ANALYSIS OF SPATIOTEMPORAL CHANGES IN CARBON DIOXIDE CONCENTRATION AND INFLUENCING FACTORS IN ZHEJIANG PROVINCE BASED ON MULTI-SOURCE DATA

Bachelor's thesis

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ABSTRACT

The relevance of the research lies in the fact that global warming has become an important issue of common concern to the world, and China, as one of the largest carbon emitters, is committed to finding ways and paths to achieve carbon neutrality through energy conservation and emission reduction. As an open coastal province in China with a developed economy, Zhejiang Province also ranks among the top provinces in China in terms of carbon emissions. In recent years, Zhejiang Province has introduced a number of low-carbon policies and plans to reach the carbon peak in 2030 and achieve carbon neutrality in 2060.

The current direction of research is to analyze the change trend and distribution of total carbon emissions in Zhejiang Province in the past through statistical data, analyze the influence of different factors on total carbon emissions through STIRPAT model factor decomposition, and finally simply predict the change of carbon emissions in Zhejiang Province to 2035.

The object of this study is the change of total carbon emission in Zhejiang Province, and **the subject of the study** is the historical change of the total carbon emission in Zhejiang Province, and the analysis and prediction of influencing factors.

The purpose of this identification work is to analyze the historical change of carbon emissions in the study area, analyze the influencing factors and forecast.. To achieve the purpose of the study, the following **tasks** were set:

1.Calculate the total carbon emission of Zhejiang Province over the past years and analyze the historical change and distribution of carbon emission in Zhejiang Province through statistical yearbook data.

2.Build STIRPAT model and analyze the influence of different factors on carbon emission through factor decomposition.

3.Predict the future trend of carbon emission in Zhejiang Province through mathematical model and scenario simulation.

Structure of the work. This paper consists of three parts: introduction, five chapters and conclusion. The work is 59 pages long and consists of 13 drawings and 13 tables. The list of references includes 51 sources.