

Climate-Aware Machine Learning Forecasting for Energy Stock Indices in the New Era

Chirag Jain^{*}, Renu Ghosh and Jyotsna Singh

Netaji Subhas University of Technology (NSUT), Delhi

Abstract: Global concern for climate change prompted extensive studies exploring its diverse effects on life and the economy. This study investigated the impact of climate change on the energy stock indices of two major energy consumers, i.e., the US and India, with data from 2013 to 2022. Using XGBoost for forecasting, results revealed that climate change-related risks can effectively predict energy stock returns and suggest integrating climate considerations in energy modelling.

Keywords: Energy Index Forecasting, Climate Change, Machine Learning

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^{*}Corresponding author. Email:chiragjain2211@gmail.com