LITHUANIAN ENERGY INSTITUTE

ADMISSION TO PHD STUDIES FOR THE YEAR 2025

DOCTORAL RESEARCH TOPIC:

Research on economic development in the context of climate change

RESEARCH FIELD:

Economics (S 004)

BRIEF DESCRIPTION OF RESEARCH TOPIC:

Scientists and policymakers are currently focused on climate change, its impact, and mitigation. Climate change mitigation includes the European Green Deal and similar initiatives in other countries, which aim to transform the energy sector and other areas of the economy. To achieve these goals, various technical, economic, and organizational measures are necessary to replace fossil fuels with renewable energy sources, increase energy efficiency, and evaluate resources in the long term.

The search for complex solutions involves various sectors of the economy, such as energy, transport, industry, agriculture, and forestry. The analysis often relies on mathematical models. To achieve decarbonization goals, most emissions will be reduced through electrification, increasing electricity production from renewable sources, and using surplus electricity to produce green hydrogen and synthetic fuels. This highlights the importance of energy systems development, integration, and balancing.

Furthermore, scientific research is needed to evaluate whether current electricity market mechanisms are suitable for future energy systems and whether any changes are necessary. Reducing energy demand is a crucial direction for energy development. The main measure is increasing energy efficiency, but it is also essential to integrate energy sufficiency policies.

Climate change mitigation measures must be evaluated not only for their environmental effectiveness but also for their impact on the economy, income distribution, and social justice. Behavioral economics can help understand how changes in energy policy will affect society and which factors may influence this process. It is important to ensure that the transition to a climate-neutral economy is socially fair and does not leave vulnerable groups behind.

Investments in the EU economy are also significant in mitigating climate change, as they can encourage sustainable, innovative, and high-value-added economic activities. Solutions are needed that allow regional industries to participate in international value chains focused on climate change mitigation. Such industrial activities should be based on the principles of the circular economy and scientific and industrial collaboration.

The aim of the research is to provide scientific knowledge through climate change mitigation research that can help reduce the costs of climate change mitigation and enable the effective implementation of climate change mitigation measures. (The goal for individual doctoral students will be specified, taking into account the doctoral student's education and inclinations. Based on this, a scientific supervisor will be selected from the list of the research team.)

SCIENTIFIC SUPERVISOR:

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