
Summary: Under the background of carbon trading policy, this paper focuses on closed-loop supply chain in which manufacturer is as a leader, analyzes the impact of carbon trading price and carbon emission reduction cost on product retail price, recycle price, carbon emission reduction level and carbon emissions, and then compares the price and carbon emissions of carbon trading policy with those of no carbon trading policy, providing references for the production decision-making of enterprises and the carbon trading policy-making of the government. The research shows that, (1) the government’s promotion of low-carbon technology can promote enterprises to choose a higher level of carbon emission reduction; (2) higher carbon trading prices will lead to greater recycling of waste products; (3) appropriate carbon trading price control can reduce carbon emissions.

MSC:
91B76 Environmental economics (natural resource models, harvesting, pollution, etc.)
91B06 Decision theory

Keywords:
closed-loop supply chain; carbon trading policy; carbon trading price; carbon emissions