

The digital economy is a new form of economic development, taking data resources as the key production factor, ... Technological innovation, especially in the fields of green technology, energy storage technology, new energy technology, and power grid technology, can vigorously promote green energy substitution and carbon emission reduction ...

Moreover, digital management systems optimize energy storage, enhancing the proportion of renewable energy in the energy mix 9. Finally, the digital economy provides resource-based cities with the ...

Adhering to a suitable development path to improve HED has gradually become China's major target (Wang et al., 2022a). At the same time, with the rapid popularization of the integration of big data, blockchain, artificial intelligence, cloud computing, and the Internet of Things into various areas of economic and social development, China has actively been ...

Urban areas are at the forefront of economic activity and notably contribute to carbon emissions. Transforming cities to low-carbon models is imperative for addressing climate change. The digital economy (DE) has emerged as a pivotal force in driving global economic progress, offering unique benefits that support urban low-carbon transitions. Despite extensive ...

The New Energy Outlook presents BloombergNEF's long-term energy and climate scenarios for the transition to a low-carbon economy. Anchored in real-world sector and country transitions, it provides an independent set of credible scenarios covering electricity, industry, buildings and transport, and the key drivers shaping these sectors until 2050.

As a new production factor, digitalization plays a vital role in society, economy, and the environment. Based on the expanded STIRPAT model, this paper empirically tests the impact of energy structure and digital economy on carbon emissions by panel data from 2011 to 2017 in 30 provinces of China. The results show that the energy structure mainly based on coal ...

For China to reach its "dual carbon" aim, the digital economy presents both opportunities and obstacles. This paper examines the potential impact of digital economy development on regional carbon dioxide emissions, concluding that while the direct impact on regional carbon dioxide emissions through industrial structure upgrading and technological ...

Table 3 shows the impact of digital transformation on energy storage innovation estimated by a negative binomial model. Our findings show that digitalization strategies have a significant positive impact on technological innovation in energy storage after controlling for years and industry fixed effects.

SoftBank to invest \$110m in brick tower energy storage start-up. Other similar technologies include the use of excess energy to compress and store air, then release it to turn ...

The rapid development of digital economy brings new opportunities and challenges. Based on a panel dataset of 30 provinces in China from 2011 to 2020, this paper empirically examines the direct, mediating and nonlinear effects of digital economy on energy transition. The study finds the following important conclusions. First, the digital economy is ...

The digital economy, as a new and innovative economy, uses digital technologies and electronic communications to conduct economic and business activities. This type of economy usually includes a wide range of sectors, such as e-commerce, digital marketing, digital financial services, software development, computer games, and cloud services ...

The installation, part of the Daggett Energy Complex, features 482 MW of solar energy generation capacity, along with 280 MW of battery energy storage, which will rise to 394 MW (1.12 GWh) of ...

It is also related to previous evidence on the significance of digital energy storage technology in enhancing system operation and maintenance [1, 55], which implies the global efforts towards the development of digital and intelligent energy-storage systems.

Energy storage (ES) technology has been a critical foundation of low-carbon electricity systems for better balancing energy supply and demand [5, 6] veloping energy storage technology benefits the penetration of various renewables [5, 7, 8] and the efficiency and reliability of the electricity grid [9, 10].Among renewable energy storage technologies, the ...

This paper proposes a new digital economy index based on the entropy weight method. The two-way fixed effect panel model is used to analyze the data of 30 provinces in China from 2011 to 2021. ... which is conducive to developing renewable energy and energy storage [12]. From the energy demand perspective, the DE contributes to developing new ...

Rather than viewing end-of-life energy storage systems as obsolete, a circular economy mindset encourages exploring second-life applications. Batteries that no longer meet the demands of utility-scale storage can find new life in less demanding applications, such as stationary energy storage for homes or businesses.

As the engine of the new era, digital economy (DE) may be a potential catalyst to overcome this dilemma (Fang et al., 2022) is a set of economic activities in which data assets are the primary productive factor, modern networks are the crucial carriers, and ICT and other technologies are used effectively to raise productivity and restructure the economy (Zhang et ...

The energy industry has entered a new era of digital energy, deeply integrated with the digital world. In this new era, we are taking advantage of opportunities by integrating bit, watt, heat, and battery (4T) technologies to build new energy infrastructure for new energy, electric transportation, and digital transformation.

As America moves closer to a clean energy future, energy from intermittent sources like wind and solar must be stored for use when the wind isn't blowing and the sun isn't shining. The Energy Department is working to develop new storage technologies to tackle this challenge -- from supporting research on battery storage at the National Labs, to making investments that take ...

The new energy economy involves varied and often complex interactions between electricity, fuels and storage markets, creating fresh challenges for regulation and market design. A major ...

The global industrial chain and energy supply chain are being reconfigured at an accelerated pace, and the uncertainty of China's energy supply security is growing significantly. Empowering energy supply chains through the digital economy (diec) has a positive effect on accelerating the transformation of China's energy supply structure. This paper discusses the ...

Application scenarios and modes of digital economy in the energy transition; The path to carbon neutrality in the energy system under the conditions of digital economy; ... The above findings not only provide new channels and ideas for farmers to increase income through e-commerce operations, but also help relevant decision-making departments ...

DOI: 10.1016/j.jenvman.2023.119369 Corpus ID: 265058766; Is digital economy an answer to energy trilemma eradication? The case of China. @article{Zhao2023IsDE, title={Is digital economy an answer to energy trilemma eradication?

It is observed that the positive impact of digital strategy on firm energy storage innovation is much more significant in the regions and industries with higher convergence between digital and energy storage technologies.

Within the context of globalization, the development of renewable energy is critical for attaining sustainable development, and the digital economy is also a critical driver for achieving it. This article incorporates globalization, renewable energy development, and the digital economy into its research framework, investigates the relationship between globalization and ...

Our findings suggest that firms' digital strategies, especially digitization and IoT strategy, have a positive impact on energy storage innovation, indicating a promising ...

The smooth transition to sustainable renewable energy sources requires developing the digital infrastructure, technologies, and social dimensions - collectively called the 'digital economy' - and financial investment [4]. Digital advancement has significantly changed several domains, transforming how industries operate, engage customers, and drive economies [7].

The digital economy is becoming increasingly important in the field of carbon governance. However, there is little literature examining the relationship between the digital economy and clean energy development. This

paper aims to fill this gap by exploring the relationship between the digital economy and clean energy and its spatial effects.

Storage enables electricity systems to remain in balance despite variations in wind and solar availability, allowing for cost-effective deep decarbonization while maintaining reliability. The Future of Energy Storage report is an essential analysis of this key component in decarbonizing our energy infrastructure and combating climate change.

The new global clean energy economy will rival today's oil market in size by 2050. The developing world requires equal access to clean energy finance to benefit. The shift to net-zero emissions will create huge opportunities in clean energy technologies, but the developing world's lack of access to affordable financing is a major obstacle.

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