

Bridging the gap in islamic finance for climate action: A bibliometric analysis

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Abstract

Climate change is one of the most pressing challenges in contemporary global development, necessitating large-scale, sustained financing for both mitigation and adaptation. In this context, Islamic finance, grounded in the principles of justice, transparency, and sustainability, offers a distinctive normative and operational framework to support climate action. However, the contribution of Islamic finance to climate-related financing remains relatively limited, constrained by structural and operational barriers at both national and global levels, including regulatory fragmentation, limited standardization, and underdeveloped green financial instruments. This study employs bibliometric analysis to map the development of research connecting Islamic finance with global climate action. The data were drawn from 73 peer-reviewed documents retrieved from the Scopus database spanning the period 2000 to early 2026. The analysis identified five major thematic clusters and three distinct phases of research development, namely a scientific and environmental foundation phase (2014–2017), a socio-religious integration phase (2018–2020), and a strategic financial policy phase (2021–present). Academic attention has progressively shifted from environmental pollution measurement toward Islamic financial instruments as climate solutions, yet a significant gap remains in integrating these instruments with technical environmental science literature.

Keywords: Islamic Finance, Climate Change, Environmental Pollution, Climate Solutions

Abstrak

Perubahan iklim merupakan salah satu tantangan paling mendesak dalam pembangunan global kontemporer, yang membutuhkan pembiayaan skala besar dan berkelanjutan untuk mitigasi dan adaptasi. Dalam konteks keuangan Islam yang berlandaskan prinsip keadilan, transparansi, dan keberlanjutan, kerangka kerja normatif dan operasional yang khas menawarkan dukungan kesadaran dalam perubahan iklim. Namun, kontribusi keuangan Islam terhadap pembiayaan terkait iklim masih relatif terbatas, dibatasi oleh hambatan struktural dan operasional baik di tingkat nasional maupun global, termasuk regulasi, standarisasi, dan instrumen keuangan hijau yang belum berkembang. Penelitian ini menggunakan analisis bibliometrik untuk memetakan perkembangan penelitian yang menghubungkan keuangan Islam dengan aksi iklim global. Data penelitian bersumber dari 73 dokumen ilmiah yang diperoleh dari basis data Scopus dalam rentang waktu 2000 hingga awal 2026. Hasil analisis menemukan lima kelompok tema utama serta tiga fase perkembangan penelitian, yaitu fase fondasi sains dan lingkungan (2014–2017), fase integrasi nilai sosial dan keagamaan (2018–2020), dan fase kebijakan keuangan strategis (2021–sekarang). Perhatian akademik telah beralih dari pengukuran polusi lingkungan menuju instrumen keuangan Islam sebagai solusi iklim, namun masih terdapat kesenjangan signifikan dalam mengintegrasikan instrumen tersebut dengan literatur ilmu lingkungan teknis.

Kata kunci: Keuangan Islam, Perubahan Iklim, Polusi Lingkungan, Solusi Iklim

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1. Introduction

Climate change presents one of the most pressing challenges in contemporary global development, with far-reaching economic, social, and environmental consequences. The Intergovernmental Panel on Climate Change (IPCC) warns that limiting global warming to 1.5°C requires unprecedented investment in clean energy, infrastructure resilience, and sustainable consumption patterns (IPCC, 2018). The current financing gap remains massive: the United Nations estimates that achieving the Sustainable Development Goals (SDGs), particularly those related to climate action, requires between USD 3–5 trillion per year, while climate-related financing needs alone exceed USD 1 trillion per year in developing countries (UNCTAD, 2022; UNEP, 2023). At the same time, the imperative to reduce the carbon footprint associated with financing decisions and facilitate the transition to a low-carbon economy is driving profound transformation within the broader financial sector.

However, substantial gaps remain. CDP's Time to Green Finance report indicates that 49% of financial institutions do not assess the climate impact of their portfolios, underscoring the urgency for companies across all sectors to accelerate emissions mitigation efforts across their supply chains (Manyich et al., 2021). Similarly, the S&P Global Corporate Sustainability Assessment 2022 revealed that while many financial institutions have pledged to achieve net-zero emissions, only slightly more than 20% are actively implementing emissions reduction strategies across their value chains (Laidlaw et al., 2023).

