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MAGAZINE

FBK SUSTAINABLE ENERGY among the winners of THE EUREGIO YOUNG RESEARCHER AWARD 2023

August 20, 2023

Third place for Alessandro Sartori (a UNITN PhD Student @ FBK Sustainable Energy Center) at the Tyrol Days of the European Forum Alpbach for his paper "Multi-objective optimization of an energy community: an integrated and dynamic approach for full decarbonisation in the European Alps".

Nowadays, energy communities are at the forefront of the EU Green Deal strategy and are offering new opportunities for citizens of the European Region Tyrol-South Tyrol-Trentino to get actively involved in energy markets. Energy community refers to collective energy actions that foster citizens' participation across the energy system. It has received increased attention in recent years, developing a wide range of practices to manage energy community projects. Estimates suggest that, by 2030, energy communities could own 17% of installed wind capacity and 21% of solar energy sources. Moreover, by 2050, almost half of EU households are expected to be producing renewable energy.

Developing energy plans requires a number of steps to be completed: i) a baseline study to understand the current status of the energy system in the different energy sectors (electrical, thermal and transport), ii) predicting the future demands in the different energy sectors, iii) identification of local energy sources and realistic constraints, iv) designing and optimizing energy scenarios that fulfill the demand.

The designing and optimizing step should be able to find solutions that, in a specific context, answer the following question: "How (using what technologies) is it possible to meet decarbonisation targets at the lowest transition cost?". Such research question is the starting point of the study submitted by Alessandro Sartori. Alessandro is doing his PhD scholarship at FBK, in the Center for Sustainable Energy directed by Luigi Crema, inside the Area "Sustainable Territories" led by Diego Viesi.

For the first time, the focus of this research is the multi-objective optimization of an energy community in the European Alps for the years 2030 and 2050, the latter being considered the full

decarbonisation target.

With this research work, Sartori has been selected to participate in the final round of the Euregio Young Researcher Award, which was held on Saturday, August 19, 2023 at the European Forum in Alpbach, Tyrol, with the presentation and discussion of the project before a panel of leading experts from research institutions and universities from all three Euregio territories. The awarding of the winners took place during the plenary event of the Tyrol Days on Sunday, August 20, 2023.

In recent years, the Tyrol Days of the European Forum Alpbach have developed into a meeting place and showcase for the research landscape of the European Region Tyrol-South Tyrol-Trentino.
The Tyrol Days 2023 mark the 12th edition of the “Euregio Young Researcher Award”.
On this occasion, young researchers from the Euregio Tyrol-South Tyrol-Trentino have been be invited to present their research papers.
This year, the topic “Energy” has been explored from a wide variety of perspectives.
The young researchers have been asked to establish a connection to the Euregio and place a special focus on sustainable energy security.
Young researchers from all scientific disciplines have been invited to participate. In fact, the variety of topics can range from security of supply, renewable energies to economic and political impacts of energy policy, as well as the field of energy law.

“Getting acknowledged for such a prestigious award means a lot for my PhD journey.” – commented Sartori – **“It’s a small proof that I’m really playing my part in making the energy transition happen. Needless to say, I’m looking forward to the next opportunity for measuring the quality of my research.”**

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- FBK Center on Sustainable Energy: https://energy.fbk.eu/

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