CARBON NEUTRAL HYBRID ENERGY SOLUTIONS IN BUILDINGS

The European Union's climate goal is to achieve carbon neutrality by 2050. The climate crisis demands swift action in the built environment. Buildings account for over 30% of all greenhouse gas emissions, and approximately 40% of energy consumption is attributed to buildings. Improving energy efficiency in the building stock is crucial for reducing emissions. 85% of the EU's building stock was constructed before 2001, and it is estimated that 85-95% of these buildings will still be in use by 2050. Unfortunately, many of these existing buildings are not energy-efficient, and their energy production heavily relies on fossil fuels. The greatest potential for influencing carbon neutrality lies in existing building stock and renovation efforts.

The energy sector is undergoing significant transformation as we strive to rapidly move away from fossil fuels to mitigate climate change. The future energy system will increasingly rely on renewable energy sources. Achieving this transition necessitates a massive energy overhaul, during which we shift to new production methods and systems. Electrification of energy will play a major role. Capturing waste heat, energy recycling, energy storage, and demand response solutions all require intelligent heat pump solutions integrated into the energy system. Heat pumps are pivotal in the energy transition, and their role will continue to expand.

To achieve breakthroughs in climate-friendly technology, we need more conceptualized solutions that can be applied not only in new construction but also in existing building stock. Successfully implementing these solutions requires rethinking business models and services. Considering the longevity of buildings, minimizing emissions during new construction is equally important.

In this presentation, the focus is on presenting the research project operational model and first-year results of the Hybrid Energy Solution (HybE) project. Hybe is an exceptional research collaboration between companies and the university, aiming to increase knowledge related to hybrid energy solutions in order to achieve future carbon neutrality goals. The project aims to develop solutions for reducing emissions in buildings throughout their lifecycle, from design to use and maintenance.

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Piia Sormunen, who has excelled in the field of building technology for over 25 years, is deeply passionate about advancing the field. She serves as the Development Director at Granlund and holds the position of Industrial Professor of MEP and energy technology at Tampere University. Throughout her career, spanning more than two decades, she has contributed to the development, education, and expertise in building technology, energy efficiency, and Lean construction, both in corporate and university contexts.

Piia possesses a broad perspective on industry advancements and understands the needs of the business world. Recently, her focus has been on pandemic prevention, indoor air quality, and the development of hybrid energy solutions to ensure a carbon-neutral future. Additionally, she plays a crucial role in launching master's level education programs at Tampere University.

Her commitment to innovation and sustainability underscores her significant impact in the field of building technology.

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ZOOM MEETING

11:30 AM – 12:20 PM

ZOOM LINK
HTTPS://BIT.LY/480XY74

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