



# The relationship between low carbon and environmental protection and solar energy

The expansion of low-carbon power such as wind power and solar energy as substitutes for fossil fuels can improve countries' ability to address climate change (advancing ...

This paper comprehensively reviews the interconnections between climate change, decarbonization, and green finance. The urgency of addressing climate change and its catastrophic consequences needs to focus on green finance as a vital tool in the global struggle against environmental damage. Green finance involves supplying investments, loans, or ...

A low-carbon energy transition consistent with 1.5 °C of warming may result in substantial carbon emissions. Moreover, the initial push to substitute fossil fuels with low-carbon alternatives ...

The study simulated the deployment of SEG under different contributory factors, including carbon taxes, emissions trading, and environmental regulations. The results show that carbon tax has a decisive role in limiting polluting industries and reducing carbon emissions.

The escalating apprehension regarding climate change mitigation has intensified the quest for energy alternatives that are low in carbon emissions, economically viable, and consistently available. Within this context, renewable energy sources emerge as fitting candidates, being recognized for their eco-friendliness and cleanliness. Nonetheless, despite ...

The study emphasized the positive relationship between FDI and carbon emissions. Moreover, renewable energy and remittances revealed an inverted U-shaped relationship with carbon emissions. In the case of developing countries from the panel, remittance improves environmental quality after reaching the threshold.

The governance exerted by governments plays a pivotal role not only in driving local economic advancement but also in bolstering environmental management and enhancing Carbon Productivity (CP). This paper investigates the impact of two-way Foreign Direct Investment (FDI) coordination development (DFDI) on China's CP from the perspective of ...

Based on the background of comprehensive green transformation of economic and social development, this paper selects panel data of 30 provinces in China from 2000 to 2019, uses the panel fixed effects model and panel threshold effect model, and discusses the nonlinear correlation mechanism between green investment, industrial structure, renewable ...

As the EU strives to achieve its climate goals, it is becoming increasingly crucial to understand the complex relationships between economic activity, energy consumption, and carbon emissions. In this context, our paper aims to investigate the correlation between carbon emissions, energy consumption, and economic



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development. To fulfill our aim, we have used ...

Due to the increased frequency of extreme weather events and the implementation of the China's dual-carbon target, thermal power companies have been under pressure to construct green ...

The shift towards environmentally friendly and sustainable energy sources has become crucial due to global warming and increasing environmental concerns. To facilitate this transition, policymakers need to understand the factors that influence it. Thus, this study examined the role of financial development, green technological innovations, and ...

Advocates of the positive influence of solar energy on environmental quality include researchers such as Shahsavari and Akbari who, in their examination of developing ...

Although the core variables of this paper include carbon emissions, ecological footprint, energy transition, and AI, they come from a classic and broad topic, namely the technology-environment nexus.

Achieving net zero carbon emissions is the holy grail of climate change policies, with the transition to renewable energy sources often considered the hero in this quest.

Under the severe situation of global warming, low-carbon development is gaining more and more attention. Due to the different research methods, research samples, and the selection of performance indicators, there is greater disagreement on the relationship between carbon performance and financial performance. The study covers the dataset starting from ...

Based on the dynamic panel threshold model, we find that due to the influence of external factors, a nonlinear relationship between the impact of low-carbon energy transition ...

To achieve the goal of "carbon peak and carbon neutrality", it is crucial for China to effectively control environmental pollution in low-carbon action (LCA). Based on the evidence from 283 cities in China from 2007 to 2019, the difference-in-differences (DID) method is applied to explore the impact of LCA on pollutant emissions represented by the pilot of low ...

The MM-QR estimation results from Table 5 for the central and western regions indicate a consistently significant positive relationship between low-carbon energy transition (LCET) and carbon emissions across various quartiles. The coefficients range from 10.403 to 17.188 for the 10th to 90th quartiles, demonstrating statistical significance at ...

Exploring the low-carbon energy transformation pathway is vital to coordinate economic growth and environmental improvement for achieving China's carbon peak target. Three energy-target scenarios are



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developed in this paper, considering the targets of energy structure, electrification rate, and carbon mitigation towards 2030 announced by the Chinese ...

ECA nations are vital to global environmental sustainability. Europe emitted 10% of global GHGs and pledged a 40% reduction by 2030 [13]. Wind power provided 22% of the EU's renewable energy in 2020, second only to solar [14]. The Central Asia Regional Economic Cooperation (CAREC) initiative seeks to increase the region's renewable energy (REC) ...

Energy comes from the natural environment and ecosystems. It is the basis of human activities, the driving force of socioeconomic development, and necessary for improving human well-being and living conditions [3, 4]. The use of energy also has feedback effects on the environment [5]. Therefore, energy is linked broadly with the sustainable development of ...

Energy companies are in the spotlight regarding the environmental pressure to address the current environmental issues by initiating the sets of social responsibilities. Energy sector companies are actively adopting Corporate Social Responsibility (CSR) practices to address the increased pressure and enablement to manage and prevent the risks of ...

As the globe strives to solve severe environmental challenges, the concept of a low-carbon economy that prioritizes low energy use, little pollution, and sustainable development is gaining support. The supply chain management industry is not safe from the possibilities and threats posed by this new development. In light of the emerging norm, it is imperative that all ...

In this work, we address and discuss the environmental impacts of solar energy systems, demonstrated by commercially available and emerging solar PV and CSP systems ...

13 &#0183; This growth has been largely driven by a surge in wind energy and, even more so, solar energy capacity. As of December of 2023, wind was still the largest source of carbon ...

Given this situation, analysing how climate change confluences the energy output of the solar PV system helps design a sustainable energy system that has low carbon intensity and smoothly supplies energy for a long ...

The group statistics (Gt) and panel statistics (Pt, Pa) reject the null proposition at a 1 % confidence threshold. This points to the rejection of the initial presumption of no cointegration, suggesting the presence of a long-term cointegrating relationship between environmental sustainability and the other variables.

This study analyzes the relationship between renewable energy consumption, CO<sub>2</sub> emissions, and economic growth for 1973:M01-2022:M06 in the USA. The study employs Spectral Granger Causality analysis symmetrically and asymmetrically. The symmetric causality test presents a bidirectional causality relationship



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between CO2 emissions, renewable energy ...

To actively develop renewable energy technologies and related applications, and increase support for energy conservation and low-carbon environmental protection, ...

This study analyzes the relationship between globalization, energy consumption, and economic growth among selected South Asian countries to promote the green economy and environment. This study also finds causal association between energy growth and nexus of CO2 emissions and employed the premises of the EKC framework. The study used annual time ...

Improvements in energy efficiency will be instrumental in meeting China's ambitious emission targets while providing adequate energy to support the country's rising living standards. We investigate whether the low-carbon city pilot (LCCP) program has improved energy efficiency in participating cities. To this end, we analyze prefecture-level data in 249 cities ...

Learn about clean energy, the impact of energy on the environment, and U.S. electricity generation. Clean energy includes renewable energy, energy efficiency and combined heat and power.

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