The increasing urgency of climate change and global sustainability challenges has prompted significant transformations across the financial sector. Environmental, Social, and Governance (ESG) criteria have emerged as an integrated framework to align financial systems with the Sustainable Development Goals (SDGs). Parallel to these developments, Islamic finance has gained prominence as an ethical and socially responsible alternative to conventional finance. With principles rooted in Shariah law, such as risk-sharing, prohibition of harmful activities, and the promotion of social justice, Islamic finance appears inherently compatible with ESG ideals.

Despite this conceptual alignment, the practical contribution of Islamic finance to climate action and broader ESG objectives remains underexplored and fragmented. While green sukuk, Islamic microfinance, and socially responsible investment initiatives have gained traction, there is limited empirical and systematic evaluation of their effectiveness and scalability in addressing environmental sustainability and climate-related risks. This study aims to fill the gap by conducting a bibliometric analysis of the existing literature to assess how Islamic finance has contributed to ESG, particularly environmental sustainability and climate action. Rather than following the procedures of a systematic literature review, this bibliometric approach maps intellectual structures, identifies dominant research clusters, and traces the evolutionary trajectory of scholarly output in this field. It also seeks to identify conceptual limitations, research fragmentation, and under-researched areas in the current body of knowledge.

Islamic finance, which is based on the principles of justice (adl), risk-sharing, transparency, and the prohibition of harmful activities, provides a unique framework to support climate action. Instruments such as green sukuk, waqf-based financing, and Islamic microfinance are well-suited to mobilizing capital for sustainable energy, resilient infrastructure, and inclusive community development (Sairally, 2015). For example, Indonesia and Malaysia have pioneered the issuance of green sukuk, channeling Sharia-compliant investments into renewable energy projects and sustainable transportation (World Bank, 2022). This demonstrates the compatibility of Islamic finance with environmental, social, and governance (ESG) goals as well as the SDGs (Mohieldin et al., 2021).

Despite this natural alignment, the sector's contribution remains relatively limited due to various structural and operational barriers. At the national level, limited regulatory frameworks, a lack of standardized green finance taxonomies, and weak integration of Islamic finance into climate policies hinder progress (UNDP, 2020). At the global level, fragmented Sharia governance, inadequate cross-border collaboration, and limited investor awareness impede the scale of impact (Grassa & Gazdar, 2014). Furthermore, many Islamic financial institutions still prioritize conventional profit maximization over broader sustainability goals, reflecting a gap between the theoretical potential of Islamic finance and its practical implementation (Kamla & Alsoufi, 2015). Addressing these barriers through regulatory harmonization, innovation in green financial instruments, and stronger partnerships between Islamic finance stakeholders and global climate finance initiatives will be crucial to maximizing the sector's contribution to climate action and sustainable development.

Although individual studies have explored aspects of green Islamic finance, few have examined the literature systematically using bibliometric and thematic analysis. Prior reviews are either narrative in nature or focused solely on specific instruments like green sukuk. Additionally, existing frameworks rarely incorporate both the maqasid al-shariah and ESG principles in assessing the sustainability performance of Islamic finance. This review addresses the need for an evidence-based understanding of the contributions, gaps, and future potential of Islamic finance in supporting global climate goals. Taken together, these findings highlight a critical disconnect between commitments and implementation in sustainable finance. This gap presents both a challenge and an opportunity for Islamic finance to play a more strategic role in advancing climate-aligned investment, provided that existing institutional and market constraints can be effectively addressed.

