

CALL FOR ABSTRACTS

12th International Conference on Improving Energy Efficiency in Commercial Buildings and Smart Communities (IEECB&SC'24) and the European ESCO Conference Frankfurt, Germany 6 - 7 March 2024

The commercial (i.e. non-residential) buildings, public buildings and urban areas are the fastest growing energy consuming sectors and a key area where the CO₂ reduction could be achieved in a cost-effective manner. This is mainly due to the growth of the service sector and urbanisation and their associated demand for heating, cooling ventilation (HVAC), ICT services, lighting, mobility, etc.. Very often building energy performances can be more cost-effectively optimized at district or urban level, the conference will have a special track on smart and sustainable districts, communities and cities.

In order to decarbonise commercial buildings and local communities and cities, all actors need to take all necessary steps to increase efficiency and implement renewable energies by disseminating good practice, foster investments, provide technical solutions for the commercial building sector and local communities and adopt the right policies at national and local level. This includes behaviour changes on how citizens, companies, architects, urban planner and building occupiers invest, design and operate non-residential buildings and district-communities.

The integration of distributed generation, district heating and cooling and renewable energy sources (RES), demand response and smart grids will enable further CO₂ and energy saving and pave the way for Net Zero Energy Buildings and Districts. Energy Service Companies (ESCOs), utilities, telecoms and facility management companies offer advanced solutions to monitor, manage and reduce the energy consumption.

A number of local, regional and national policies and programmes have recently been implemented to achieve a long lasting market transformation, including building codes, utilities programmes, information and training, emission and energy certificate trading, financial incentives, and sustainable energy and climate plans at community level.

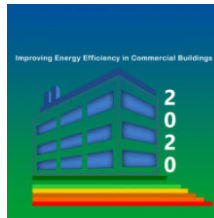
In particular Energy Service Companies (ESCOs) through the implementation of Energy Performance Contract can contribute to improving energy efficiency and to decarbonise commercial buildings.

Following the success of the previous **IEECB&SC** and the **European ESCO** conferences we are pleased to announce the

12th International Conference on Improving Energy Efficiency in Commercial Buildings and Smart Communities and the European ESCO Conference

organised **the European Commission Joint Research Centre** in collaboration with **Messe Frankfurt**.

The IEECB&SC'24 and the European ESCO conference will take place on **6-7 March 2024 in Frankfurt (Germany) during Light+Building**, the world's leading trade fair for lighting and building services technology, taking place in Frankfurt from 3 to 8 March showing innovative products in the fields of lighting, electrical engineering as well as home and building automation.



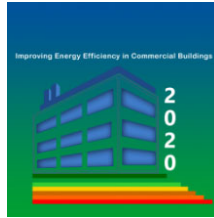
The IEECB&SC and the European ESCO conference seeks to bring together all the key players in these sectors, including commercial buildings' investors and property managers, academia and experts, equipment manufacturers, energy service providers (ESCOs), utilities, facilities management companies, telecoms, data centre operators, urban planners and local and national policy makers, with a view to exchange information and to network.

In particular the conference aims to attract researchers, property owners, investors, architects, local authorities and urban planners to present and discuss synergies and cooperation in removing existing barriers to energy efficiency, renewable energy and smart and NZE buildings and districts.

The IEECB&SC and the European ESCO conference aims at attracting high level presentations showing new technologies, techniques, services, policies, programmes and strategies to increase energy efficiency, renewable energy sources and to reduce greenhouse gases emissions in non-residential buildings and district/communities and cities and the ICT sector and data centres.

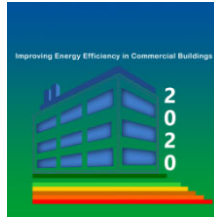
Potential authors are invited to submit abstracts in the following topics (indicative lists, other topics related to the main theme of the conference could also be proposed):

1. **Lighting, Appliances and Equipment:** technologies (light sources, LEDs, luminaires, control gear, and control systems), day-lighting, Green Lights programmes, lighting quality and energy efficiency, simulation and design tools, commercial refrigeration, cooking and washing, vending machines, lifts, equipment labelling and standards, test methods. Circular Economy. Digitalisation. Policies
2. **Building envelope, passive techniques and HVAC:** low energy cooling techniques, passive cooling and natural ventilation, solar cooling, techniques for low energy fluid movement, heat/cool storage, indoor air quality and energy efficiency, test methods and simulation tools, building and ductwork airtightness, façade technologies (e.g. double skin facades, roofing, etc.), new insulation and phase changing materials, electrification.
3. **Examples of advanced/demonstration buildings:** results of new building concepts and smart buildings; successful refurbishment, successful integration renewable energy sources and energy storage, buildings integrated planning for energy efficiency, Zero-Energy, Carbon Neutral and Positive buildings, office buildings, supermarkets and commercial/shopping centres, hospitals and schools, airport & train stations.
4. **Information and communication technology (ICT) equipment and data centres:** data centres design and optimisation, efficient servers, network and storage equipment, the impact of ICT on energy consumption, data networks, telecom and broadband networks energy efficiency, policy programme for ICT. Role and impact of IoT, 5G, Blockchain and Artificial Intelligence.
5. **Renewable energy sources, distributed electricity and energy storage:** co-generation and poly-generation, micro turbines, heat pumps, fuel cells, biomass boilers and renewable energy sources (solar thermal, PV, etc.), successful PV building integration, building as centre of the smart grid, district heating and cooling, energy communities and co-operatives.
6. **Control Systems, IoT and Building Energy Management Systems (BEMS), Digitalisation and AI:** R&D & technologies, successful implementation, impact on energy consumption and indoor quality. Smart building and district. Role of AI and IoT to foster carbon reductions. Impact of AI on data centre consumption.
7. **ESCOs, new energy services, Energy and facility management:** continuous commissioning and retro commissioning, energy audits, optimisation of building operation, energy management, role of the energy/facility manager, operation and maintenance, outsourcing of building energy



