

# The Impact of China's announcement on carbon emissions

Topic: Carbon Emissions

Author: Shantong LI

Co-Authors: Jianwu HE

At the end of the APEC trade summit in China, Presidents Xi Jinping and Barack Obama announced a deal on carbon emissions. China has agreed that its emissions will peak in 2030, and that the percentage of non-fossil fuels in its energy consumption will rise to 20% by 2030. In 2009, China also made a courageous commitment to reducing carbon intensity by 40%-45% from 2005 to 2020, i.e., China will lower its carbon emission per unit of gross domestic production by 40%-45% with the aforementioned period. By contrast, the new target is more aggressive than that in 2009. Although China's economic growth is gradually slowing, China is still in the process of realizing industrialization and modernization and the total amount of CO<sub>2</sub> emissions will be increasing in the future. It's impossible to achieve this commitment without any change.

Actually, China is placing environmental issues on top of its reform list. The Third Plenary Session of the 18th Communist Party of China (CPC) Central Committee has announced to speed up the building of ecological civilization system. China will reform environment taxation system and adopt a brand new set of performance measures for local governments, taking in a healthy environment, such as air quality as part of key performance indicators.

Undoubtedly, the measures to achieve the new target will have an effect on China's growth and structure transformation. This study will modify and extend the DRC-CGE, a China's CGE model that is used for long-term planning and policy analyses. We will design different scenarios of emission reduction (e.g., nation-wide carbon tax and industrial carbon tax). Based on this model, the paper will simulate the scenarios and investigate how policy can help China achieve the target and what is the impact.

## Table of Contents

1. Introduction
2. The existing environment measures in China
3. China's computable general equilibrium model for environment analysis
4. Design of environment scenario
5. Simulation and result
6. Conclusion