

Discussing Climate Change information through Climate Portal

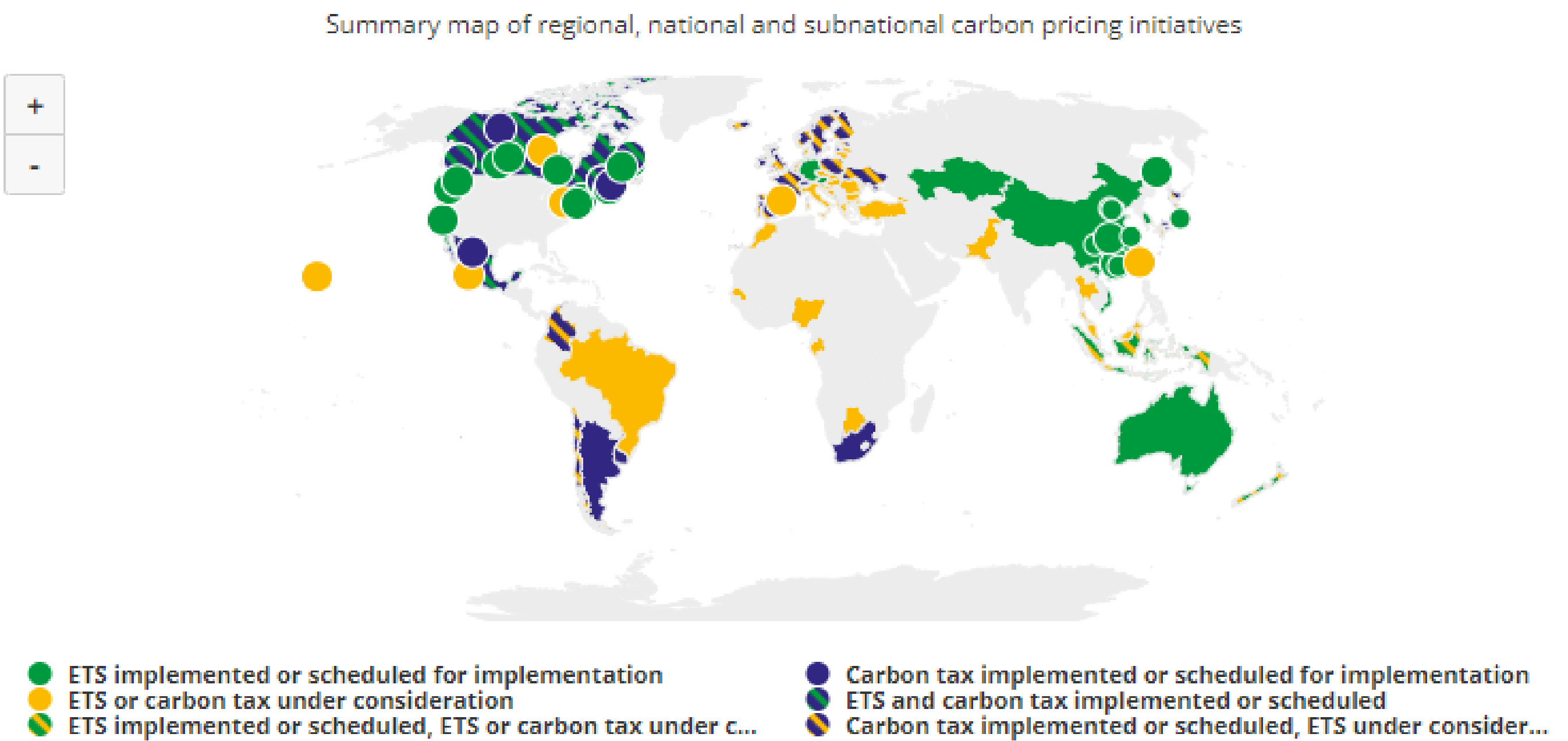
Two classifiers including CatBoost and XGBoost, are contrasted using climate change dataset. While CatBoost, which is known to handle the categorical features, produced the competitive results. Also, XGBoost has demonstrated stron accuracy.

