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Computing Carbon Credits using ML
CCPPM Model

This study is based on the research paper "Carbon Credits Price Prediction Model (CCPPM)". The study focuses on using machine learning techniques to predict carbon credit prices based on different factors.

Carbon Credits:

Carbon credit is a form of incentive given to companies or organizations that invest in projects that avoid, reduce, or remove emissions. One Carbon Credit is equivalent to the avoidance, reduction, or removal of one metric tonne of Carbon Dioxide (CO_2) or its equivalent GHGs (Global Greenhouse Gases).

Core problem:

It is difficult to accurately compute carbon credit prices. This production model aims to accurately compute carbon credit prices, essential for sustainable practices in compacting climate change. It is also important for traders, regulators, and policymakers to make informed decisions.

Its evaluation depends upon many factors like economic activity, energy prices, weather, policy, adjustments, and market expectations.

Proposed solution:

The carbon credit price production model (CCPPM) is introduced as a solution that uses machine learning to enhance the accuracy and reliability of predictions. It analyses real-time, data and environmental policies to understand the market. It checks the influence of policies by the change in data points and analyses according to it.

Methodology:

1. Data pre-processing: it uses a data set that focuses on price, countries, and greenhouse gas levels (GHGs).

2. Algorithm: it uses a machine learning algorithm named random forest regression with Python. This algorithm, computes, real-time data based on factors like current price, CO_2 emission level, new regulations, and the selected country.

3. Evaluations: model efficiency is measured by using mean absolute error MAE. The lower the MAE is higher the accuracy of the model.

4. Results: the model showed a low means absolute error of 0.0115. Demonstrating higher accuracy in predicting carbon credit prices.

Notable findings:

Extremely low mean absolute error shows how much the model is reliable and its emphasis on various factors like CO_2 emission levels and country-specified regulations makes the model adaptive for real-world scenarios.

Implementation:

[CCPPM Model Code](#)