



Climate Transition Risks for Lithuania's Economy

Justina Kapilovaite¹ and Darius Daugvila²

¹Vilnius University, Institute of Geosciences, Department of Hydrology and Climatology, Lithuania
(justina.kapilovaite@chgf.stud.vu.lt)

²Vilnius University, Faculty of Mathematics and Informatics, Institute of Mathematics, Lithuania

Climate transition risks arise during the global transition to a low-carbon economy. These risks encompass four principal subcategories: legal and policy, technological, market, and reputational. This study reviews climate transition risks for Lithuania's economic sectors and evaluates them by using the methodology developed by the authors of this work. In this study, non-financial enterprises were analysed. Six economic sector types (NACE branches) with the highest turnover in 2022 were selected for analysis: (1) manufacturing, (2) wholesale and retail trade, (3) electricity, gas, steam, and air conditioning supply, (4) information and communication, (5) construction, and (6) transportation and storage. For each selected economic sector type, thirty companies with the highest revenues in 2021 were selected for analysis. This study analysed selected companies' strategies for reducing greenhouse gas (GHG) emissions by 2030 and 2050, alongside evaluating their GHG reports across three scopes. Furthermore, financial metrics (debt-to-equity ratio and return on assets), as well as organization structures were considered. Based on the results of a study by the European Central Bank (ECB/ESRB, 2021), each economic sector type was assigned a score that assesses the long-term impact of a rapid transition from fossil fuels. Transition risks were categorized into five tiers: very high, high, moderate, low, or very low, and subsequently attributed to the analysed companies. The results are presented by aggregating the risks according to NACE branches. Obtained results indicate that in Lithuania, a very high transitional risk arises for companies engaged in transportation and storage, as well as construction activities. It was found that Lithuania's companies engaged in construction activities most often do not have climate and energy strategies for reducing GHG emissions by 2030 and 2050, and neglecting potential climate change-related risks. High risk was identified for Lithuanian companies engaged in wholesale and retail trade, and energy supply companies. The low risk was identified for companies engaged in information and communication activities. The financial results of information and communication companies are good, with many of them having 2030 and 2050 climate and energy strategies and the climate transition risk long-term impact for them is low as well. The conducted research is important as an early warning indicator of existing climate transition risks and the increasing need to adequately prepare for them.