Overview

The information that is being examined is obtained from WDI and includes a variety of the international indicators. It has required preprocessing, which included renaming some of the columns to make them more understandable. The investigation revealed that both numerical and non numerical data were present. After eliminating the non numeric value, data normalization is accomplished satisfactorily. The linear function was used as an example of how to apply a model fitting strategy. The dataset demonstrates its intricacy, necessitating certain preprocessing and analysis techniques in order to extract valuable insights.

Introduction

- The Climate Knowledge portal is essential source for in-depth data analysis when concerns about the growth of climate changing (See Figure 1).
- This project makes customized analysis possible, enabling scholars to focus on certain regions and countries. The users can use their tools to visualize and analysis the trends based on available data.
- The portal offers supplementary materials like papers and maps, which promote a comprehensive comprehension of worldwide climate concerns. Keep yourself updated and participate in the conversation while making sure that current, accurate data is used to gain practical understanding of how our environment is developing.



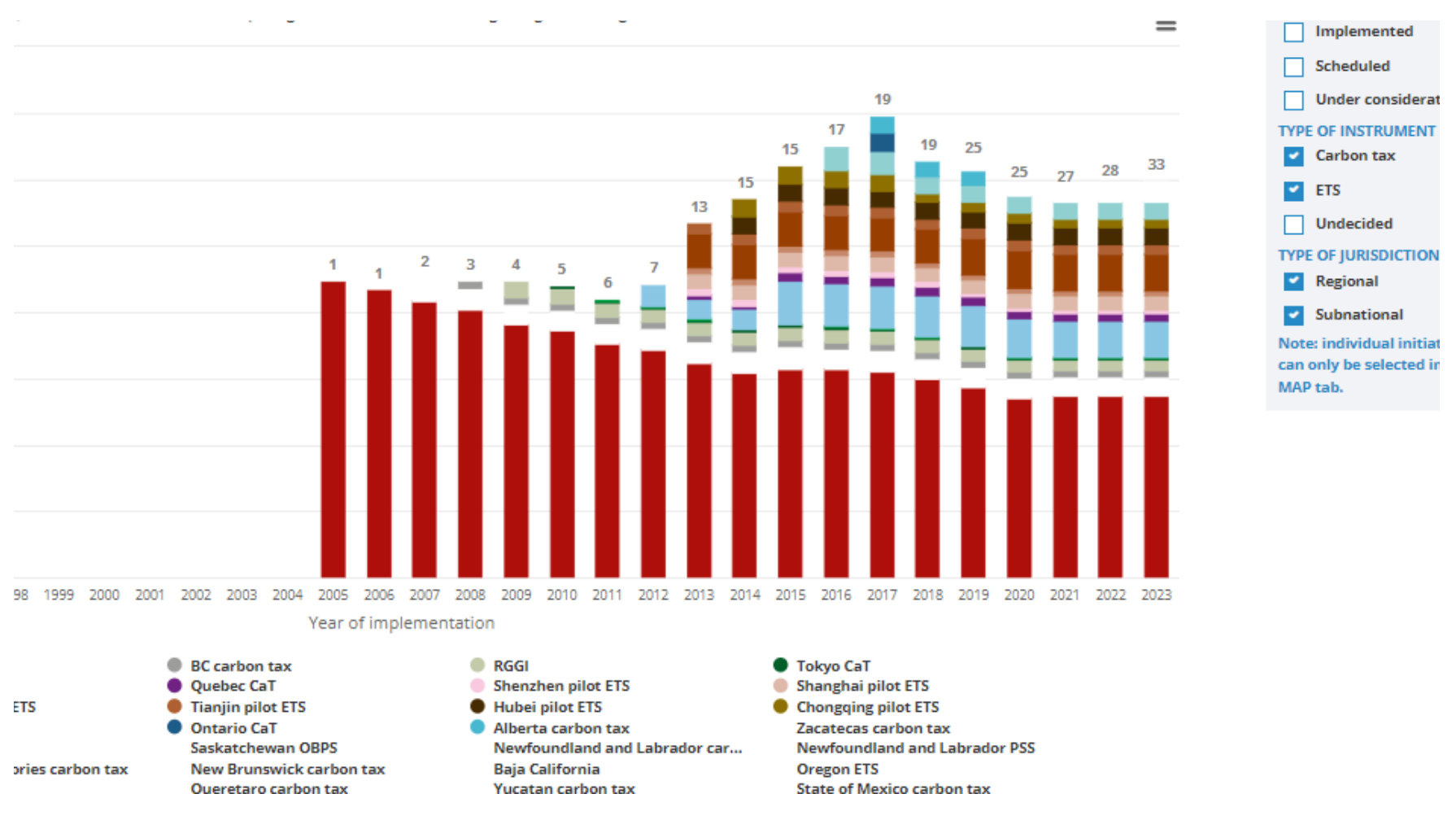
Objective

- *Use Clustering to find significant trends in normalized climate data, improving comprehension of indicators unique to individual countries.
- *To develop model trends using curve fitting to facilitate accurate comparison for decision making approaches for climate changes

Aim

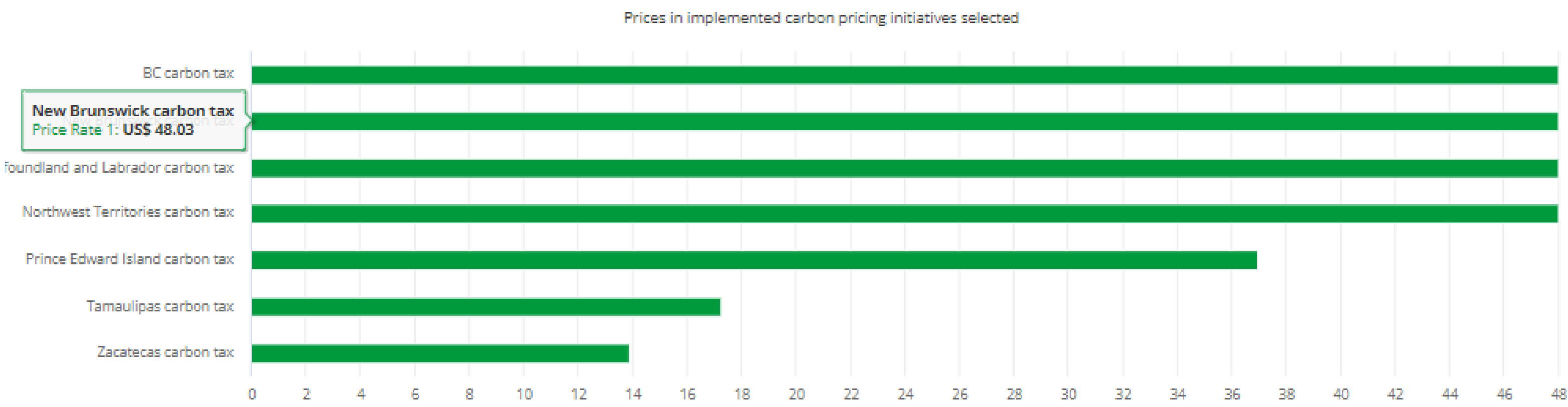
To examine climate data from World Bank, use normalization to find clusters and use curve fitting to the model trends to make meaningful forecasts and comparisons.

