

ECOS2023

LAS PALMAS DE
GRAN CANARIA SPAIN

ECOS 2023 will take place
in the week **June 25 - 30, 2023**
at the Auditorio Alfredo Kraus,
in Las Palmas de Gran Canaria, Spain



36TH INTERNATIONAL
CONFERENCE ON EFFICIENCY,
COST, OPTIMIZATION,
SIMULATION AND
ENVIRONMENTAL IMPACT
OF ENERGY SYSTEMS

WEDNESDAY MORNING

POSTER EXPOSITION SESSION II: 10:20-11:00

Room: San Borondón. K. Energy policy and planning

Presenter	ID	Title
Tao Yang , Konstantin Filonenko, Benjamin B. L. Larsen, Vinusan Jeyarajah, Cecilie Larsen, Muhyiddine Jradi, Christian Veje	403a	Techno-economic optimization of a multimodal energy system for a fully renewable energy-supplied Danish island
Marco Navia , Matija Pavicevic , Sergio Balderrama and Sylvain Quoilin	5317	Stability and Reserve Constraints in Optimal Dispatch Models for Poorly Interconnected Countries of the Global South
Xiang Li , Matthieu Souttre, and Francois Maréchal	b536	Impact of energy cost uncertainty on Swiss energy transition
V. Dachet, A. Benzerga , R. Fonteneau , D. Ernst	db0f	Towards CO ₂ valorisation in a Multi Remote Renewable Energy Hub Framework
Aina Maimó-Far , Victor Homar	16cd	The impact of spatial resolution on optimal renewable energy portfolios
Juan Carlos Lozano Medina , Vicente Henríquez-Concepción, Alejandro Ramos-Martín, Fabian Alberto Déniz Quintana, Carlos Alberto Mendieta-Pino	1bfd	GHG mitigation in the electricity production system in Canary Islands. A proposal for a management and optimization tool in generation
Maria Dzikuć, Arkadiusz Piwowar and Maciej Dzikuć	2894	Energy transformation in Poland in the context of the development of renewable energy sources in rural areas
Aina Maimó-Far and Victor Homar	7f32	Finding the balance between renewable penetration targets and socio-environmental awareness in the energy transition

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Consejería de Economía,
Conocimiento y Empleo



Room: San Borondón. L. Energy storage

Presenter	ID	Title
Viatcheslav Kafarov, Khamid Mahkamov, Víctor Alexis Lizcano González and Pablo Silva Ortiz	08be	Experimental solar thermal storage system for hot water and space heating under moorland climate
David Vérez, Emiliano Borri, Javier Fernández-Cantero, Andrea Frazzica, Vincenza Brancato, Belal Dawoud, Makram Mikhaeil, Zafer Ure, Adrian Rompel, Toni Gimbernat, Jordi Comelles, Eliza Nowak, Klearchos N. Chalikakis, Svann Personn, Björn Palm, Saman Nimali Gunasekara, Aris Leontaritis, Sotirios Karellas, Luisa F. Cabeza	3f86	Preliminary results of the experimental testing of a building prototype with a novel seasonal energy storage based on selective water sorbents
David Vérez, Gabriel Zsembinski, Luisa F. Cabeza	80c0	Performance of a hybrid electrical & thermal energy storage system in a residential building under summer Mediterranean climate conditions
Jaroslav Zuwala , Janusz Lasek, Rafal Fryza	bba1	Thermochemical energy Storage for Solar Heating Applications

Room: San Borondón. M. Energy use in the industrial, residential, transportation, agricultural sectors. District heating/cooling.

Presenter	ID	Title
Robin Fisher , Pouriya Niknam, Lorenzo Ciappi and Adriano Sciacovelli	76f9	Emerging low-carbon technologies for zero-waste heat ships: a critical review.
Eunice Rodriguez-Santoyo, J. Manuel Luna, Pamela Martinez-Vega, Abel Hernández-Guerrero and J. Luis Luviano-Ortiz	e0fa	Analysis of Pipe Network Heating Inside a Greenhouse
Stefan Kirschbaum , Marion Powilleit, Merlind Schotte and Furkan Özbeg	9f6b	Efficient solving of time-coupled energy system MILP models using a problem specific LP relaxation
Nasrin Arjomand Kermani , Martin Ryhl Kærn, Rikke Hovedskov Andersen, Jorrit Wronski, Fridolin Müller Holm, Brian Elmegaard	0955	Efficient energy mapping for supporting green transition in industry
Mazarine Roquet, Pierre Dewallef, Nicolas Leclercq	f008	Large Building Stock Energy Simulation for the Design of District Heating Networks: A Case Study on Building Retrofit Policies
Flavia V. Barbosa , Paulo R. S. Mendes, Carlos Castro, Senhorinha F. C. F. Teixeira and José C. F. Teixeira	9752	Energy and Exergy Analysis of a Biodiesel Plant
Arthur Chuat , Jonas Schnidrig, Cedric Terrier and François Marechal	cc84	Identification of typical district configurations: A two-step global sensitivity analysis framework
Joram Wasserfall , Mahmoud Ouso and Stefan Kirschbaum	9193	Simplified dispatching method for unlocking energy flexibilities of decentralized energy systems for the day-ahead and balancing power market

