Dear reviewers:

Thank you very much for your constructive comments on our manuscript entitled "Sustainable Finance Meets FinTech: Amplifying Green Credit's Benefits for Banks" (Manuscript ID: sustainability-3156489). We found your feedback to be extremely valuable and instrumental in helping us refine and improve our paper, as well as providing significant direction for our future research. We have carefully addressed all the comments and made the necessary revisions, which we hope will meet with your approval. The revised sections of the manuscript are marked in red. In this response letter, we have also highlighted in red any sections of the manuscript that correspond to the changes mentioned. Below, we provide a detailed summary of the main revisions made in the manuscript and our responses to each of your comments:

Comment 1: Although the paper mentions the different perspectives of the existing literature on the impact of green credit, the in-depth analysis and critical discussion of this literature seems to be insufficient, and the literature review section could be further extended to compare and analyze the different perspectives in more depth.

Response 1: Thank you for your valuable feedback. We agree with your comment and have significantly extended the literature review section to provide a more in-depth analysis and critical discussion of existing studies. Specifically, we have added a new subsection titled "Literature Discussion" at the end of the literature review (Section 2.4). In this subsection, we critically examine the limitations of prior research, focusing on two main points: First, the lack of consensus on the impact of green credit on bank performance; and second, the tendency of most studies to examine these relationships in isolation, without considering the potential role of FinTech in modulating the impact of green credit.

Moreover, we have highlighted that while some studies have explored the relationship between FinTech and green credit—suggesting that FinTech can facilitate green credit growth—these studies differ from our work in a crucial way. Their focus is on the impact of FinTech on the green credit business itself, whereas our study investigates how FinTech and green credit together influence bank performance, with a particular emphasis on their synergistic effects. This distinction is crucial, as it underscores the novel contribution of our research in offering insights for banks on developing and implementing strategies for FinTech and green credit integration.

For more detailed information, please refer to Page 5, lines 211-227.

Comment 2: The hypotheses formulated in the paper, although closely related to the research topic, could be further strengthened in terms of the logic of the hypotheses' development, e.g. a more detailed explanation of why FinTech enhances the positive impact of green credit could be provided.

Response 2: Thank you for your insightful feedback. We agree that the logical development of our hypotheses could be further strengthened. In response, we have revised the hypotheses section to provide a more detailed explanation of how green credit

positively affects bank performance and how FinTech enhances this positive impact. To further clarify and reinforce our arguments, we have also included a logic diagram (Figure 1) that visually represents the relationships between the key variables, specifically illustrating the role of FinTech in amplifying the effects of green credit and its mechanisms. These revisions can be found in the revised manuscript in Section 2.5, lines 228-383.

We believe these changes have significantly strengthened the logical foundation of our hypotheses and have made the connection between FinTech, green credit, and bank performance more explicit and compelling.

Comment 3: The findings of the empirical analysis are explained in the results section of the thesis, but the specific implications of these findings for different types of banks (e.g., state-owned banks, joint-stock banks, etc.) could be further explored, as well as the possible long-term implications.

Response 3: Thank you for your valuable feedback. We appreciate the suggestion to further explore the implications of our findings for different types of banks and to consider the potential long-term effects.

In response to your comment, we have refined the discussion in Section 5.1, where we initially addressed the heterogeneous effects of FinTech on different types of banks, including national banks (covering both state-owned and joint-stock banks), city commercial banks, and rural commercial banks. This section now presents these implications more explicitly. Additionally, we have added a new paragraph at the end of Section 5.1 that discusses the potential long-term implications of FinTech on green credit businesses across different bank types. Specifically, we anticipate that the positive impact of FinTech on green credit performance will become more pronounced across all bank types in the long term. The revised and added text can be found on page 22, lines 792-799:

"In summary, the impact of FinTech on green credit businesses has reached a saturation point for national commercial banks, while city commercial banks continue to experience positive effects. However, rural commercial banks have not yet seen a significant impact. In the long term, as green credit businesses evolve, the demand for FinTech is expected to grow. This will help address the saturation of FinTech efficiency in national commercial banks, and rural commercial banks are likely to adopt FinTech more extensively. Consequently, the positive impact of FinTech on green credit busi-nesses is expected to become significant across all types of banks."

We believe these enhancements provide a more comprehensive understanding of the differential impacts of FinTech on various bank types and their potential future developments.

Comment 4: Although graphs and charts are mentioned in the text (e.g., Figures 1 and 2), they are not included in the reviewed text. Charts and visualizations are important tools to help readers understand complex data, and it should be ensured that clear charts and adequate explanations are included in the final manuscript.