Results



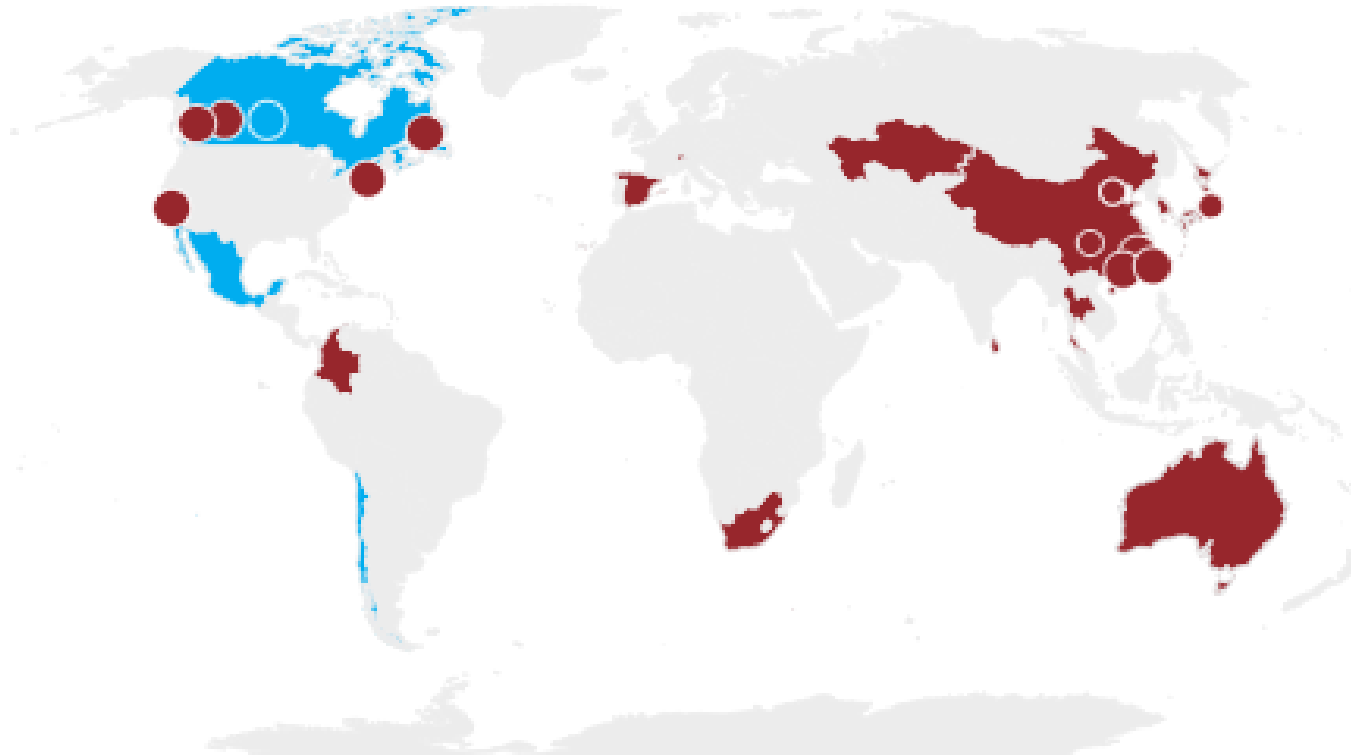
Analysis

In 2023, 73 worldwide initiatives related to carbon pricing are being implemented, which is a remarkable development. These projects, which span 33 jurisdictions and 39 national, aim to tackle 11.67 GtCO₂, which accounts for a noteworthy 23% of greenhouse gas emissions. This is significant step in the direction of all encompassing the climate action.



Prices are not necessarily comparable between carbon pricing initiatives because of differences in the number of sectors covered and allocation methods applied, specific exemptions, and different compensation methods. Due to the dynamic approach to continuously improve data quality and fluctuating exchange rates, data of different years may not always be comparable and could be amended following new information from official government sources.

