# Homogeneous $CO_2$ Emission using Fuzzy Clustering

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## ABSTRACT

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Carbon dioxide level in the atmosphere had reached its historic peak in the mid of 2014 due to anthropogenic activities .The primary cause of the climate change is because of fossil fuel based energy production. Even though, there were several policies made by the Indian Government in collaborations with the scientific community, the problem still prevails. To mitigate the carbon dioxide emissions, it is necessary to formulate intensification policies that would be implemented at the regional level rather than deriving national level policies. National level inventories are not accurate as like as the inventories made in regional level. To support the robust policy's, this paper deals with an application of fuzzy clustering algorithm to identify homogeneous $CO_2$ emission regions in India. Major findings of this study were (1) Maharashtra stands at first position in a single class as largest carbon dioxide emitter due to usage of fossil fuels in energy production (2) States like Gujarat and West Bengal hold second position. Similarly Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Rajasthan and Madhya Pradesh were in the top third position in country energy based carbon dioxide emissions.

*Keywords:* Carbon dioxide emissions; Fuzzy Clustering; Fossil fuel.

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