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An analysis of China's provincial level

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Exploring the rebound effect from the perspective of household: An analysis of China's provincial level

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Abstract

The existence of the energy rebound effect may partially even totally offset the expected energy savings. In order to explore the status of the household rebound effect in China, we manually compiled the provincial energy input-output table of China. Then, combining econometric methods, input-output analysis and the re-spending model, we conduct a detailed analysis of both the direct and indirect energy rebound effect from the household perspective in China under a unified research framework. The results show there are significant differences in risk vulnerability regarding energy rebound effect among different regions. Qinghai is the most vulnerable province as 69.23% of its economic sectors could lead to a backfire effect. Two economic sectors have the potential to cause a backfire effect in thirteen provinces. In addition, the Chinese government and its provincial government should take full account of the regional differences when formulating energy policies to alleviate the pressure on energy conservation and carbon emission reduction.

Keywords: Rebound effect, Household energy consumption, input-output analysis, Risk vulnerability, China

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