2. Research Method

The data analysis used in this research was bibliometric. Donthu et al. (2021) explained that this methodology was the most effective method for examining and analyzing large amounts of scientific data. Furthermore, given the vast number of published articles, this method allowed researchers to obtain the most relevant data for further analysis and to trace the evolution of the subject. The research used data sourced from scopus which was the leading database for scientific publication Álvarez-Llorente et al. (2023),

providing access to a large collection of peer-reviewed articles, conference papers, and book chapters across various disciplines (Machali and Suhendro, 2022). Therefore, Scopus was considered a trusted and reliable source of scientific publications. The search specifically centred on the titles of papers, employing the query: TITLE-ABS-KEY ("islam") OR TITLE-ABS-KEY ("muslim") AND TITLE-ABS-KEY ("green economics") OR TITLE-ABS-KEY ("climate finance") OR TITLE-ABS-KEY ("green finance") OR TITLE-ABS-KEY ("environmental finance") OR TITLE-ABS-KEY ("sustainable finance") OR TITLE-ABS-KEY ("emission") OR TITLE-ABS-KEY ("carbon finance") AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp") OR LIMIT-TO (DOCTYPE , "re")) AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "ENVI") OR LIMIT-TO (SUBJAREA , "ECON") OR LIMIT-TO (SUBJAREA , "ARTS") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "EART") OR LIMIT-TO (SUBJAREA , "MULT") OR LIMIT-TO (SUBJAREA , "PSYC") OR LIMIT-TO (SUBJAREA , "ENER")) .

Initially, this search produced 138 records, but to improve our dataset, the study removed records with ambiguous authors, document types, and editorial material and only included articles in English. This rigorous curation resulted in a final total of 73 papers, which were then included in our bibliometric study as of March 30, 2026. The retrieved processes for this review are available below:

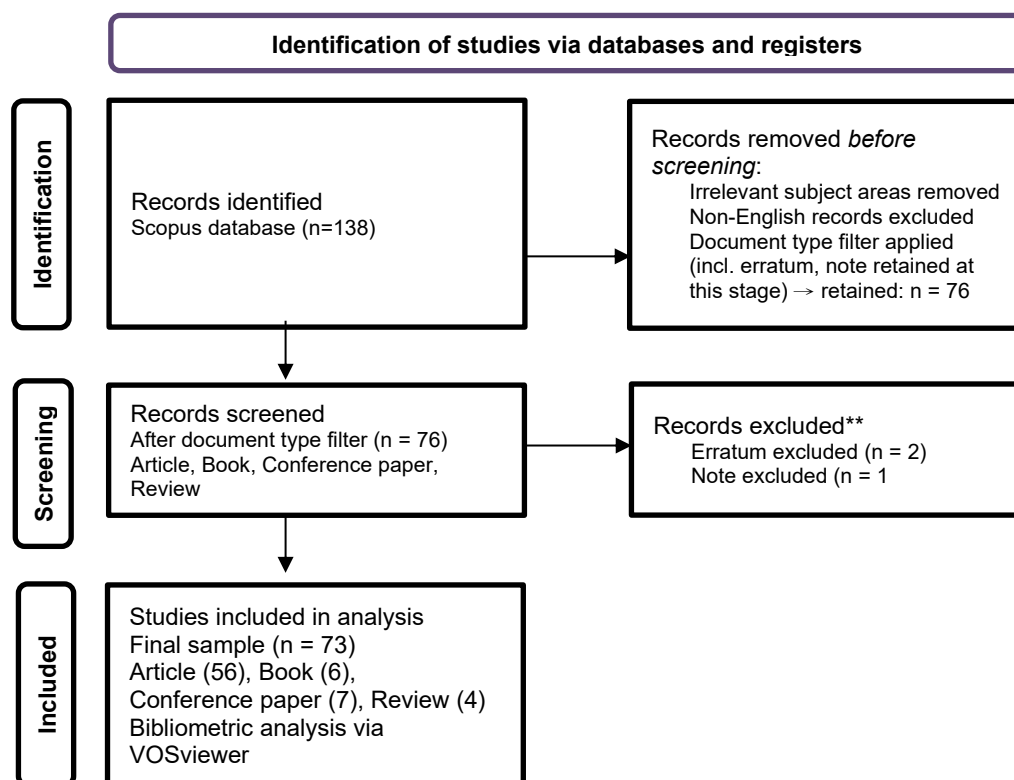


Figure 1. The Data Collection and Retrieved Process

Fig. 1 shows the flow of data collection during the complete steps, along with the query string input to the search. The period relates to a concept of information aging, sometimes referred to as literature obsolescence. Scopus was selected since it is compatible with VOSviewer, which is a software intended for carrying out publication

network analysis. The VOSviewer can exclusively handle data structures downloaded from Scopus, while data from sources such as Web of Science, Dimensions, and PubMed are still difficult to manage due to their different formats.