management, education and training of facility managers. Energy service companies (ESCOs), Energy Performance Contracting, financial institutions, public-private partnerships, new financial options, carbon financing, M&V.

8. **Policies and Programmes (local, national or International):** building codes (new and existing buildings), building certification, code compliance, best practice programmes, energy audits, energy companies obligations (EERs, white certificates, etc.), national and local energy efficiency funds, Green Buildings and Energy Star programmes, building rating, building quality labels, voluntary building certification systems, Life Cycle Costing (LCC), programme evaluation, green procurement, building code compliance, national roadmaps for nearly zero-energy buildings, building renovation and cost-optimality, role of buildings and cities in reaching climate targets (e.g. 1.5 C).
9. **Energy consumption monitoring and benchmarking, Energy Modelling of Building and district performances:** building/district monitoring campaigns, data analysis and assessment of consumption of specific equipment, assessment of building standby consumption, energy efficiency indicators for buildings, benchmarking, understanding and fixing the disconnect between predicted and measured performance, dynamic simulation methods, software and tools for design of low-energy/zero and positive buildings and building systems, GIS systems. Building maps in cities, Monitoring of buildings, cities and ICT energy consumption and carbon emissions.
10. **Demand response and Flexibility:** Demand Response programmes and technologies, dynamic tariffs, results and evaluation, practical implementation in non-residential buildings, impact of real time energy consumption feedback.
11. **Behaviour and barriers to energy efficiency, Investors' motivation and financing.** Marketing and selling energy efficient buildings, costs and benefits analysis including non-energy benefits, Non-energy benefits, market impact of the energy performance certificates, corporate social responsibility, value of green buildings, facilitation of planning process for low energy buildings/districts, interaction between investors, planners, architects, engineers, and users, non-technical barriers efficiency in commercial buildings, analysis of behavioural aspects in commercial buildings sector and urban areas, and ways to overcome them.
12. **Sustainable and smart and climate neutral communities, districts and cities:** challenges and opportunities with integrating buildings into wider community energy planning; district energy systems; community demand balancing; innovative economic and business models to share risk and benefits across community energy structures; integration of smart building and smart grids; smart cities, integration of community energy planning in urban planning, zero carbon district energy systems, urban strategies for improving energy efficiency in communities, sustainable university campus and labs, impact of urban morphology on energy reduction policies. Important role of urban forms in achieving energy saving measures, resilience thinking approaches and urban ecology design, cities emissions inventories, sustainable energy and climate action plans. Energy and climate policies.



Instructions for Authors

Authors interested in **oral presentations** are requested to send an abstract of at least 200 words in length and a maximum of 400 words.

There are two options:

- Oral presentation without paper for the Conference Proceedings
- Oral presentation with a paper for the Conference Proceedings or ISI Journal Special Issue

The papers to be included in the proceeding or journal are scientific papers and will go through a peer review process. Final accepted papers will be included in the Book of Proceedings or ISI Journal Special Issue. Abstract will be evaluated independently to the submission of a paper.

The abstract must be in English, typed, and shall contain the following information:

1. Main author name and affiliation, authors for correspondence with full postal address, tel. number, and e-mail, and co-authors names and affiliation.
2. The relevant topic (1 to 13 above)
3. Up to five keywords
4. Submission of a paper (YES or NO)

Abstracts will be reviewed and selected based on originality, technical and scientific value and relevance to the conference topics. All accepted abstracts will included in the conference programme with an oral presentation.

Abstracts are due by 30 November 2023

Abstracts shall be sent by email to paolo.bertoldi@ec.europa.eu

There will be no registration fees for conference attendees.

Conference Deadlines:

10 November 2023: abstracts are due to the conference secretariat.

11 December 2023: notification of abstract acceptance to authors

20 January 2024: draft papers due to the conference secretariat (optional)

7 February 2024: review of paper sent back to authors (optional)

28 February 2024: final papers due to the conference secretariat

6-7 March 2024: conference takes place in Frankfurt at Messe Frankfurt