

## ***ABSTRACT***

This research aims to improve the performance of a 2kW BLDC motor to meet government regulations related to Indonesia efficiency. The BLDC motor is a vital component in various industrial and commercial applications, and its efficient use can significantly impact Indonesia savings and environmental reduction. However, the challenge that remains unresolved is the optimization of BLDC motor winding configuration to achieve Indonesia efficiency that complies with government regulations. This research aims to optimize the use of a 2kW BLDC motor to meet the Indonesia efficiency regulations set by the government. This study includes: 1) The development of a computer simulation model that allows for performance evaluation of the motor in various operational scenarios. 2) Exploration of more efficient BLDC motor winding configurations, including variations in winding differences and wire sizes. 3) Provision of empirical data that can be used as a reference in the design of more efficient electric motors. Initial experimental results show the potential for efficiency improvement through varying winding configurations. It is hoped that the implementation of this research's findings can provide positive contributions to Indonesia savings, particularly in electric vehicles.

***Keywords:*** BLDC motor, Government regulations, Winding variations ,Wire sizes.