Furthermore, Scopus is one of the most important and also a very large database that has a collection of peer-reviewed scientific literature, which is the reason why the articles for this study were taken from this source. The selection of this source is also very appropriate for research topics in the field of social sciences, as suggested by Mongeon & Paul-Hus (2016). Furthermore, social sciences encompass many disciplines involving political science, urban planning, economics, and geography. Furthermore, Scopus has more references and citations compared to Web of Science, as reported by Visser et al. (2021), therefore, it is more comprehensive in answering the objectives of this study. The Scopus search strategy also included the facility of an advanced search to filter relevant articles.

The process of cleaning, sorting, and formatting bibliographic data was initially performed in Microsoft Excel to prepare the data for use in research analysis. Afterward, the data related to keyword analysis was exported to a second software package known as VOSviewer. This powerful tool, designed for bibliometric analysis, allows researchers to visually map the relationships between various keywords and concepts within a specific research area.

Bibliometric analysis is an effective approach to evaluating the scientific research landscape by identifying topic trends, publication productivity, and citation activity development over time. In this study, VOSviewer software was used to map the intellectual structure and thematic evolution within the analyzed field of study. Huang et al. (2019) explain that knowledge mapping in bibliometric studies plays a crucial role in tracing the intellectual development of a scientific discipline. This approach can provide a comprehensive visualization of the development of scientific thought, facilitating the identification of thematic clusters, emerging issues, and anomalous patterns in academic literature.

Bibliometric methods also have advantages in managing large-scale datasets because they allow for systematic and objective synthesis of bibliographic information. Donthu et al. (2021) emphasize that the quantitative nature of bibliometric analysis can reduce researcher subjectivity bias, resulting in more neutral and data-driven findings. Furthermore, this approach helps researchers construct more in-depth literature reviews, identify research gaps, develop new research questions, and strategically position scientific contributions within academic discourse. Through various visualization tools such as co-citation and co-occurrence networks, bibliometric analysis can also provide a comprehensive overview of the relationships between articles, authors, journals, and keywords (Feng et al., 2013). Keyword co-occurrence analysis helps map intellectual structures and identify dominant research themes within a field of study (Wimbadi & Djalante, 2020).

To gain a more multidimensional understanding, this study applies several analytical parameters: (1) temporal analysis of publication trends, (2) citation analysis to identify

influential works and authors, (3) collaboration patterns across countries and institutions, (4) bibliographic coupling to group research themes, and (5) keyword co-occurrence analysis to identify key research focuses and emerging themes (Ranjbari et al., 2021). These indicators provide a data-driven analytical framework for understanding the development of scientific discourse and future research directions. The next step was to refine the search process based on document type, including journal articles, review articles, and books. Book chapters and conference papers were also included as grey literature to minimize publication bias (Mahood et al., 2014), as these sources often contain important keywords and case study-based findings and conceptual theory development. However, in the “source type” filter in Scopus, categories such as book titles, book series, conference proceedings, and trade journals were excluded as individual articles to avoid false positives in the form of duplicate authorship (Sweileh et al., 2017). Based on this filtering process, approximately 66 articles were obtained, which were subsequently analyzed in this study.

Following the whole article that was analysed, the keyword co-occurrence analysis was employed as the primary type of analysis, with the unit of analysis set to “All Keywords” to capture the full breadth of author-assigned and index terms across the retrieved documents. The counting method applied was full counting, in which each co-occurrence link between keywords is weighted equally regardless of the number of authors or documents involved, thereby ensuring an unbiased representation of keyword associations (Van Eck & Waltman, 2010). Given the relatively limited number of final articles included in the analysis, the minimum number of occurrences threshold was set to 2. Of the 868 total keywords identified in the dataset, 88 keywords met this threshold and were retained for visualization. The resulting co-occurrence network was subsequently mapped using VOSviewer, producing a structured keyword map comprising 88 nodes organized into 5 distinct clusters, with a total link strength of 1,151. This clustering configuration reflects the thematic diversity within the literature while maintaining sufficient density of inter-keyword connections to support meaningful interpretation of the intellectual structure of the field.

