial applications
<b>Melisa Gounesher</b>	Reduced-Order Modelling of Molten Salt Thermal Energy Storage for Energy System Optimization
<b>Paula Ferreira</b>	Estimating the Temperature Elasticity of Electricity Demand
<b>Reinhard Haas</b>	On future market prospects of electricity storage
<b>Stefan Bordihn</b>	Interpretable neural network prediction of electricity demand in a single-family home system with heat pump, photovoltaic and battery storage
<b>Sylvia Wüst</b>	Assessing the Impact of Dynamic Operating Envelopes on Future Low-Voltage Grids

### Smart energy systems analysis

<b>Alessandro Mati</b>	Advancing climate resilience of energy systems through increased spatial resolution
<b>Andrea Mackenzie</b>	Innovative Load Testing Methodologies to ensure Efficient Operation of Energy Centres in Complex Developments
<b>Bernd Möller</b>	Biogas infrastructure network analysis for methanation in Schleswig-Holstein
<b>Bianca Helbach</b>	Component Model Selection to Balance Complexity and Accuracy for Operational Optimization of Multi-Energy Systems
<b>Diamantis Almpantīs</b>	Sector-Coupled Green Hydrogen Microgrid Optimization: Deep Reinforcement Learning vs. MILP under Forecast Uncertainty
<b>Dmytro Zhuk</b>	Resilient Power Systems under Uncertain Conditions: Distributed Generation and Smart Microgrids in Ukraine
<b>Jihong Hang</b>	Framework for Multi-Energy System Design Integrating Security, Resilience, and Greenness: A Regional Case Study in China
<b>Jinze Li</b>	Renewable-Based Hybrid Energy System Enabling Electrification and Joint Decarbonization of the Oil and Gas and Petrochemical Sectors
<b>Laura Deniz-Diaz</b>	Climate change impacts on biomass availability and energy system transitions in Ghana: a Smart Energy Systems modelling approach
<b>Philip Brandt</b>	Comparison of the Power Outage Resilience of District Heating and Heat Pumps in a Residential District
<b>Thomas Elliot</b>	The hidden environmental and systemic trade-offs of Power-to-Gas

### Special session on Fault Detection and Diagnosis in DH systems – applications from the OptiHeat+ project

<b>Hoda Kamali</b>	Classifying Operational Faults in CHP-Integrated Collective Heating Systems: A Multi-Site Analysis
<b>Jad Al Koussa</b>	Optiheat+ - A research project on fault detection and diagnosis in district heating
<b>Nicola Frizziero</b>	Characterization of air-related fault signatures in water-based radiator systems for low temperature operations
<b>Rob Knoops</b>	Fault Detection and Diagnosis in District Heating Substations: Lessons from Deploying Deep Learning
<b>Senne Van Minnebruggen</b>	Systematic Fault Characterization in District and Building Heating Systems: Methodology and Challenges
<b>Stefanie Fonken</b>	Fault detection and prioritization of substations in a residential district heating network - A demonstration case

### Special session on Nordic Hydrogen Hubs

<b>Frederik Dahl Nielsen</b>	Hydrogen uptake in the Nordic energy transition: national profiles, infrastructure implications, and system-level impacts
<b>Frederik Fristed</b>	Impact of large-scale infrastructure commitments under uncertainty in transport and energy systems
<b>Jannis Kerl</b>	Aligning network tariffs, connection regimes, and DER investments for grid-friendly industrial electrification
<b>Rasmus Bramstof</b>	Simple or too simple: Representing Power-to-X infrastructure in large-scale sector-coupled energy systems models
<b>Yousef Pourjamal</b>	Subnational Dynamics of the Energy Transition: A NUTS2-Level Assessment of Renewable Energy Systems in Nordic and Baltic Regions