Environmental Engineering and Management Journal

July 2025, Vol. 24, No. 7, 1379-1391
http://www.eemj.icpm.tuiasi.ro/; http://www.eemj.eu
http://doi.org/10.30638/eemj.2025.108

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ASSESSING THE ROLE OF CLIMATE POLICY UNCERTAINTY IN SHAPING REGIONAL GREEN DEVELOPMENT

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Abstract

This study investigates the complex relationship between climate policy uncertainty (CPU) and regional environmental protection and sustainable management (REPSM), addressing a critical gap in environmental governance within the context of environmental engineering and management. The motivation behind this research is to explore how CPU influences green development, especially in the face of regional disparities. Our hypothesis posits that CPU can have both positive and negative impacts on REPSM, depending on local conditions. Leveraging an extensive dataset spanning from 2004 to 2020, our analysis reveals a significant positive correlation between CPU and REPSM, indicating that policy uncertainty can, under specific conditions, stimulate the adoption of green technologies and pollution control measures. Notably, the impact of CPU exhibits regional variations, with central regions displaying heightened sensitivity, whereas eastern regions demonstrate resilience due to their advanced environmental management infrastructures. Furthermore, environmental regulation serves as a negative moderator to the positive effects of CPU, while industrial structure upgrading amplifies REPSM. These findings underscore the necessity for tailored policy frameworks that consider regional economic and environmental contexts to foster sustainable environmental management and pollution reduction.

Key words: climate policy uncertainty, environmental sustainability, industrial structure upgrading, pollution control, regional environmental protection

Received: January, 2025; Revised final: February, 2025; Accepted: March, 2025; Published in final edited form: July, 2025

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