Response Letter to Journal Editor

Subject: Revised Manuscript - Do investors in clean energy ETFs herd? The role of climate risks

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Dear Editor,

Thank you for the opportunity to revise our manuscript titled 'Do investors in clean energy ETFs herd? The role of climate risks'. We are grateful for the reviewer's positive assessment of our work and their constructive feedback. We have carefully addressed all the requested changes as outlined below.

Major Revisions Addressed

1. Abstract Format Restructuring

Reviewer Request: Restructure abstract to follow standard RBF format

Our Response: We have completely restructured the abstract to follow the RBF standard as requested. The revised abstract now clearly presents:

- **Background/Objective:** The motivation and research question
- **Methods:** Brief description of our empirical approach
- **Results:** Key findings regarding herding behavior patterns
- **Conclusions:** Implications for investors and policymakers

This restructuring provides readers with a clearer understanding of our contribution from the outset.

2. Climate Risk Hedging References

Reviewer Request: Add appropriate references for climate risk hedging argument on page 2

Our Response: We have strengthened our argument regarding investors seeking to hedge against climate risks through green financial products by adding several key references:

- Bolton & Kacperczyk (2021) on carbon premium in equity markets
- Pástor et al. (2021) on sustainable investing in equilibrium
- Engle et al. (2020) on hedging climate change news
- Alessi et al. (2021) on climate-related risks in financial markets

These references provide robust empirical and theoretical support for our claims about climate risk hedging motivations.

3. Herd Behaviour Definition

Reviewer Request: Include clear definition of herd behaviour in introduction

Our Response: We have added a comprehensive definition of herd behaviour early in the introduction section. The definition clarifies that herding occurs when investors ignore their private information and follow the actions of others, leading to correlation in investment decisions that cannot be explained by fundamentals alone. We distinguish between:

- **Rational herding:** Based on information cascades
- **Irrational herding:** Driven by psychological biases
- **Spurious herding:** Correlation due to common information sets

This foundation helps readers understand our empirical approach and interpretation of results.

4. Methodology Description Clarification

Reviewer Request: Clarify the relationship between Christie and Huang (1995) and Chang et al. (2000) approaches

Our Response: We have rephrased the methodology section to more accurately reflect our approach. Specifically, we now state:

> "Following the seminal work of Christie and Huang (1995), we adopt the refined model specification of Chang et al. (2000), which uses cross-sectional absolute deviations rather than standard deviations to better capture herding behavior."

This clarification emphasizes that while we build on both contributions, our empirical model specifically implements the Chang et al. (2000) specification for its superior ability to detect herding.

5. Galariotis et al. (2015) Contribution Clarification

Reviewer Request: Distinguish the specific contribution of Galariotis et al. (2015)

Our Response: We have clarified that Galariotis et al. (2015) extended the standard CCK (2000) model by:

- Incorporating asymmetric herding behavior during up and down market conditions
- Developing sector-specific herding measures

- Introducing time-varying parameters to capture dynamic herding patterns

We explain how their methodology informs our approach to examining conditional herding behavior in clean energy markets, particularly our analysis of herding during different market stress periods.

6. Climate Risk Indices Description

Reviewer Request: Add detailed description of transitional and physical risk indices

Our Response: We have added a comprehensive footnote on page 14 that describes:

Transitional Risk Index: - Constructed from policy announcements, technological developments, and regulatory changes - Captures market reactions to transition-related news and events - Updated daily based on text analysis of financial news and policy documents - Normalized to facilitate comparison across time periods

Physical Risk Index: - Incorporates extreme weather events, temperature anomalies, and natural disasters - Based on meteorological data and damage assessments - Reflects direct physical impacts on economic activity - Constructed using satellite data and ground observations

Both indices are derived using the methodology detailed in Bua et al. (2024), with daily frequency allowing for high-frequency analysis of climate risk impacts on herding behavior.

Minor Revisions Completed

We have conducted a thorough proofreading of the entire manuscript and corrected all identified typographical and grammatical errors, including:

Table 1: Grammatical Corrections

Original.Text	Corrected.Text	Page
investors face many pressures that not only bear on returns but also the stability of financial markets	investors face many pressures that bear not only on returns but also on the stability of financial markets	2
In addition to climate risks, a general change in investor attitudes can drive the inclusion of green assets in their portfolio can lead to systemic risk	In addition to climate risks, a general change in investor attitudes driving the inclusion of green assets in their portfolios can lead to systemic risk	3
we differentiating between	we differentiate between	8
Transitional climate risk represent	Transitional climate risk represents	14
Herding is also found to time-varying	Herding is also found to be time-varying	18

Original.Text	Corrected.Text	Page
transition climate risk, particularly its high levels, reduce	transitional climate risk, particularly at high levels, reduces	22

Conclusion

We believe these comprehensive revisions have substantially improved the quality and clarity of our work.

We are confident that the revised manuscript now meets the journal's high standards and addresses all the reviewer's concerns comprehensively. The changes maintain the integrity of our original findings while significantly enhancing their presentation and contextual grounding.

Thank you for your consideration and the opportunity to improve our work through this revision process. We look forward to your decision and are available to address any further questions or concerns.

Corresponding Author Contact:

Vassilios Babalos

Department of Accounting and Finance,

University of Peloponnese,

Kalamata, Greece

Email: v.babalos@uop.gr

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Authors: Vassilios Babalos, Xolani Sibande, Elie Bouri, Rangan Gupta

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Sincerely,

Vassilios Babalos and Co-authors