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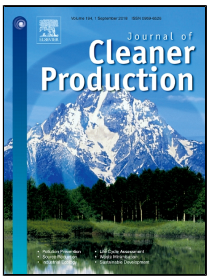

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China's inter-regional carbon emissions: an input-output analysis under considering national economic strategy

Wei Pan[a,*], Wulin Pan[a], Yongdong Shi [b,*], Shan Liu [c,*], Bo He [d,*] Cheng Hu[a], Haiting Tu[a], Jianwu Xiong[a], Dongyang Yu[a]

[a]*School of Economic and Management of Wuhan University, Wuhan,430072, China*
[b]*School of Business, Macau University of Science and Technology, Taipa, China*
[c]*School of Management, Xi'an Jiaotong University, Xi'an 710049, China*
[d]*School of Economics and Business Administration, Chongqing University, Shazheng Street, Chongqing, 400044, China*

[*]*Corresponding author.*
E-mail addresses: mrpanwei2000@163.com,ydshi@must.edu.mo, shan.l.china@gmail.com, hebo@cqu.edu.cn

Highlights:
1. Comprehensive analysis of inter-regional carbon emissions in China
2. Muti-regional input-output analysis and structural decomposition analysis
3. A new regional division based on national economic strategy
4. A greater database to analyze the evolution of China's carbon emissions

ABSTRACT

With China being the world's largest contributor to carbon emissions, there is a profusion of research on China's regional carbon emissions, which is based on geographical or administrative divisions at a great extent. The economic influence is, however, the most significant factor of carbon emissions. This paper constructs a multi-regional input–output（MRIO）model based on a new regional division in China under considering national economic strategy. Furthermore, a larger input-output database (2002, 2007, 2010- which is the latest database published) is used to analyze the inter-regional carbon emissions in China under a comprehensive framework. The results show that national strategy has a noticeable impact on the regional economy, while changing the patterns of carbon emissions in China: carbon emissions are most prominent in economic zones, and inter-regional carbon flows become more active and more balanced. According to the structural decomposition analysis (SDA), it is found that final demands shows the most obvious positive influence on carbon emissions, the structure of which is, however, being changed. The impact of carbon intensity has gradually become the most important contributor to China's carbon emissions reduction.

Keywords：Carbon emissions; Carbon flow; SDA; Input-Output analysis

1 Introduction