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ORIGINAL PAPER

Exploring investment mechanisms and long-term resilience in the face of climate change

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Abstract:
The increasing frequency and severity of climate change-related events pose significant risks to global economies, financial markets, and investment frameworks. This paper explores the mechanisms through which investment strategies can enhance long-term economic resilience in the face of climate change. By examining sustainable finance, impact investing, and climate risk assessment, we analyze how investors can mitigate risks while capitalizing on emerging opportunities in a low-carbon economy.
A critical aspect of this study is the role of financial markets in directing capital toward climate-resilient infrastructure and sustainable technologies. We assess the effectiveness of green bonds, carbon pricing mechanisms, and climate-aligned investment portfolios in fostering resilience. Additionally, we explore regulatory frameworks and international climate finance initiatives that incentivize long-term sustainability.
Furthermore, we highlight the growing influence of institutional investors, central banks, and government policies in shaping climate-aligned financial ecosystems. The integration of Environmental, Social, and Governance (ESG) criteria into mainstream investment decisions is found to play a crucial role in strengthening financial system stability.
Our research underscores the urgency for investors to transition toward proactive, climate-aware investment strategies. By leveraging innovative financial tools and regulatory support, market participants can enhance resilience while fostering economic growth in a rapidly changing climate landscape. The findings contribute to the discourse on sustainable finance and provide actionable insights for policymakers, investors, and financial institutions navigating the evolving climate challenge.
Keywords: *climate finance, ESG investing, sustainable finance, green bonds, climate risk, financial markets.*
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1. Introduction

The growing intensity and frequency of climate change-related events have transformed environmental risks from peripheral concerns into core financial and economic challenges. In recent years, these systemic risks have begun to shape investment landscapes and macroeconomic policy frameworks globally, with far-reaching implications for long-term economic stability, portfolio performance, and corporate strategy. Climate change, once regarded primarily as an environmental issue, is now fundamentally understood as a critical financial risk, requiring urgent, forward-looking responses across capital markets, regulatory frameworks, and institutional investment practices.

The concept of long-term resilience refers to the capacity of economic systems and financial structures to anticipate, absorb, and adapt to climate-related disruptions while maintaining functionality and fostering sustainable growth. This notion encompasses not only the physical infrastructure needed to withstand environmental shocks but also the adaptability of financial markets, corporate strategies, and public policies to transition toward low-carbon, sustainable futures. Similarly, investment mechanisms refer to the structured channels through which financial capital is allocated, ranging from green bonds and sustainability-linked loans to ESG-integrated portfolios and impact investing strategies, toward outcomes that align financial returns with positive environmental and social performance.

The academic and policy discourse around sustainable finance has grown significantly in recent years, highlighting a paradigmatic shift in how risk, return, and responsibility are conceptualized in modern investment theory. Notably, Cao et al. (2025) emphasize the intersection of green technologies and smart urban development, introducing a hybrid decision-making system for assessing sustainability in the context of digital twin innovations. This work exemplifies how integrated technological and financial models can reinforce climate-resilient infrastructure in the age of digital transformation. Similarly, Spulbar et al., (2024) explore the synergistic interplay between digitalization and ESG strategies, underlining the transformative potential of corporate behavior in driving regional sustainable development. These studies collectively underscore the critical nexus of innovation, governance, and capital flows in fostering adaptive and resilient economies.

The momentum behind sustainable and climate-aligned investment is also reflected in the evolving corporate finance literature. Spulbar et al., (2023) present a conceptual framework for understanding how strategic financial decision-making can catalyze sustainable business practices. They argue that financial structuring, beyond traditional profitability metrics, must now integrate environmental risk assessment and long-term sustainability into corporate governance models. These insights resonate with broader findings in the field that suggest financial decision-making is no longer isolated from planetary boundaries and social equity but must engage with them directly and transparently.

Beyond the corporate level, financial markets and regulatory institutions play a decisive role in accelerating the transition to resilient economic systems. The emergence of green bonds, climate-aligned portfolios, and ESG-driven investment products has introduced new mechanisms for channeling capital into sustainable initiatives. Simultaneously, central banks, such as the European Central Bank and the Bank of England, have begun incorporating climate stress testing and scenario analysis into their

financial stability assessments signaling a structural reorientation of monetary and prudential policy. Recent reports by the Network for Greening the Financial System (NGFS) further support this trajectory, advocating for harmonized climate disclosure standards and the integration of transition risks into asset valuation models.

