

Maturity Assessment of Industries on the Net Zero Emission Journey

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Abstract

The concept of achieving Net Zero Carbon Emissions (NCE) gained global prominence through the Paris Agreement, a landmark accord reached during the United Nations Climate Change Conference (COP21). The agreement emphasizes the need to mitigate the impact of greenhouse gas (GHG) emissions, underscoring the importance of achieving net-zero emissions. In this state, the amount of GHGs released into the atmosphere is balanced by the amount removed. Achieving net zero emissions requires reducing emissions and enhancing energy efficiency. This research paper examines the efforts of Indian industries in addressing climate change, presenting a case study that assesses their progress toward achieving net-zero emissions. The study supports the company's journey towards a zero-carbon future, offering insights into its current maturity or readiness levels. A machine learning model has been developed through data analytics to assess this readiness, focusing on three critical components: awareness and engagement, knowledge and capabilities, and physical actions taken by industries. The model's findings reveal that most companies in the study are at a beginner level in terms of their readiness to achieve net-zero emissions. This suggests that while there is an increasing recognition of the importance of transitioning to a zero-carbon economy, significant gaps remain in the knowledge, capabilities, and actions necessary to achieve this goal. The paper underscores the need for enhanced efforts in these areas to accelerate the transition toward net zero. It provides a framework for industries that depend upon their current readiness to Net Zero to assess and improve their readiness. By highlighting the current state of preparedness among Indian industries, this study aims to contribute to the broader discourse on climate action and the global pursuit of sustainable development.

Keywords

Net Zero, Climate Change, Data Analytics, Machine Learning, Readiness Model.