**THE BUCHAREST UNIVERSITY OF ECONOMIC STUDIES**

Doctoral School International Business and Economics

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**PHD THESIS**

Presented and publicly defended by the author:

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Title of the PhD thesis:

THE ENERGY / CLIMATE CHANGE BINOMIAL AND THE TRANSITION TO RENEWABLE ENERGY SOURCES IN THE EUROPEAN UNION

Academic advisor: Prof. Ph.D. Gheorghe HURDUZEU

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***Abstract***

The doctoral thesis entitled "The energy / climate change binomial and the transition to renewable energy sources in the European Union" is structured in four chapters, in addition to the introduction, research proposals and recommendations and final conclusions.

This paper explores the energy transition to renewables, with the main objective of multi-level and multi-parameter analysis of the global energy picture and its impact on the economy and society. The research has focused on assessing the main challenges and opportunities of the decarbonization process, including issues related to digitalization, innovation, economic competitiveness and social equity. Through a comparative analysis of the energy transition in the European Union and Romania, using advanced statistical methods, the study highlighted the differences in the pace of renewable energy uptake, emphasizing the importance of a stable legislative framework and investments in infrastructure. The results confirm the need for coherent public policies, innovative financing mechanisms and specialized workforce development to accelerate the energy transition. The research also highlights the role of emerging technologies, such as artificial intelligence and blockchain, in optimizing processes and making resource use more efficient. The findings of the study provide insights on key measures to achieve global climate goals and strengthen a sustainable economic model based on clean and efficient energy.

***Keywords***: climate change, renewable energy, transition, risks, opportunities, competitiveness, competitiveness, legislative approaches, European Union, Romania.