Despite these advances, challenges persist. The field still grapples with greenwashing risks, inconsistent ESG metrics, and fragmented regulatory landscapes, particularly across emerging markets and developing economies. Moreover, global climate finance flows remain insufficient to meet the mitigation and adaptation targets outlined in the Paris Agreement, necessitating enhanced cooperation between public and private actors. In this context, impact investing and blended finance are emerging as critical tools to bridge investment gaps while managing risk-adjusted returns in high-impact sectors such as renewable energy, climate-smart agriculture, and sustainable urbanization.

Against this backdrop, the present study explores how contemporary investment strategies and financial innovations can enhance long-term economic resilience in the face of climate change. By examining the interplay between policy, finance, and corporate behavior, this paper seeks to contribute to the expanding body of knowledge in sustainable finance, offering both a conceptual and applied lens on how capital allocation decisions can be optimized for climate resilience. The central research inquiry is twofold: (1) How can investment mechanisms serve as levers for systemic adaptation in an era of climatic uncertainty? and (2) What regulatory and market-based frameworks can support this transition while preserving financial stability and fostering inclusive growth?

In addressing these questions, the paper draws upon a growing multidisciplinary literature spanning economics, finance, environmental policy, and innovation studies. It aligns with current global efforts, such as the EU Sustainable Finance Action Plan, the UN Principles for Responsible Investment (UN PRI), and the Glasgow Financial Alliance for Net Zero (GFANZ), all of which aim to embed climate considerations at the heart of financial decision-making. The overarching objective is to advance a model of investment that is not only financially sound but also ecologically responsible and socially inclusive, recognizing that resilience is no longer a passive outcome, but an active, strategic imperative.

2. Climate change and economic vulnerability

Climate change is increasingly recognized not merely as an ecological challenge, but as a central driver of economic vulnerability across global, national, and corporate landscapes. Rising greenhouse gas concentrations and the resulting systemic shifts, such as extreme weather events, chronic temperature increases, and sea-level rise, have profound implications for investment risk, infrastructure durability, and the long-term stability of financial markets. Robert Pindyck (2021) framed climate change as an "uncertain outcome with irreversible investment consequences," arguing that the economic stakes involved justify preemptive, risk-informed policy and capital allocation. This framing situates climate resilience not just within adaptation, but as a core feature of responsible economic planning.

At the macroeconomic level, climate-related shocks impose both direct financial losses, such as damaged assets and disrupted supply chains, and indirect effects, including diminished productivity, displaced populations, and lower labor force participation. Financial markets have become attuned to these realities through the development of climate stress-testing scenarios and transition-risk analytics. Yet, persistent barriers such

as incomplete disclosure standards, greenwashing, and regulatory fragmentation continue to limit investor understanding of climate risks. Within emerging markets, additional constraints, political risk, limited access to climate finance, and infrastructure deficits exacerbate economic vulnerability, highlighting unequal capacities to adapt and recover.

Technological innovation, especially in renewable energy, smart infrastructure, and digitalization, is widely regarded as the cornerstone of climate resilience. Recent studies have emphasized that artificial intelligence (AI) is playing a pivotal yet complex role in accelerating the energy transition. In particular, Tian et al. (2024) employ a non-linear autoregressive distributed lag model to explore the asymmetric impact of AI deployment and climate policy uncertainty on renewable energy expansion in China. Their findings reveal that positive AI innovation's impact on renewables is distinct from its downturn effects, while climate policy uncertainty similarly exhibits asymmetric influences, suggesting that declines in regulatory clarity significantly dampen the adoption of renewables more than anticipated benefits catalyze it. Such nuance underscores the importance of understanding dynamic investor responses, conditional on technological optimism or pessimism, to effectively tailor policy interventions.

Empirical research by Zhao et al. (2024) confirms that, under certain regulatory regimes and grid structures, AI significantly accelerates the deployment of renewables, though its efficacy remains contingent upon supportive policy frameworks and infrastructure readiness. Taken together, these findings illustrate that climate resilience through technology is not automatic, it requires coherent policy signals and robust regulatory frameworks to unlock benefits.

This interplay between innovation and risk highlights a critical juncture: as energy systems become more digitalized, investment dynamics must account for both opportunity and exposure. Financial markets increasingly reflect this reality: green bond issuance surged to over US $600 billion in 2024, even as scholars caution against inflated valuations fueled by inconsistent disclosure . Central banks and financial regulatory bodies are deploying climate-risk scenarios to assess institutional resilience to extreme weather and policy shocks, acknowledging that such risks are financially material.

