## *ABSTRACT*

*This study estimates industrial electricity demand in Central Java using a dynamic panel model with a System GMM approach and an Interregional Input-Output Model. The study employs aggregated data from 35 districts and cities in Central Java covering the period from 2010 to 2019. The primary objective is to examine the impact of industrial electricity prices, industrial income, and economic output on industrial electricity demand in Central Java in both short and long run. Additionally, this study also analyses the economic impact of industrial electricity demand in Central Java for the entire Indonesian economy.*

*The results of this study indicate that in the short run, industrial electricity prices, industrial income, and economic output significantly affect industrial electricity demand in Central Java, with all variables elasticities is inelastic. Conversely, in the long run, industrial electricity prices and economic output maintain significant inelastic response, whereas industrial income exhibits a significantly elastic response. This study also revealed that changes in industrial electricity demand in Central Java have the most substantial economic impact in scenario 3. In this scenario, Central Java and East Kalimantan were the most affected provinces. The electricity sector in Central Java and the coal and lignite mining, oil, gas, and geothermal mining sectors in East Kalimantan were the most heavily impacted sectors.*

*The findings of this research contribute significantly to policymakers by aiding the planning and management of industrial electricity demand in Central Java. They also provide insights to facilitating considerations for intersector cooperation with other regions. Future research should explore additional investment and labour impact models to further detail these findings.*



***Keywords:*** *Industrial Electricity Demand, System GMM, Interregional Input-Output*