Summary map of regional, national and subnational carbon crediting mechanisms

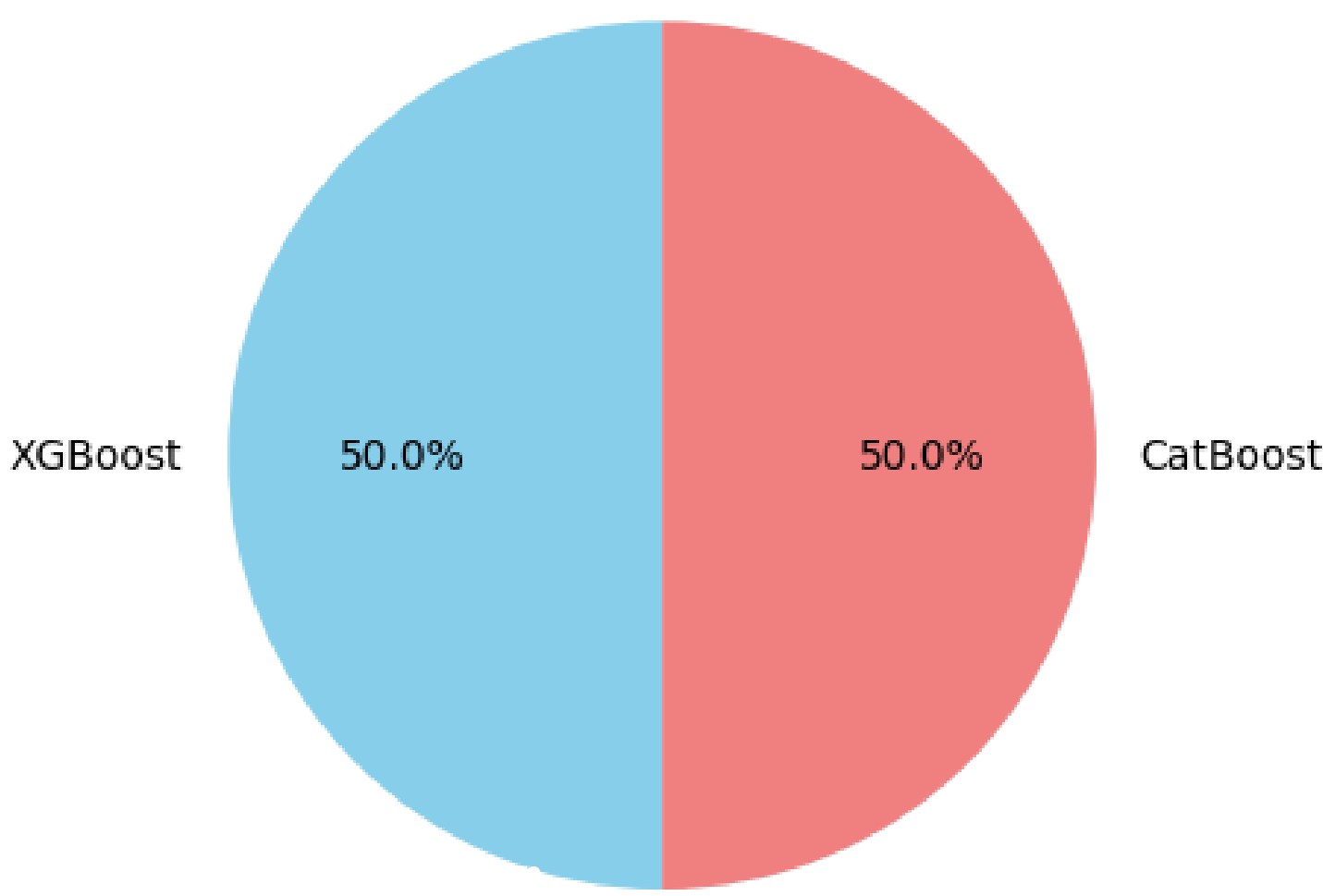


KEY STATISTICS FOR 2023 ON
REGIONAL, NATIONAL AND
SUBNATIONAL CARBON CREDITING
MECHANISMS

XGBoost Classifier Accuracy: 0.9450
CatBoost Classifier Accuracy: 0.9450

Algorithms: CatBoost Classifier and XGBoost Classifier

Accuracy Comparison: XGBoost vs. CatBoost



Conclusion

Finally, the dataset comparison between CatBoost and XGBoost classifier demonstrates their different performance. This implementation has shown the competitive accuracy and other implementation features are shown the strong accuracy. However, in situations when categorical data are present, CatBoost's automated approach may prove useful. In the end, practitioners ought to rank such classifiers according to their distinct advantages and task-specific flexibility.

Reference list

- <https://data.worldbank.org/topic/climate-change>
- <https://www.climatewatchdata.org/>
- <http://wbcsdpublications.org/project/climate-and-energy/>
- <http://caringforclimate.org/workstreams/carbon-pricing/>
- <https://www.wemeanbusinesscoalition.org/action/price-carbon-initiatives>