Maximilian Mork , Andre Xhonneux and Dirk Müller	0f10	Hierarchical Distributed Model Predictive Control for Building Energy Systems
Yunfei Bai , Chenghao Li, Wei He, Jihong Wang	86ad	Energy Efficient Room Thermal Control Strategy with Consideration of Occupants' Thermal Comfortability
Carlota von Thadden del Valle , Mathias van Beek and Marcus Budt	31d3	Classification of industrial sectors from an energy perspective
Xander van Heule , Jera Van Nieuwenhuyse, Willem Faes, Gerlinde De Vogeleer, and Steven Lecompte	8b14	Heating and cooling load analysis of a climate neutral proof of concept chicken farm
Grace Newcombe , Anthony Bowman and Hyunjae Park	697E	Feasibility and Optimization Analyses of a Ground-Source Heat Pump System Integrated with a Wastewater Treatment Facility
Rikke C. Pedersen , Torben Ommen, Erasmus Rothuizen, Brian Elmegaard and Jonas K. Jensen	852d	Exergoeconomic analysis of a system for liquefaction and purification of captured CO ₂

Room: San Borondón. N. Environmental impact of energy systems. Sustainability, resilience, & circular economy. CO₂ and GHG mitigation.

Presenter	ID	Title
I.Marques-Valderrama , R.Chacartegui, J. A Becerrac, Yolanda Lechón Pérez, Antonio José Serrano Jiménez, Susana Marta López Almeida and Carmen Díaz López	924f	A tool for the development of competencies in sustainability and carbon footprint reduction in schools.
Stella Theodoraki, Dimosthenis Plakias, Konstantinos Atsonios, Panagiotis Grammelis, Sotirios Karellas, Christina Antonopoulou	5538	Implementation of Chemical Looping Combustion technology with Waste-Derived Fuels: Process analysis and comparison with other prominent CO ₂ capture technologies
Adrian Corona-Muñiz, Salvador Botello-Aceves, Sergio Iván ValdezPeña, Abel Hernandez-Guerrero and J. Luis Luviano-Ortiz	8989	Statistical evaluation of human influence according to the most representative climate change indicators from 1982 to 2022 across Mexico incorporating artificial intelligence (AI)
Semra Bakkaloglu , Matthias Mersch, Nixon Sunny, Christos Markides, Nilay Shah, Adam Hawkes	2ece	ECOS 2023: How far should the UK go with negative emission technologies?
Carlos Pereyra-Mariñez , Jarrizon Quevedo, Victor Ocaña Guevaraa	067a	Modelling of Energy Systems with OSeMOSYS for remote communities based on the sustainable livelihoods approach
I.C. Belisario, P.R. Faria, R.G. Santosa, M.A. Barone and J.J. Santos	4f26	Thermoeconomic Modeling as a Tool for Internalizing Carbon Credits into Thermal System Analysis
Xinyi Wei , Shivom Sharma, Manuele Margni, Francois Marechal, Jan Van herle	4144	Environment Analysis of Power-to-Fuel-to-Power Routes
Eduardo Pérez-Bódalo, Rafael D'Amore Domenecha , Teresa J. Leo	79d4	CO ₂ marine transportation: an energy & techno-economic analysis
Ruitao Sun , Peng Huang, Jie Li, Li Sun	5488	A comparative study of standard carbon capture process and Advanced Flash Stripper configuration using MEA

