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Co-benefit of carbon mitigation on resource use in China

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Abstract

On one hand, natural resources and energy provide the basis for life on earth, but waste and emissions are produced during their throughput on the other hand. China, as the most populous country and an emerging economic powerhouse, has taken on the challenge of hitting peak carbon dioxide (CO₂) emissions by 2030. Pursuing resource co-benefits from carbon mitigation is an effective approach for China on the road to achieving the 2030 goal. In this study, we combine the computable general equilibrium (CGE) model and the economy-wide material flow accounts or analysis (EW-MFA) method to estimate China's future CO₂ emissions and resource consumption, and their co-benefit effect. Three scenarios are analyzed: business as usual (BaU), nationally determined contributions (NDC), and the scenario of

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