In synthesis, climate-related economic vulnerability arises at the intersection of environmental stressors, market behaviors, technological innovation, and regulatory environments. AI's asymmetric influence on renewable energy adoption, especially when filtered through climate policy uncertainty, exemplifies the multilayered nature of these vulnerabilities. For investors and policymakers alike, this complexity demands strategic foresight not only in embracing AI and digital innovation, but also in designing durable policy frameworks that minimize downside risks and catalyze sustainable transformation.

3. Investment mechanisms for climate resilience

The transition to a climate-resilient global economy necessitates sophisticated investment mechanisms that not only compensate for environmental risks but also leverage sustainable opportunities to foster long-term economic stability. At the forefront of these are green bonds, carbon pricing systems, sustainable finance frameworks, impact investing, and blended finance, each playing a crucial role in mobilizing capital toward climate-resilient infrastructure and technologies.

Green bonds have emerged as a cornerstone of climate-aligned finance. Defined as fixed-income instruments earmarked for environmentally beneficial projects, they conform to the Green Bond Principles set by the International Capital Market Association.Evidence indicates that green bonds reduce issuers' cost of capital, bolster

investor confidence, and can closely align with carbon emission reductions . Notably, issuers of green bonds often possess higher ESG ratings and exhibit improved control over CO_2 emissions, signaling that these instruments serve both environmental and economic objectives.

However, effectiveness hinges on transparency and robust disclosure to avoid greenwashing. The OECD emphasizes the critical role of mandatory climate risk disclosure in scaling these instruments effectively, while BIS research suggests that stricter emission targets drive stronger green bond market growth and potentially real emissions reductions.

Carbon pricing mechanisms, including carbon taxes and cap-and-trade systems, complement green bonds by embedding the cost of emissions into market signals. Research confirms a clear channel: higher carbon prices shift the economics of energy-intensive sectors, prompting growing issuance of green bonds to fund decarbonization projects . An integrated approach combining carbon pricing with targeted green bond issuance thus enhances incentives for firms to invest in sustainable solutions.

A foundational theoretical perspective is provided by sustainable finance frameworks that describe how financial systems transmit change to the real economy. These mechanisms typically involve reducing the cost of capital for green investments, increasing liquidity for sustainable projects, and encouraging corporate behavior shifts toward sustainability.

Billio et al. (2024) developed a multi-tiered conceptual model that bridges corporate finance, capital markets, and societal ecosystems, highlighting the role of financial institutions in steering climate outcomes.

Impact investing extends beyond environmental risk mitigation to intentionally support projects with measurable social and environmental returns. With over US $1 trillion in assets committed globally, its growth is significant, though still small relative to the capital needed to meet global challenges . Impact investments frequently target clean energy, sustainable agriculture, and basic services in emerging markets areas that are underserved by traditional capital markets. While debates around performance versus ESG persist, the distinct goal orientation of impact investing helps align capital allocation with both returns and development objectives.

Blended finance further expands the toolbox by combining concessional public or philanthropic funds with commercial capital. Designed to de-risk investments in emerging markets, blended finance channels private resources into large-scale sustainable initiatives aligned with SDGs and climate targets. This approach is increasingly emphasized by multilateral institutions and COP initiatives as a strategy to close finance gaps in vulnerable countries .

Lastly, transition finance represents a rapidly evolving approach targeting emissions-intensive sectors that cannot currently decarbonize immediately. This includes instruments like sustainability-linked bonds, which tie financing costs to issuers' performance on agreed climate metrics and feature contractual penalties for non-compliance. Transition plans requiring transparent decarbonization roadmaps, abiding by frameworks like the Triple A (Ambition, Action, Accountability), are gaining traction as they make financial flows contingent on credible climate transition progress

Collectively, these mechanisms operate within an ecosystem where policy certainty, regulatory oversight, and standardized disclosure frameworks (such as those promoted by UN-PRI, NGFS, and the EU) are essential to scale and effectiveness. Without robust governance, instruments like green bonds and sustainability-linked finance risk

becoming symbolic tools lacking real-world impact. Conversely, when embedded in strong frameworks, these instruments can marshal capital at the scale and speed required to build climate-resilient economies.

