Review Comments

1.On page 1, in the *Introduction* section, the paragraph structure is rather disorganized. I recommend reorganizing the content in a more logical order: begin with the global energy context, then discuss challenges in wind energy, followed by a review of forecasting methods, and conclude with the novelty and contributions of this study. Additionally, the UK and US wind power data can be merged into a single paragraph under a unified theme such as "Global Wind Energy Development Background."

2.On page 1, in the *Introduction* section, lines 36–37, the sentence "Projections indicate that by 2050, the growing demand for goods and services will require a 2.5-fold increase in electricity generation" lacks clarity. It is unclear whether this projection is global or region-specific. Moreover, the reference period for the "2.5-fold increase" is not specified. I suggest revising this sentence to clarify both the geographical scope and baseline year.

3.On page 2, in the *Introduction* section, U.S. wind power statistics are cited without clear sources or corresponding years. For example, in lines 43–44, the sentence "By 2050, the goal is for renewable energy to account for three-quarters of the UK's total electricity generation" should be supported by a specific data source. I recommend adding accurate references for all statistical statements.

4.In the *Introduction* section, there are repeated mentions of models such as ARMA, ARMA-ANN, ANN, and SVM, but the narrative lacks coherence and does not explain the unique strengths or evolution of these models. I suggest restructuring the literature according to methodological categories—e.g., traditional time series models, machine learning, deep learning, and hybrid models—while summarizing their advantages, limitations, and the motivation for adopting a hybrid deep learning + optimization + interpretability approach in the current study.

5. In the *Introduction* section, paragraphs 3–5 include excessive citation stacking without smooth transitions or critical evaluation. For example, the sentence "The electricity market, together with the gas market and different real-world applications..." includes too many bracketed references with inconsistent formatting. I recommend unifying the citation format and adding transitional commentary. Furthermore, a summary table of prior studies—highlighting their methods, datasets, and key findings—would enhance clarity.

6.On page 3, in the final paragraph of the *Introduction*, the authors suddenly mention the doctoral dissertation, which is not clearly connected to the main study. If the dissertation is directly relevant, please briefly explain its relation to the present work. Otherwise, consider removing this part or moving it to the author contribution statement.

7.In the *Literature Review* section, although a wide range of methods is discussed, the structure lacks thematic clarity. Many models are listed sequentially without comparing their strengths or applications. I recommend grouping the literature by methodology—e.g., traditional machine learning (SVR, RF, kNN), deep learning (LSTM, Bi-GRU), optimization (PSO, GA, ALO), and hybrid/ensemble methods—and summarizing key insights and gaps in each group.

8. In the *Literature Review* section, the review is largely descriptive and lacks in-depth comparative analysis. I suggest adding a table comparing different forecasting models in terms of datasets used, performance metrics, and application contexts to enhance analytical depth and reader comprehension.

9. In the *Literature Review* section, lines 219–221, the sentence "Research in [?] proposes a cooperative wind power forecasting method..." contains an incomplete citation. Please replace "[?]" with the correct reference number and verify that all references are properly formatted and listed in the bibliography.

10.In the *Proposed Methodology* section, the NSRDB dataset is introduced, which is primarily associated with solar energy. However, details of the dataset(s) used for wind power forecasting are missing. I recommend specifying the data source, time span, features, and preprocessing steps for wind datasets. If three datasets were used for validation, please explain how they capture different climatic or geographic conditions, or justify the dataset selection.

11. In the *Proposed Methodology* section, the description of the validation process is vague. It is unclear how the datasets were selected or whether they reflect different operating conditions. Additionally, evaluation metrics such as RMSE or MAPE are not explained in detail. I suggest elaborating on the validation strategy and performance metrics, and considering a more rigorous cross-validation approach to enhance the robustness of the results.