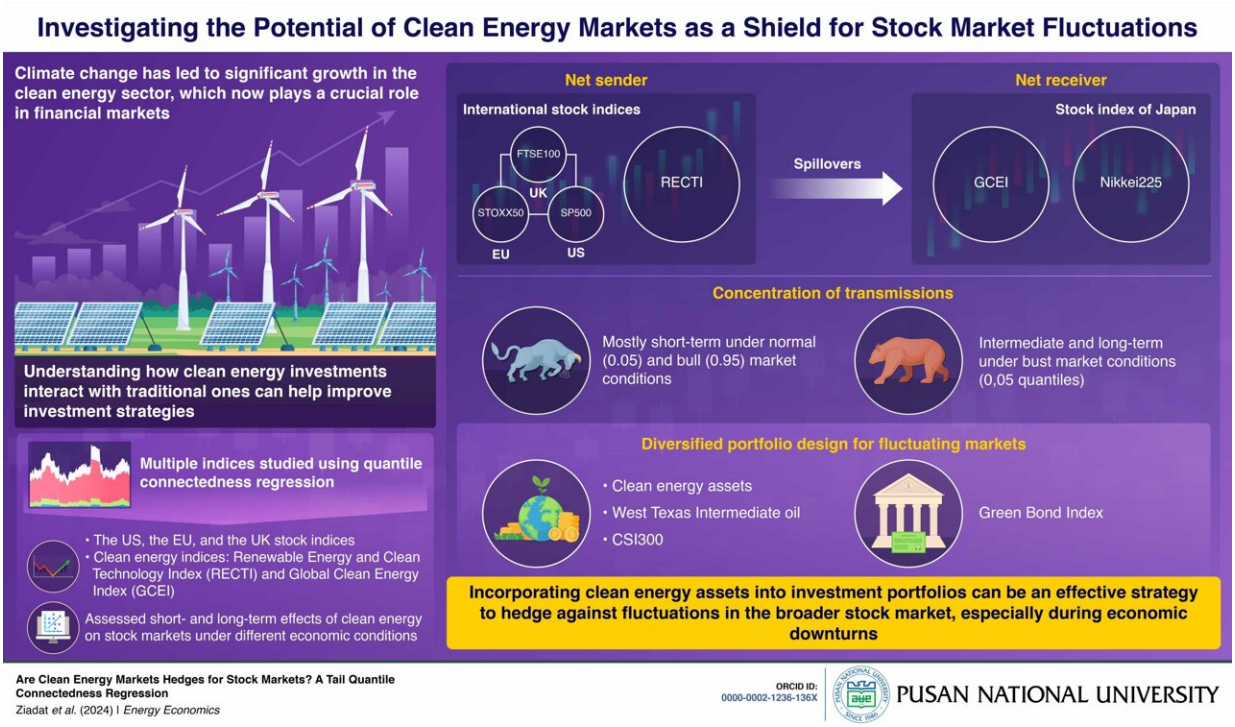
Researchers explore the potential of clean energy markets as a hedging tool

July 31 2024



Researchers demonstrate that investing in clean energy assets, such as renewable energy stocks, green bonds, and clean technology indices, can help mitigate risks associated with stock market volatility. These investments are influenced by different factors than traditional assets, providing diversification and reducing overall portfolio risk. Credit: Professor Sang Hoon Kang from Pusan National University, Korea

Climate change has significantly impacted lives worldwide and

prompted governments to adopt policies promoting sustainability and use of clean energy sources. This shift to clean energy has triggered increased investments in renewable energy and technologies.

Clean energy assets possess a unique advantage—they are not affected by parameters influencing their traditional stock market counterparts. However, the interactions between the clean energy and traditional stock markets are not well understood.

To fill this gap, a group of researchers led by Professor Sang Hoon Kang from Pusan National University explored the relationship between clean energy indices and major international stock markets. The researchers investigated if clean energy investments could provide stability when traditional stock markets experience turbulence. Their findings were published online on 10 July 2024 in the journal of *Energy Economics*.

The researchers used a method called tail quantile connectedness regression to study how different financial assets interacted, especially during extreme market conditions. This method let them examine how shocks from major stock indices like the SP500 and the FTSE100, as well as the Renewable Energy and Clean Technology Index (RECTI), affect other indices such as Japan's Nikkei225 and the Global Clean Energy Index (GCEI).

Prof. Kang explains, "Investors seek to protect their portfolios from volatility by diversifying with assets that don't follow the same trends as traditional stocks. Clean energy assets are promising for this purpose because they are influenced by different factors, such as government policies and technological advancements in renewable energy."

The study found that financial shocks often start in major markets like the US, the EU, and the UK, and from indices such as the RECTI, then flow to markets in Japan and the GCEI.

During normal and bull market (when stock prices are increasing) phases short-term effects dominated, whereas during declining or busting market states, the impacts ranged from intermediate to long-term ones. This shows that different clean energy indices play unique roles in the global financial system, affecting how information and risks are spread across markets, and highlights their resilience and lasting influence, even in challenging economic climates.

Furthermore, the study identified specific roles played by different clean energy indices in information transmission. For instance, the RECTI tends to act actively, while the Green Bond Index remains relatively isolated. The GCEI, on the other hand, tends to receive information passively.

These findings suggest that clean energy investments can act as hedges or buffers during fluctuating market conditions, promoting financial stability and resilience against economic turbulence.

Prof. Kang elaborates, "Our findings suggest that clean energy assets paired with other financial assets such as WTI and CSI300, should form a significant portion of a diversified investment portfolio to mitigate risks during different market conditions."

He concludes with the long-term impact of their study, "Heightened awareness and better understanding of the spillover effects between these markets can drive policy decisions that support sustainable economic growth and environmental protection, ultimately fostering a more resilient global financial system."

In summary, the expanding clean energy sector holds great potential to promote financial stability amidst fluctuating markets.

More information: Salem Adel Ziadat et al, Are clean energy markets

hedges for stock markets? A tail quantile connectedness regression, *Energy Economics* (2024). DOI: 10.1016/j.eneco.2024.107757

Provided by Pusan National University