3. Results and Discussion

3.1. Results

Publication and Citation Trends

In terms of document type, journal articles dominate (77% of the total documents), followed by book chapters (8%), conference papers (10%), and reviews (5%). This composition indicates that this field is still in a stage of theoretical consolidation and conceptual exploration, as explained by Donthu et al. (2021), who note that bibliometric studies are well-suited for identifying knowledge structures and guiding the direction of future research. The strong dominance of journal articles also reflects academic recognition of this theme across various scientific journals. Based on the citation overview of publications on Islamic Finance for Climate Action, research development is demonstrated not only by the increasing number of documents but also by the growth

in its academic impact, as reflected in the number of citations. Between 2001 and 2026, 1,434 citations were recorded, with an h-index of 19. This value indicates that this topic has a strong level of scientific influence, with at least 19 articles receiving at least 19 citations. This indicates that studies on the relationship between Islamic finance and climate action are beginning to receive widespread recognition and attention in the international academic literature.

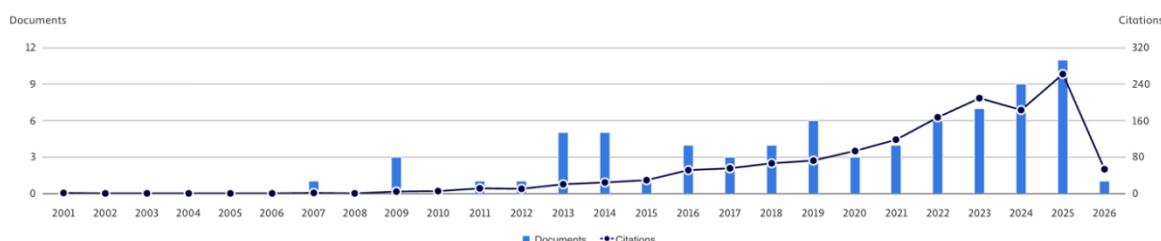


Figure 2. Publication and Citation Overview

In the initial period, based on Fig. 2, approximately 2001–2014, the number of publications and citations was relatively low and tended to stagnate. Articles published during this period did not receive significant attention because the issue of integrating Islamic finance and climate change was still in the conceptual development stage. However, since 2015, there has been a more consistent increase in citations, along with the increasing number of studies discussing the concepts of green finance, sustainable development, and environmentally based Islamic financial instruments such as green sukuk and Islamic social finance. This increase indicates that research in this field is beginning to be used as an important reference in developing theories and policies related to sustainable financing.

The most significant increase was seen in the 2020–2025 period, when the number of publications and citations experienced a significant increase. Citations peaked in 2025, with the highest number of citations compared to previous years. This indicates that the theme of Islamic Finance for Climate Action has developed into a strategic and relevant issue in contemporary Islamic economic studies. The high number of citations also reflects the growing academic and practical need for alternative financing models that support the climate change mitigation and sustainable development agenda. Meanwhile, the decline in 2026 cannot be used as an indicator of a decline in research quality, as it is likely influenced by incomplete publication and citation data for the current year.

However, since around 2016, the number of citations has begun to increase consistently and experienced a sharp spike in the 2020–2025 period. The peak in 2025 indicates that research on Islamic finance and climate action is increasingly being referenced in academic studies and policy development. This increase reflects a growing global awareness of the need to integrate Islamic financial principles with climate and sustainability agendas. Furthermore, the increase in citations also reflects growing academic recognition of the potential of Islamic financial instruments, such as green sukuk, zakat, and productive waqf, as alternative financing to support the global climate change and sustainable development agenda. This aligns with the view of

Huang et al. (2019) that bibliometric mapping helps demonstrate the dynamics of knowledge change longitudinally. This surge in publications also marks a phase of active exploration by researchers in filling the empirical gap between maqasid al-shariah and the ESG agenda.

