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What drives the carbon emission in the Chinese cities?—A case of pilot low carbon city of Beijing

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Abstract: With China's rapid urbanization and industrialization, carbon emission in Chinese cities deserve special attention, and promoting low-carbon city (LCC) is considered essential for China. However, different cities present different development stages and carbon emission scenarios. This study presents the factors affecting carbon emission by introducing a city development-stage framework. The method of logarithmic mean Divisia index (LMDI) is adopted to decompose emission factors into energy structure, energy intensity, industrial structure, economic output and population scale. Beijing is chosen as the case city in this study, and four development stages for the city are identified by using the Environmental Kuznets Curve (EKC) theory, namely, S_1 (-1991), S_2 (1991-2004), S_3 (2004-2022) and S_4 (2022-). As the data collected for analysis are only available for the period of 1995-2014, this study focuses on the factor analysis for the stage S_2 and S_3 . The results show that the main driving factor for carbon emission increase in the stage S_2

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