Murilo José Castro, Waldyr Luiz Ribeiro Gallo	90d1	CO ₂ capture from flue gases: a possibility to reduce the CO ₂ footprint in offshore oil installations
Maja Kaszuba , Paweł Ziótkowski, Dariusz Mikielwicz	8d9f	Comparative study of oxygen separation using cryogenic and membrane techniques for nCO ₂ PP
Jonas Schnidrig (CA) , Justine Brun, Francois Maréchal and Manuele Margni	B919	Integration of Life Cycle Impact Assessment in Energy System Modelling

Room: San Borondón. O. ENERGY, MATERIALS, WASTE AND WATER: RESOURCES AND FOOTPRINTS

Presenter	ID	Title
Jenifer Vaswani Reboso , Jaime Sadhwani Alonso, Dunia E. Santiago García.	b438	Magnetic recoverable Ag ₃ PO ₄ /Fe ₃ O ₄ /γ-Fe ₂ O ₃ nanocomposite
Sofia Russo , Alicia Valero, Marta Iglesias-Émbil, Ricardo Magdalena and Abel Ortego	114E	Exergy cost associated with polymers recycling in vehicles: from qualitative to quantitative indicators
Juan Carlos Ríos-Fernández, Roberto Martínez-Pérez , Víctor Manuel Fernández-Pacheco, Andrés Meana-Fernández, Francisco Javier Rubio-Serrano, Antonio José Gutiérrez-Trashorras	Eb89	Water saving in electric power generation facilities using the hygroscopic cycle in the subtropical climate
Stawomir Pochwała , Stanisław Anweiler, Anna Król, Žana Stevanović, Milica Mladenović, Igor Klementowski and Patrycja Hejduk	0d0f	Case study of eco-friendly waste building material additives used in hempcrete to enhance its thermal conductivity
B. Pascual-Jose, Alireza Zare, Alberto Puga, Jose Antonio Reina, M, Giamberini, and A. Ribes-Greus	5a1e	Conductivity analysis of asymmetric polysulfone membranas for CO ₂
Stawomir Pochwała , Joanna Małecká, Anna Król, Victor Sebestyen, Jacek Kokot and Rafael Jaworski	603b	Ageing Resistance Analysis of Innovative Ceramic Nano-Coatings Used for Industrial Facility Thermal Insulation
Ana Carolina Rosa , Alejandro Calderón, Carles Mateu, Assed Haddad, Dieter Boer	827d	Modeling of thermal conductivity of concrete by using artificial neural networks approaches

Room: San Borondón. P. DIGITALIZATION, BIG DATA, ARTIFICIAL INTELLIGENCE IN THE ENERGY SECTOR.

Presenter	ID	Title
Olaia Eguiarte, Antonio Garrido-Marijuan, Iñigo López, Noelia Vicente Gómez y Ander Romero-Amorrortu	2b38	Data-driven tool for early building energy performance diagnostic
Laura Maier , Sönke Quast, Dominik Hering and Dirk Müller	0a34	Machine-learning-based approximation of the hierarchical model predictive control of multi-use PV-battery systems in non-residential buildings
Marine Cauz , Adrien Bolland, Bardhyl Miftari, Lionel Perret, Christophe Ballif and Nicolas Wyrsh	a13d	Reinforcement Learning for Joint Design and Control of Battery-PV Systems
Michael Rath , Naga Lokesh Gunturu Venkata, Kiran George, Jayares Prince	1976	Application of Machine Learning in Energy Systems – a Comparative Analysis of Three Case Studies
Sundar Raj Thangavelu , Alessio Tafone , Imantha Gunasekhara, Sivanand Somasundaram and Morita Shignore	b14b	Artificial Intelligence (AI) Based Predictive Maintenance of Waste Heat Recovery System

Room: San Borondón. Q. SMART GRIDS AND RENEWABLES INTEGRATION. DISTRIBUTED GENERATION

Presenter	ID	Title
Wojciech Bujalski , Arkadiusz Szczęśniak, Kamil Futyma and Andrzej Grzebielec	9215	Concept of cold generation in a district heating substation by using adsorption heat pumps supported by heat and cold storage units
Kai Niklas George , Michael Rath, Rolf Bracke	e47d	Quantifying Demand Flexibilities of Buildings for an optimal Design and Operation of integrated District Energy Systems
Joel David Schölzel , Sarah Henn, Rita Streblov and Dirk Müller	f357	Evaluation of Energy Sharing on a Local Energy Market Through Comparison of Energy Management Techniques
Jana Schneeloch and Mohamed Eldakadosi	f2aa	Impact of size optimisation on the multi-criteria assessment of local cross-sectoral energy supply concepts