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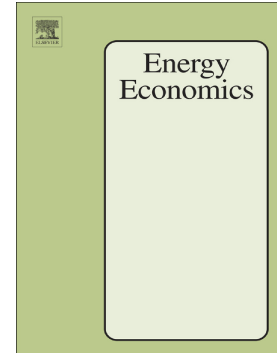
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# Improvement Pathway of Energy Consumption Structure in China's Industrial Sector: From the Perspective of Directed Technical Change

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## ABSTRACT

The improvement in energy consumption structure is of great significance to the green transformation of economic development. In this paper, to explore the reasonable improvement pathway of energy consumption structure in China's industrial sector, we treat fossil energy and non-fossil energy as two different factors into the production function, and conduct a stochastic frontier analysis to estimate the factor-biased degree of production technical change and the substitution elasticities between factors. The results show that the production technology of China's industrial sector is more biased to fossil energy and labor and deviated from non-fossil energy and capital. There is a substitution relationship between capital and labor, as well as labor and fossil energy, and the relationship between capital and fossil energy is complementary. We find that the energy consumption structure in most industrial sub-sectors has a large room for improvement. We propose that the Chinese

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