# *ABSTRACT*

*This study aims to analyze the short- and long-term impacts of the Bitcoin mining ecosystem on global primary electricity consumption. The variables used include hashrate, Bitcoin market value, mining difficulty, adjusted transaction value, and the number of Bitcoin transactions, with time-series data from January 2018 to December 2022. The analysis employs the Vector Error Correction Model (VECM). The results reveal that, in the long term, hashrate and Bitcoin market value positively and significantly affect global primary electricity consumption, while mining difficulty has a negative and significant impact. Adjusted transaction value and the number of Bitcoin transactions exhibit negative but insignificant effects. In the short term, Bitcoin market value and mining difficulty show a positive and significant relationship, while other variables, including global primary electricity consumption at several lags, demonstrate a negative and significant relationship. This research provides comprehensive insights into the dynamics of primary electricity consumption influenced by Bitcoin network activities.*

**Keywords: Global Primary Electricity Consumption, Hashrate, Bitcoin Market Value, Miner Difficulty Level, Adjusted Transaction Value, Number of Bitcoin Transactions, VECM.**