

## 工业化过程中碳排放消费建设比的演变规律研究

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## How CO<sub>2</sub> Emissions Structure Evolves With the Process of Industrialization

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**摘要** 本文从历史发展角度动态地考察了由投资和消费引发CO<sub>2</sub>排放的变化规律,提出了碳排放中的消费型排放、建设型排放和消费建设比的概念,利用环境投入产出分析模型(EE-IOA)估计了处于不同工业化发展阶段的32个国家86组数据的消费型排放和建设型排放,得到了消费建设比在工业化过程中(包括后工业化时期)的演变规律。实证结果表明:随着工业化水平的提高,消费建设比呈上升趋势;应根据消费型排放和建设型排放的减排潜力,科学制定减排目标,更加注重引导消费者行为向绿色消费转变、依靠消费者力量促进企业节能减排。本研究对正确评价不同工业化发展阶段国家的排放水平和减排潜力,科学制定减排政策和目标具有重要意义。

**关键词:** CO<sub>2</sub>排放 工业化水平 经济发展阶段 投入产出技术 消费建设比

**Abstract:** In order to dynamically investigate the historical evolution of CO<sub>2</sub> emissions induced by consumption and fixed capital investment, this paper defines the concepts of consumption-based CO<sub>2</sub> emissions (CPE) and construction-based CO<sub>2</sub> emissions (CTE), and proposes the ratio of consumption-based CO<sub>2</sub> emissions to construction-based CO<sub>2</sub> emissions (RCC) as a partial indicator of the CO<sub>2</sub> emissions structure which synchronously considers the consumption-based CO<sub>2</sub> emissions and construction-based CO<sub>2</sub> emissions. The study employs an environmentally extended input-output analysis model (EE-IOA) to estimate the carbon emissions of consumption-based CO<sub>2</sub> and construction-based CO<sub>2</sub>. By analyzing data totaling 86 samples from 32 countries, the study evaluates the evolution of RCC during the process of industrialization (including post-industrialization period). The empirical results indicate that RCC increases with the advance of industrialization; we should set the carbon emission reduction goals that considering the reduction potentials of consumption-based CO<sub>2</sub> emissions and construction-based CO<sub>2</sub> emissions, and enhance the enterprise carbon emission reduction activity by the market power through transforming consumer's consumption habit into low-carbon. The significant outcome of this paper is the development of a method for correctly evaluating the emissions levels of countries at different stages of development, in order to establish reasonable emissions reduction targets.

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