

 SAVONIA ESEIA
European Sustainable Energy
Innovation Alliance ENERGY CLUSTER
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6th ESEIA International Conference “Net zero and beyond”, was organized on **4 December 2024** in **Kuopio, Finland** by Savonia University of Applied Sciences (Savonia) in collaboration with European Sustainable Energy Innovation Alliance (ESEIA), Energy Cluster North Savo and project Smart heating systems in a climate-friendly way by utilizing artificial intelligence ÄLLITÄ.

Conference topic **“Net zero and beyond”**, described our urgent need to establish sustainable energy system – net zero - and simultaneously find ways to go carbon negative. Keynote lectures was given by Professor Olli Sippula from University of Eastern Finland and Development Manager Guilherme Magalhães from Andritz Oy. Professor Sippula explained on his lecture importance of the net zero thinking in general planetary meaning and presented of his research group latest research outcomes in ash related research, that is done in collaboration with Savonia. Development Manager Magalhães showed development work done in Andritz Oy, where pulp and paper mills are near to achieve zero emissions and waste, creating simultaneously financial growth for the customer.

In the conference, it was given 27 presentations in 10 parallel thematic sessions by specialists from network of the ESEIA as well as the other universities, organizations, and companies. Thematic sessions covered the topics like bio and circular economy in net zero systems, smart net zero communities, 4G district heating, sustainable heating and cooling, energy communities, net zero emission buildings, decarbonization of mobility, novel materials for energy production and storage, social acceptance of net zero systems and technologies, decarbonisation of energy intensive industries: best practice cases and integration of renewables.

There were 70 participants in the conference, and they received a good overview how we could reach net zero target or even go beyond that, and what kind of challenges we have on that pathway. In the plenary session, conference chairs, summarized conference presentations and discussions from the thematic sessions. Overall conclusion was that we should do more to stay on the track to achieve net zero target. It was also seen that there is not only one key solutions like technological that we could use to achieve net zero target. We urgently need systemic change.

European Sustainable Energy Innovation Alliance (ESEIA) is the collaboration organization with 21 members from 12 EU countries and it is located to the City of Graz in Austria. Mission of the ESEIA is to enable Europe to reach its renewable energy target by contributing research for innovative solutions as well as education and training for climate friendly sustainable energy solutions. Savonia University of Applied Sciences has been member of the ESEIA since 2017.