Response 4: Thank you for your valuable feedback. We also believe that charts and

visualizations are crucial tools for helping readers understand complex data. We would like to clarify that Figures 1 and 2 were indeed included in the original submission. Additionally, we have added two new figures to further enrich our analysis: Figure 1 illustrates the mechanism analysis framework, and Figure 3 displays the changes in green credit ratios across different categories of banks. All five figures can be found on pages 8, 14, 14, 17, and 26, respectively. We have also provided detailed explanations to enhance the understanding of the data presented. We hope these revisions meet your expectations and contribute to the clarity of the manuscript.

Comment 5: The year of data analysis in the article is 2022. Will there be any other changes to these data in the past two years? Does the authors also need to add the latest literature data support.

Response 5: Thank you for raising this concern. The latest data used in our study is from 2022, and the full data for 2024 will not be available until at least 2025. For 2023, significant gaps remain in the availability of green credit data, particularly for small and medium-sized banks. While most large banks have disclosed their data, many smaller banks have not, primarily because they are not publicly listed and have slower data disclosure practices. Including only the banks with available 2023 data would create an imbalance between large and small banks, potentially affecting the reliability of our regression analysis. We believe there have been no significant changes in the banking environment in 2023 that would substantially impact our results. Therefore, we plan to incorporate the 2023 data into future research once it is more complete. The current dataset from 2022 still provides a robust foundation for our analysis, and we are confident that our findings remain relevant and accurate.

Comment 6: The article selected data from 127 Chinese commercial banks, with a large sample size but mainly concentrated in China, which may limit the generalizability of the research conclusions. It is suggested that future research consider incorporating data from more countries for comparative analysis.

Response 6: Thank you for your insightful comment. We agree that while the core principles of green credit and FinTech are broadly applicable across different countries, the findings of this study could still offer valuable insights for their application in other nations. However, we recognize that the effects may vary due to differences in economic development, financial regulation, and cultural factors. In light of your suggestion, we have included a discussion on this limitation in the Conclusion section and recommended that future research consider incorporating data from additional countries for comparative analysis. The newly added content can be found on page 28, lines 1015-1020:

"While the core principles of green credit and FinTech are generally consistent across countries, the findings of this study may provide valuable guidance for their development in other nations. However, due to variations in economic development, financial regulation, and cultural factors, the effects of green credit and FinTech may differ between countries, requiring further research to explore the influence of these country-specific

factors."

Comment 7: The introduction should clearly and concisely explain the background of the research, the gaps in existing literature, and the contribution and importance of this study. The author's language description in this section is too verbose, please simplify the sentences. And in the later paragraphs of the introduction, the author seems to repeat the conclusion. When writing the article, please do not confuse the introduction and conclusion.

Response 7: Thank you for your valuable feedback. We agree with your comment. Therefore, we have revised the introduction to make it more concise and focused. The background, gaps in the existing literature, and the contributions of our study are now clearly articulated. We have also removed any content that overlaps with the conclusion. Furthermore, we have synthesized the key points more clearly to ensure that readers can quickly grasp the main issues discussed. The revised introduction can be found on page 1-3.

Comment 8: The image lacks clarity and aesthetics, and a three line table should be used as much as possible to ensure the beauty of the layout. Please revise them.

Response 8: Thank you for your valuable suggestion. We have revised all the tables throughout the manuscript to adopt a three-line table format, ensuring a more aesthetically pleasing layout. Specifically, for Tables 1 and 2, we have retained necessary horizontal lines to separate FinTech keywords and categories, as these lines are crucial for maintaining clarity. Similarly, for Tables 8 to 10, which present the grouped regression results, we have preserved horizontal lines to effectively distinguish between different grouping variables or dependent variables. These revisions balance clarity with visual appeal.

Comment 9: For the specific measurement indicators that affect the three mechanisms of FinTech influences, further detailed explanations can be provided to help readers better understand the basis for model construction.

Response 9: Thank you for your valuable comment. We agree that clear and detailed explanations of the measurement indicators are crucial for understanding the model construction. In response, we have provided a thorough explanation of the empirical model design related to the three mechanisms of FinTech influence in Section 3.1, lines 402-433. Furthermore, in Section 3.2, we have strengthened our discussion of the indicators used in the mechanism analysis (see lines 535-549). These sections now offer a more comprehensive rationale for the selection of indicators and their relevance to the mechanisms under study. We believe these revisions have significantly enhanced the clarity and robustness of our model.

Additionally, we have made several improvements to enhance the overall quality of our manuscript. These improvements include the addition of new references, as well as

the further strengthening of the literature review, model specification, variable selection, empirical results analysis, and policy implications to more robustly support our findings and arguments.

Lastly, we sincerely hope that this revised manuscript addresses all your comments and suggestions. We genuinely appreciate the reviewers' thorough work and constructive feedback. We hope that the revisions we have made will meet with your approval. Once again, thank you very much for your insightful comments and valuable suggestions.