

The Impact of Clean and Dirty Energies on Gulf Cooperation Council (GCC) Sectoral Indices: A Quantile Connectedness Model Analysis

Altaf Hussain Samo¹, Uzair Abdullah², Shabeer Khan³ and Mohammad Rahim Shahzad⁴

ABSTRACT

The world is increasingly relying on renewable energy sources such as wind and solar, reducing dependence on limited fossil fuels as nature's consumption continues to exceed renewability. This study uses the quantile connectivity approach to examine the impact of clean and dirty energy on different Gulf Cooperation Council (GCC) economic sectors using data from 2 January 2018 to 17 June 2022. The study revealed that the correlation between clean and dirty energy is 82.60%. The correlation between dirty energy and GCC sector indices is particularly strong in 2021. The clean and dirty energy indices are weak receivers at lower and higher quantiles in 2020 and 2021 and become weak transmitters in 2022. The transmission intensity of clean energy and dirty energy was high around 2022. GGSS becomes the weakest receiver of spillover shocks, followed by GCCI, GAE, and RCE, while GCCF, GCCE, GCCB, and GCCC become net transmitters. The study's findings document that clean and dirty energy indices are weak recipients and transmitters of spillover shock. It concludes that since the GCC's service sector has minimal connection to other industries, it offers the greatest diversification opportunity. Moreover, policymakers should prioritize energy efficiency and climate transparency to build resilient and sustainable economies.

Keywords: Renewable energy, green economy, Quantile-VAR spillover.

JEL Classification: Q40, Q42, Q43, Q56, C32

¹ Department of Business Administration, Sukkur IBA University, Sukkur 65200, Pakistan. E-mail: Altaf@iba-suk.edu.pk

² Department of Business Administration, Sukkur IBA University, Sukkur 65200, Pakistan. E-mail: Uzair.msmgts20@iba-suk.edu.pk

³ Business Administration, Al Yamamah University, Riyadh, Saudi Arabia. E-mail: Sh_Khan@yu.edu.sa

⁴ Department of Islamic Economics and Finance, Faculty of Political Science, Sakarya University, Turkey. E-mail: Mohammad.shahzad@ogr.sakarya.ed.tr

