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# China Can Peak Its Energy-related Carbon Emissions before 2025: Evidence from Industry Restructuring

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**ABSTRACT:** China has committed to a peak in carbon dioxide emissions circa 2030. However, current policies cannot meet this ambitious goal. Adjusting its energy-intensive, heavy and chemical-based industrial structure is not only the main way China can change its economic growth pattern but also a key policy strategy to achieve its carbon emission peak goal. In addition to carbon emissions goals, economic growth and employment security must be considered for China's development in the context of addressing climate change. Hence, by proposing a new economic-carbon emission-employment multi-objective optimization model, we take a different approach to analyzing China's emissions trajectory. The optimized results show that China's energy-related carbon dioxide emissions could peak between 2022 and 2025, most likely in 2023, with CO<sub>2</sub> emissions of 11.21-11.56 Gt. When pursuing this peak (from 2013-2030), China could still maintain an average growth of approximately 6.1 to 6.4% yr<sup>-1</sup> for GDP and approximately

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