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Board Independence, ESG Performance, and Corporate Decarbonization: Insights from Europe

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Abstract

Climate change has intensified the demand for corporate accountability in mitigating greenhouse gas emissions. This study examines how corporate governance mechanisms influence firms' carbon reduction performance and whether Environmental, Social, and Governance (ESG) performance enhances this relationship within the European context. Drawing on Agency Theory, the Resource-Based View, and Legitimacy Theory, the research explores how internal governance structures and external sustainability engagement interact to drive corporate decarbonization. Using a balanced panel of 91 European firms (910 firm-year observations) from 2015 to 2024, the study employs fixed-effects and feasible generalized least squares (FGLS) regression models. The empirical results show that board independence and sustainability oversight significantly reduce carbon intensity, confirming that strong governance contributes to emission mitigation. Furthermore, ESG performance positively moderates this relationship: firms with higher ESG scores translate governance quality into more effective emission reduction outcomes. These findings emphasize that corporate governance and ESG are mutually reinforcing mechanisms for achieving sustainability goals. The study contributes theoretically by integrating governance and ESG frameworks into the decarbonization discourse and empirically by demonstrating how governance quality enhances environmental performance. Practically, it suggests that policymakers and corporate leaders should institutionalize ESG-linked governance mechanisms—such as sustainability committees and ESG-tied executive incentives—to accelerate the EU's transition toward net-zero emissions and strengthen global climate accountability.

Keywords: Corporate Governance; ESG Performance; Carbon Emissions; Sustainability; European Green Deal