



“Gheorghe Asachi” Technical University of Iasi, Romania



CAN LOCAL ENVIRONMENTAL LEGISLATION REDUCE CARBON EMISSIONS? EVIDENCE FROM CHINESE ENVIRONMENTAL COURTS

Hao Liu^{1*}, Danrong Liu²

¹*School of Law, Shanghai University of Finance and Economics, Shanghai, 200433, China*

²Carbon Peak and Carbon Neutrality Strategy Research Institute, Shanghai Pudong Development Bank, Shanghai, 200001, China

Abstract

This paper examines how local environmental legislation affects regional carbon emissions in the context of the gradual establishment of specialized environmental courts across China since 2007. Methodologically, the study exploits the staggered rollout of environmental courts as a quasi-natural experiment and employs a multi-period DID model to identify the causal impact of local environmental statutes on carbon emissions. The analysis is based on panel data for prefecture-level and above cities in China from 2005 to 2023. The empirical results show that local environmental legislation has a significant negative effect on carbon emissions, and this finding remains robust to a series of alternative specifications and tests. Mechanism analysis indicates that local environmental legislation reduces carbon emissions mainly through environmental cost-driven effects and green strategy adjustment effects. Heterogeneity analysis further reveals that the emission-reduction effect of local environmental legislation is more pronounced in monocentric and small cities. In contrast, it is relatively weaker in polycentric and large cities. These findings deepen the understanding of the drivers of carbon emission reduction and provide policy implications for improving local environmental legislation, strengthening judicial environmental regulation, and promoting green transformation at the regional level.

Key words: carbon emission reduction, environmental courts, environmental cost pressure, green strategy adjustments, local environmental legislation

Received: June, 2025; Revised final: April, 2026; Accepted: June, 2026

* Author to whom all correspondence should be addressed: e-mail: 852683076@qq.com; Phone: +8613013976075; Fax: +86051683581999