Keyword Analysis

The bibliometric visualization, derived through a co-occurrence analysis of author keywords in VOSviewer in Fig. 3, delineates a multifaceted research landscape where Islamic finance increasingly intersects with global climate action imperatives. Methodologically, the map reveals a core thematic nexus centered on the synergy between faith-based ethical frameworks and the Sustainable Development Goals (SDGs), as evidenced by the dense clustering of terms such as "Islamic finance," "Islamism," and "climate change mitigation". It is worth noting that the term "Islamism" appeared in the co-occurrence keyword map as a byproduct of the VOSviewer visualization process, derived from the broad Scopus query utilizing "Islam" and "Muslim" as anchor terms. This term does not represent a deliberate theoretical construct of this study, nor does it carry political or ideological connotations in this context; rather, it reflects the diversity of keyword associations present in the indexed literature.

This structural alignment suggests that scholarly discourse is pivoting from purely normative or theological considerations toward the pragmatic application of Shariah-compliant instruments in addressing the climate crisis. Parallel to this, a significant macroeconomic cluster emerges, linking carbon emissions and energy use with economic growth, particularly within the geographic contexts of Sub-Saharan Africa and emerging Muslim-majority economies. This indicates a robust empirical interest in the challenges of balancing industrial development with the decarbonization requirements of the Paris Agreement.

Critical analysis of the inter-cluster connectivity further reveals a persistent "gap" between the technical monitoring of environmental pollutants visible in the clusters surrounding "gas chromatography" and "air quality" and the strategic financial mechanisms required for their mitigation. While the moral imperative of "Religion" acts as a central conceptual bridge, the relative under-representation of specific instruments such as Green Sukuk, Waqf-based climate funds, or ESG-Shariah screening suggests that the field remains in an incipient stage regarding the integration of formal carbon accounting within Islamic financial portfolios. The bridging of this gap, therefore, necessitates a transition from ethical advocacy toward the development of rigorous, data-driven frameworks. Such frameworks must reconcile the ethical mandates of Maqasid al-Shari'ah (the objectives of Shariah) with the empirical realities of financed emissions, ultimately providing a standardized methodology for Islamic financial institutions to quantify and disclose their climate impact in accordance with global benchmarks like PCAF.

The overlay visualization provides a temporal dimension to the bibliometric landscape, revealing a clear evolutionary trajectory from micro-level environmental science to macro-level financial policy. By analyzing the color-coded nodes ranging

3, the earliest research period or we called it Phase

Next Phase, The Developmental and Socio-Religious Turn (2018–2020), as the map transitions into green hues, there is a visible shift toward integrating socio-political and economic variables. This mid-range period marks the emergence of the "bridge" in your study's title. Central nodes like "religion," "Islamism," and "economic development" begin to cluster around "carbon emission" and "economic growth." During this era, scholars began examining the environmental impacts of development within the Muslim world through a lens of political economy and faith. Research started to move beyond simple pollution monitoring to explore how religious values and political systems in regions like "Nigeria" and "Sub-Saharan Africa" influence carbon footprints and environmental degradation.

Last Phase is the Strategic Financial and Policy Integration (2021–Present). The most recent research frontier, highlighted in yellow, represents the current state of the field: the financialization of climate action. The keywords "Islamic finance," "SDGs," "energy policy," and "climate change mitigation" carry the most recent temporal weight. This indicates a contemporary pivot toward systemic solutions. The academic focus has moved from merely identifying emissions to actively seeking financial instruments

The VOSviewer mapping on Fig. 4 reveals that “Islamism” occupies a central and highly connected position within the keyword network, indicating its role as a bridging concept across multiple strands of literature. Its prominence suggests that discussions on Islamism have evolved beyond a purely political or ideological domain, extending into interdisciplinary areas such as environmental sustainability, economic development, and public policy. This centrality reflects the increasing tendency of scholars to frame Islamic values and perspectives within broader global challenges, particularly those related to climate change and sustainable development.

