

Forecasting Global Carbon Dioxide Emission Using Auto-Regressive with eXogenous Input and Evolutionary Product Unit Neural Network Models

Global climate change due to carbon dioxide emission is an essential international concern that primarily attributed to fossil fuels. In this study, two types of Artificial Neural Networks (ANN) models are developed for forecasting the world CO_2 emission based on the global energy consumption. The two models are the Neural Network Auto-Regressive with eXogenous (ARX) Input model named as (NNARX) and the Evolutionary Product Unit Neural Network (EPUNN) model. Forecasting carbon dioxide emission is based on the global oil, natural gas, coal, and primary energy consumption attributes. A data set of the carbon dioxide measured between 1980 and 2010 were used in our experiments for training and testing the developed models. Both models will be evaluated and compared using different evaluation metrics. The results are promising.

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