

Sathish Kumar <sathishk0711@gmail.com>

## International Conference on Computational Intelligence and Smart Communication : Submission (43) has been created.

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Tue, Oct 1, 2024 at 11:55 AM

Hello,

The following submission has been created.

Track Name: CISC2024

Paper ID: 43

Paper Title: A HP-ETDM Model for Achieving Carbon Neutrality in Industrial Energy

## Abstract:

In the development of green energy, Energy companies are increasingly concerned about carbon neutrality needs to move forward urgently to achieve the goal of carbon neutrality; the objective of this study is to examine the path to carbon neutrality in the energy industry. Qualitative methods combined with quantitative methods is employed in this study in order to provide methodological innovations in the existing literature on the transition of the energy industry to being carbon neutral. Providing pragmatic examples of typical energy industry and enterprise case studies through large-scale case corpus studies is of vital importance.

Energy industry systems are considered in this study. This study compiled authoritative case data on China's carbon neutral energy policy the transition into a carbon neutral energy industry, and then extracts word frequencies using keyword searches within the corpus for quantitative analysis using the corpus. Afterward, the Concordance function of the corpus is used to conduct qualitative analysis. To obtain the factors that influence the transformation of the industrial energy into a carbon neutral economy, the AHP model was built using the ETDM method, followed by further qualitative analysis, using the ETDM method. The influence and priority of those factors were further calculated. Using Corpus keywords and concordances, three types of typical cases were analyzed for validity and practicality. Actual cases were used to test the previously identified model as a result of the research, Management has the strongest relationship with other factors among those five factors influencing carbon neutralization; With a R+C value of 0.823. The negative values for Technology and Management indicate that they are both influenced by others. It can be concluded from analyzing these real-life cases that trading of carbon emissions, innovation, and digital revolution can contribute to the carbon neutrality of energy enterprises.

Created on: Tue, 01 Oct 2024 06:25:34 GMT

Last Modified: Tue, 01 Oct 2024 06:25:34 GMT

## Authors:

- sathishk0711@gmail.com (Primary)
- sampath.vankadara62@gmail.com
- nagendlajoshna79@gmail.com
- madhulikadas eee@cbit.ac.in
- y.rambabu.mtech@gmail.com

Primary Subject Area: Control and Automation

Secondary Subject Areas: Not Entered

Submission Files:

202356.doc (629 Kb, Tue, 01 Oct 2024 06:25:24 GMT)

Submission Questions Response: Not Entered

10/1/24, 12:07 PM

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