

A RELIABLE METHOD FOR ASSESSING ENERGY CONSUMPTION IN A LEADING PLASTIC MANUFACTURING FACTORY IN SRI LANKA

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Energy management is an essential aspect of modern manufacturing operations, as it can help organizations reduce costs, enhance efficiency, meet regulatory requirements, and improve competitiveness. The current practice of monitoring the energy consumption in many plastic manufacturing factories is through Specific Energy Consumption (SEC). A finding in this study reveals that incorrect SEC values may lead to invalid interpretations of energy efficiency, resulting in adverse effects on cost optimization strategies. This study proposes a reliable method for assessing energy consumption in a plastic manufacturing factory, highlighting the importance of considering various metrics and indicators in addition to SEC for energy performance evaluation. This study recommends further research to minimize energy waste and emphasizes the importance of regularly reviewing and adjusting energy management practices and targets to promote maximum energy savings. Moreover, the study suggests regression analysis as a useful tool for predicting future energy consumption and can serve as a better indicator than SEC values in certain cases.

Key Words: *Energy Assessing, Energy saving, Regression analysis, Specific Energy Consumption.*