4. Regulatory frameworks and institutional actors

The growing complexities of climate change and its cascading effects on financial stability have elevated the importance of robust regulatory frameworks and institutional oversight. These frameworks serve as the foundational architecture for integrating sustainability into the global financial system. As financial markets increasingly grapple with environmental and transition risks, the role of regulation is no longer peripheral but central to driving long-term climate resilience and aligning investment practices with ecological imperatives.

One of the most significant evolutions in recent years is the emergence of sustainability-oriented taxonomies. These are formal classification systems designed to define which economic activities can be considered environmentally sustainable. Such taxonomies aim to provide clarity and consistency, facilitating informed investment decisions while protecting against the proliferation of greenwashing. By establishing objective criteria, taxonomies enhance transparency, comparability, and the integrity of sustainable financial products. They also create a common language across market actors, regulators, and policymakers, ensuring that capital allocation is genuinely aligned with long-term environmental goals (European Commission (2020)).

Complementary to classification systems are disclosure regulations that require financial institutions and asset managers to communicate how sustainability risks are integrated into investment strategies. These frameworks demand that participants in the financial ecosystem identify, measure, and report the exposure of their portfolios to climate-related risks. This, in turn, enhances market discipline by equipping investors with the information necessary to reward sustainability and penalize risk-laden behavior. High-quality disclosure serves as the linchpin between regulatory guidance and market behavior.

Institutional actors such as central banks and financial supervisory authorities have taken increasingly proactive roles in embedding climate considerations into financial oversight. These bodies are responsible for ensuring that climate risks, both physical and transitional, are integrated into the macroprudential policy agenda. The use of climate stress testing, scenario analysis, and forward-looking risk assessments is becoming standard practice among major central banks. These tools enable regulators to identify vulnerabilities within the financial system under various climate futures, allowing preemptive policy responses.

The involvement of central banks in climate finance is not without controversy. Critics argue that monetary authorities must remain focused on core mandates such as price stability and financial soundness. Nevertheless, there is a growing consensus that climate change poses a material threat to the economy and the financial sector, justifying its inclusion within the prudential oversight function. Central banks are not necessarily tasked with leading the energy transition, but rather with ensuring that the financial system is resilient to the systemic risks it entails (Bank of England, 2024).

At the national level, public policy plays a complementary role in strengthening the regulatory environment. Governments can incentivize low-carbon investments through carbon pricing, green public procurement, fiscal incentives, and transition subsidies. Furthermore, by developing sovereign green bond frameworks and just transition mechanisms, states can direct capital flows toward sectors and communities most affected

by decarbonization efforts. These instruments reflect a recognition that the transition to a sustainable economy must also be equitable, socially inclusive, and regionally balanced.

In developing economies, the challenge is compounded by limited institutional capacity and structural barriers to investment. Regulatory innovation in these contexts requires international cooperation, technical assistance, and blended finance models that reduce risk for private investors while supporting sustainable infrastructure development. It is in this context that institutional banking and financial management expertise become essential for building climate-resilient financial architectures. As Spulbăr (2008) emphasized, the efficiency and credibility of banking management are central to maintaining trust and continuity in times of systemic transformation. This insight is particularly pertinent as financial systems are increasingly called upon to act not only as intermediaries of capital but also as catalysts of sustainable development.

Ultimately, regulatory frameworks and institutional actors must work in concert to shape a future-oriented, climate-aware financial system. This involves a delicate balance between promoting innovation, managing risk, and ensuring that the structural transformation toward sustainability is both feasible and resilient. The success of this transition depends on aligning regulatory incentives, harmonizing standards across jurisdictions, and reinforcing the institutional capacity of financial actors to respond to an evolving climate landscape.

5. Governance, policy, and the role of institutional actors

Institutional actors, such as pension funds, insurance companies, sovereign wealth funds, development banks, and multinational corporations, play a decisive role in shaping the global response to climate change through financial governance and capital allocation. These institutions are uniquely positioned to influence climate resilience due to their scale, long-term investment horizons, and regulatory connectivity. Their decisions about risk exposure, capital flow, and corporate engagement can either hasten systemic transformation or reinforce entrenched vulnerabilities (Kolasa et al., 2024).

