

Review of Carbon Neutrality Research at Home and Abroad

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Abstract: Domestic and Foreign, Carbon Neutrality, Research Review

Keywords: This paper reviews the relevant research on carbon neutrality. At present, scholars' research mainly focuses on the following aspects: first, mainly discusses the carbon neutrality of different research objects; Second, focus on the role of biomass in China; Third, the regional heterogeneity of carbon neutrality in China is not fully considered.

1. Introduction

Net zero carbon emission or carbon neutrality means that there is a balance with anthropogenic carbon emission and anthropogenic carbon removal over time (IPCC 2018). In order to achieve this ambitious goal, some countries and regions have taken some positive actions in recent years.

2 Review

2.1 The Existing Studies on Carbon Neutrality Can be Broadly Divided into Several Categories

Research on carbon neutrality can be divided into three categories. Firstly discussed carbon neutrality of research object, such as building and individual (Vandenberger, 2007; Newton, 2010; Voss, 2012; Zuo, 2012; Wang, 2017) transportation and energy parts (Puigjaner, 2015; Shafiei, 2017; tatini, 2018). The second focuses on the role of biomass in China (Zanchi, 2012; Berndes, 2016; Year, 2016; Pilpola, 2019). The third focuses on implementing carbon neutrality from a technology engineering, as hydrogen technology (Muradov, 2008), wastewater treatment technology (Hao, 2015), heat production technology (Kirppu, 2018), and CO₂ capture and storage technology (Mandova, 2019). China's carbon neutrality goal gained big attention. Current study mainly focuses on the multi paths necessary for China to achieve carbon neutrality, coal substitution

(Jia, 2021), carbon capture, use and storage (Xu, 2021), and emission technology (Fuhrman, 2021). However, all have certain shortcomings. Firstly, although carbon neutrality has been explored from an engineering way, analyses of carbon neutrality. For example, the UN Climate Change Forum Summit on 23d September 2019 announced that nature based solutions would be a focus area to address challenge (Seddon, 2019). Therefore, it's great significance to conduct research from the way of the National Bureau of Statistics. Secondly, because data limitations, previous studies haven't explored carbon neutrality based on vegetation carbon sequestration in cities, especially since Chinese policy implementation (Schreifels et al., 2012). Third, not fully thinking the regional heterogeneity of carbon neutrality in China may reduce efficiency when implementing carbon neutrality policies. Net assimilation of carbon emission by plant into organic matter (Haberl, 2007), from multiple ways. Industrial Revolution changed the world. It improves optimal production and reduces unit time (Du, Li, 2019; Umar, 2020b). Improvements in technology have brought much environment change, such as living standard, developing economy, and increasing consumption (Huang, 2019; Sharif, 2020; Sinha, 2021; Su, 2020). Innovation opens the door to economic development. Every country tries to achieve growth. For the sake of growth, every country is sacrificing environmental quality (Shahbaz, 2019; Su, 2021).

2.2 Environmental Gains are Not Reduced Environmental Change Can Lead to Serious Economic Losses

In addition (You, 2018), found that globalization led to trade openness with stability and drew public attention to its contribution to environment degradation. Growth and energy consumption coincide. The amplified consumption of energy by economic growth leads to carbon emissions and environment deterioration (Umar, 2021). Carbon emission in atmosphere and the sequence of high carbon emission affects world. (Lee, 2007), the main reason of climate changing is human activities. Factory emits large amounts of CO₂ into atmosphere. Carbon emission from burning energy sources are the main reason of warming. (Declat 2020), China, US, India, and Russia are the world's biggest carbon emission in 2018 (Du, Li, 2019). Measures are needed to reduce the impact on environment (Bekun, 2019; Sharif, 2020). The basic goal is to achieve stable growth. The role of energy is important for green growth. Resource rich countries have experienced rapid growth (Shahbaz, 2019). Resources like oil are important in economies (Bildirici, 2017). On the other hand; developed economies are superior to developing economies. Its progress is enhanced by its policy of skillful use of energy sources (Guan, 2020). However, large scale use of fossil fuel is a main cause of environment damage (Mania, 2020; Shahzad, 2020). Over the past decades, many studies have highlighted the role of green energy from renewable resources such as wind, solar energy, etc. in reducing environment degradation (Cheng, 2019). Explain the benefits of green energy used for carbon emissions. Likewise (Kirikkaleli, Sowah, 2020), government recognizes the advantages of using green energy. The world often experiences fluctuation in oil price. Thus, green energy stabilizes economic performance by reducing shock from global imports of fossil fuel. (Menyah, 2010). Consumption of these energy sources is limited (Chen, 2014). Green technology innovation could contribute to the solution of all problems related to environment pollution. Gti is used to inject vitality into the ecosystem (Wu, 2021). Including pollution prevention, waste product recycling, environment management and other innovations (Z. Huang, 2019). Technology is a way for reducing carbon emissions because it brings friendly innovation to achieve maximum growth at the least environmental cost (Nikzad, 2017; Umar, 2020a).

3. Conclusion

At present, scholars' research mainly focuses on the following aspects: first, mainly discusses the carbon neutrality of different research objects; Second, focus on the role of biomass in China; Third, the regional heterogeneity of carbon neutrality in China is not fully thought, which would reduce efficiency when implementing carbon neutrality policy.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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