

Inertia in the Evolution of Carbon Emission of China

Topic: (10.1) Emerging developing countries

Author: Chen LIN

Co-Authors: Jing LI

This paper diagnoses the carbon emission problems of China from 1957 to 2012 from the structural perspective by using the newly compiled Chinese historical input-output tables (CHIOTs). The tables include 161 commodities, 18 industries, and sectoral CO₂ emission, which support the analysis of historical carbon emission in high degree of resolution. The results shows that the hot-spot and structure of carbon emission are relatively stable across more than half a century. This is because China has a full size economy covering all types of industries since 1950s. From the first five-years plan, China tried to build a whole industrial chain due to the “independent policy” for both economic and national defense safety. This makes the inter-industrial relation with respect to both material flow and carbon footprint be relatively stable. Meanwhile, we also observe an inertia effect such that an industry’s energy structure is stable due to technology inertia. Therefore, for China, a country with the whole industrial chain, it is not easy to mitigate carbon emission by industrial transfer or upgrade (i.e. carbon leakage). The most effective way is to increase the energy efficiency of each sector.