Effective governance in the context of climate-aligned finance necessitates integrating financial returns with systemic resilience. Institutional investors have increasingly integrated Environmental, Social, and Governance (ESG) criteria into their decision-making processes, driven not only by reputational concerns but also by evidence that climate risks are financially material. Kolasa et al. (2024) demonstrate how shareholder engagement, proxy voting, and active capital reallocation by institutional investors can drive corporate decarbonization strategies, embedding climate resilience within broader financial value chains.

Scenario analysis and climate risk modeling have become critical tools for institutional actors. Roncalli et al. (2020) propose the carbon-beta model, which enables portfolio managers to quantify exposure to carbon-intensive assets and adjust portfolios without significantly sacrificing returns. This quantitative approach (now increasingly integrated into regulatory reporting and climate stress testing) allows institutions to align their investment decisions with global climate goals while mitigating the risk of stranded assets.

A central pillar of climate-aligned capital deployment involves financial instruments such as green bonds, sustainability-linked bonds, and transition finance products. Alhamis (2025) observes that integrating sustainability criteria into investment portfolios enhances long-term risk-adjusted performance while signaling commitment to climate objectives. These tools allow investors to reward climate-aligned behavior,

leveraging pricing mechanisms, liquidity access, and capital costs to shift corporate activity.

Institutional participation has also propelled the growth of impact investing. Roor and Maas (2024) note that what was once a niche form of investment has evolved into a mainstream asset class, capable of generating measurable environmental and social returns alongside financial performance. However, as they caution, the field still grapples with establishing robust, standardized impact measurement frameworks to ensure that stated goals align with actual outcomes.

Policy frameworks further constrain and guide institutional action. Regulatory regimes such as the EU Sustainable Finance Disclosure Regulation (SFDR), the EU Taxonomy, and the Task Force on Climate-Related Financial Disclosures (TCFD) standardize ESG reporting and climate risk disclosures. These regulations serve dual purposes: enhancing transparency and aligning financial flows with decarbonization pathways. Institutions are increasingly expected not only to comply but to actively shape climate-aligned financial ecosystem through their governance and investment behavior (UNEP FI, 2025).

The concept of fiduciary duty is undergoing a fundamental shift. Once narrowly defined as maximizing shareholder value, fiduciary responsibility now encompasses the obligation to manage climate risk and contribute to long-term system stability. UNEP FI (2025) emphasizes that institutional actors must operationalize sustainability through governance reforms, target setting, and industry collaboration, reflecting this broader interpretation of fiduciary duty.

Beyond portfolio management, institutional actors are engaging in carbon pricing dialogue, internal carbon accounting, and climate policy advocacy. Kenyon et al. (2022) introduce the "carbon equivalence principle," which calls for embedding carbon flows into financial disclosures to internalize emissions externalities and drive sustainable design in project finance.

Finally, the alignment between public policy and private capital is critical for unlocking climate finance in emerging economies. Development banks and multilateral institutions leverage blended finance to de-risk sustainable infrastructure projects and attract private capital. Without such mechanisms, climate-aligned finance risks remaining concentrated in developed markets, exacerbating global inequities in resilience (Kolasa et al., 2024; Roor & Maas, 2024).

6. Conclusions

This study has examined the critical intersection of climate change, financial markets, and investment strategies, emphasizing the transformative potential of climate-aligned capital flows in enhancing long-term economic resilience. As the global climate crisis intensifies, so too does the imperative to realign financial systems with the objectives of sustainability, risk mitigation, and adaptive capacity. The integration of Environmental, Social, and Governance (ESG) criteria, along with innovations in green finance, has begun to reshape traditional investment paradigms, moving beyond short-term return maximization toward broader systemic stability.

Our analysis underscores that the economic consequences of climate change are no longer hypothetical. They manifest through rising costs from extreme weather events, disruptions to global value chains, declining asset values in high-emission sectors, and mounting risks to public and private infrastructure. Investment mechanisms such as green bonds, sustainability-linked loans, and blended finance have emerged as key tools for

managing these risks, enabling investors to reallocate capital toward climate-resilient sectors and technologies. The increasing depth and maturity of these financial instruments reflect a growing recognition of the need to integrate sustainability into the core of financial decision-making.

Equally important is the role of regulatory frameworks and policy innovation in supporting climate-aligned finance. Taxonomies, disclosure requirements, and scenario-based stress testing create the institutional infrastructure necessary to promote transparency, standardization, and investor confidence. Central banks and financial supervisors are now more actively embedding climate risk into regulatory oversight, acknowledging that unmanaged environmental risks can undermine financial system integrity. However, achieving effective regulatory alignment across jurisdictions remains a complex challenge, particularly for emerging and developing economies where institutional capacity may be limited.

