Review of: "Quantifying the Environmental Impact: A Comparative Analysis of Consensus Algorithms in Blockchain for Carbon Footprint Reduction and Mitigating Climate Change"

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Potential competing interests: No potential competing interests to declare.

1- The idea of blockchain deployment to reduce the carbon footprint and to mitigate climate change is unclear, needing more emphasis in the introduction and the abstract.2-The writing style of this scientific paper, reminiscent of a narrative rather than a scholarly argument, requires refinement to better align with the conventions of scientific discourse. 3- "Traditional methods have encountered formidable challenges. The complexity of global environmental issues, coupled with the need for widespread cooperation and comprehensive strategies, " The idea needs more clarification; please specify what challenges and strategies you're discussing.3- In the paper, you assumed that the only feature of blockchain serving the purpose of carbon footprint reduction is the consensus protocols; this needs to be argued and explained.4- Also, explain why you chose only PoW and PoS protocols.5-Unclear idea:"This background sets the stage for a deeper exploration of how blockchain, specifically its consensus algorithms, can contribute to the crucial task of mitigating the impacts of climate change on a global scale." I don't find representing the blockchain protocols sufficient to deduce its contribution and impact on climate change.6- It would be better if you presented the carbon footprint process in more detail and in figures.7-This transition needs to be justified:"Carbon Footprint = (Number of Transactions × (Total TransactionsTotal Energy)) × Carbon Intensity Factor"8-Instead of providing numerical examples, it would be more interesting and efficient to calculate the footprint with different values and study its variations (Number of Transactions, Energy per Transaction, Total Energy, Carbon Intensity Factor..) and depict the results on a graph.9-Calculating the carbon footprint must be done on real-world data.10- No characteristic of consensus protocols has been deployed to perform the carbon footprint calculations.