ABSTRACT

This study investigates the effect of carbon productivity on firm performance by considering the moderating roles of foreign ownership, board size, and the proportion of independent directors. The data used for this study includes 81 observations, focusing on energy and basic materials companies listed on the Indonesia Stock Exchange for the 2021–2023 period.

Carbon productivity is measured by dividing net revenue by total carbon emissions (Scope 1 and 2), while financial performance is proxied using Tobin's Q as a market-based indicator. The sample was selected using a purposive sampling method, and the data were analyzed using panel regression with a random effect model (REM) approach.

The findings demonstrate a statistically significant U-shaped relationship between carbon productivity and financial performance, indicating that improvements in carbon productivity positively affect financial performance once a certain turning point is exceeded. Conversely, foreign ownership, board size, and the proportion of independent directors do not have a significant moderating effect. Based on these findings, companies are suggested to consistently enhance their carbon productivity beyond the turning point to achieve financial benefits. Future research is encouraged to broaden the scope of sectors or countries studied, explore alternative measurements for carbon productivity, and examine additional moderating or control variables based on relevant literature.

Keywords*: carbon productivity, Tobin's Q, foreign ownership, board of directors, independent directors, energy sector, basic materials sector.*