The research has also shown that institutional actors are at the forefront of climate financial governance. Large asset managers, sovereign funds, and development banks are not only reallocating portfolios but also using their influence to advocate for systemic change through proxy voting, engagement strategies, and climate-risk modeling. These actors increasingly interpret fiduciary duty to include the responsibility to manage long-term sustainability risks, reflecting a paradigm shift in capital stewardship.

Moreover, the integration of advanced technologies such as artificial intelligence (particularly in renewable energy optimization and climate risk forecasting) has added another layer of strategic sophistication. Yet, as studies have pointed out, these technologies must be deployed with caution, given their own energy demands and dependence on supportive policy environments.

Perhaps the most urgent insight from this study is the narrowing window for action. Climate change is accelerating faster than many economic models had projected, and without decisive shifts in investment behavior, global economies risk locking in unsustainable development pathways. Aligning capital markets with the goals of the Paris Agreement and the Sustainable Development Goals is not simply a matter of ethics, it is a matter of financial prudence, strategic foresight, and global security.

The findings of this paper suggest a clear roadmap: investors, institutions, and policymakers must work in concert to deploy innovative financial tools, implement coherent regulations, and foster accountability. Only through this integrated approach can market actors truly mitigate risk while contributing to a more stable, inclusive, and resilient economic future. The transition to climate-aware investment is not an option, it is a strategic imperative for long-term sustainability and prosperity.

References:

Alhamis, I. (2025). Theoretical Frameworks for Integrating Sustainability Factors into Institutional Investment Decision-Making. arXiv preprint arXiv:2502.13148.

Billio, M., Casarin, R., Costola, M., & Veggente, V. (2024). Learning from experts: Energy efficiency in residential buildings. Energy Economics, 136, 107650.

Cao, J., Spulbar, C., Eti, S., Horobet, A., Yüksel, S., & Dinçer, H. (2025). Innovative approaches to green digital twin technologies of sustainable smart cities using a novel hybrid decision-making system. Journal of Innovation & Knowledge, 10(1), 100651.

Kenyon, C., Berrahoui, M., & Macrina, A. (2022). Transparency principle for carbon emissions drives sustainable finance. arXiv preprint arXiv:2202.07689.

Kolasa, T., & Sautner, Z. (2024). Institutional investors and the fight against climate change. Corporate Governance. An International Review, Epub-ahead.

Pindyck, R. S. (2021). What we know and don't know about climate change, and implications for policy. Environmental and Energy Policy and the Economy, 2(1), 4-43.

Roor, A., & Maas, K. (2024). Do impact investors live up to their promise? A systematic literature review on (im) proving investments' impacts. Business Strategy and the Environment, 33(4), 3707-3732.

Roncalli, T., Guenedal, T. L., Lepetit, F., Roncalli, T., & Sekine, T. (2020). Measuring and managing carbon risk in investment portfolios. arXiv preprint arXiv:2008.13198.

Spulbar, C. (2008). Banking Management. Sitech, Craiova, Romania.

Spulbar, L. F., Mitrache, D. M., & Mitrache, L. A. (2024). Digitalization And ESG Synergies. Transforming Regional Development Through Corporate Actions. Annals of Constantin Brancusi University of Targu-Jiu. Economy Series/Annals of the Constantin Brâncuși University of Targu-Jiu Economy Series, (6).

Spulbar, L. F., & Mitrache, L. A. (2023). The Strategic Role Of Corporate Finance In Sustainable Business Practices. A Conceptual Framework. Annals-Economy Series, 6, 330-334.

Tian, L., Li, X., Lee, C. W., & Spulbar, C. (2024). Investigating the asymmetric impact of artificial intelligence on renewable energy under climate policy uncertainty. Energy Economics, 137, 107809.

Zhang, X., Khan, K., Shao, X., Oprean-Stan, C., & Zhang, Q. (2024). The rising role of artificial intelligence in renewable energy development in China. Energy Economics, 132, 107489.

*** - Bank of England (2024) - https://www.bankofengland.co.uk/quarterly-bulletin/2024/2024/measuring-climate-related-financial-risks-using-scenario-analysis

*** - European Commission (2020) - https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

*** - https://time.com/6109448/world-economy-climate-change/

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