The keyword co-occurrence network presented in Fig. 5 delineates five distinct thematic clusters that collectively reflect the multifaceted nature of research at the intersection of Islamic ethics and climate action. The most densely connected cluster centers on technical environmental science, anchored by high-frequency terms such as "*carbon dioxide*" recording the highest total link strength (86), "*atmospheric pollution*", "*gas chromatography*", "*volatile organic compound*", and "*air quality*" which collectively record the highest total link strengths within the network. This cluster is geographically contextualised by the presence of country-level nodes including "*Saudi*

Arabia", *"India*", *"Nigeria*", *"Sub-Saharan Africa*", *"Indonesia*", and *"Bangladesh*," suggesting that empirical environmental monitoring within Muslim-majority and developing economies constitutes the foundational layer of this body of literature. A second prominent cluster bridges the technical environmental domain with socio-political discourse through terms such as *"religion*," *"economic development*", *"political system*", and *"carbon emission*" reflecting scholarly efforts to situate environmental challenges within faith-based and macroeconomic frameworks.

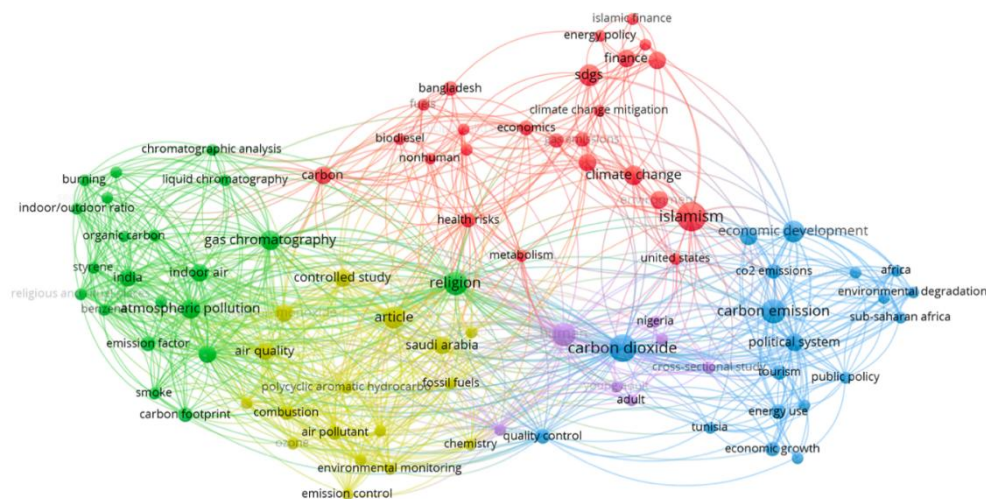


Figure 5. Keyword Network's Cluster Visualization

The remaining clusters, however, reveal a critical structural imbalance within the field. Keywords directly relevant to Islamic climate finance, including *"Islamic finance"* (occurrence: 2, total link strength: 5), *"energy policy"* (2, 7), *"climate change mitigation"* (2, 11), *"SDGs"* (6, 21), and *"finance"* (4, 9) record substantially lower link strengths relative to their occurrence frequencies, indicating that these themes remain peripheral within the current co-occurrence network rather than constituting its core intellectual structure. This structural gap confirms that while the environmental dimensions of Muslim-majority contexts have been extensively examined, the strategic integration of Islamic financial instruments such as Green Sukuk, climate-based waqf, and ESG-Shariah screening frameworks into formal climate governance architectures remains at an early and underdeveloped stage. The visual sparsity of financial and policy-oriented nodes within the cluster map, therefore not only substantiates the central research gap identified in this study but also underscores the urgency of future research that bridges normative Islamic ethical principles with rigorous, instrument-level climate finance frameworks.

In addition, Fig. 6 shows that "Islamism" has the highest occurrence frequency (11) and is also closely associated with keywords in the economic and environmental policy cluster, such as carbon emission, carbon dioxide, economic development, energy use, and policy system. This suggests that the literature does not only engage with normative or ethical dimensions but also intersects with empirical and policy-oriented discussions on the relationship between economic growth and environmental degradation. The presence of these connections implies that Islamism-related studies

tively weaker connections between “Islamism”

Taken together, these findings point to an emerging interdisciplinary convergence, where Islamism serves as a conceptual bridge linking religion, sustainability, and economic policy. At the same time, they reveal a critical research gap, namely the limited integration between Islamic ethical frameworks and practical, technology-driven environmental solutions. This gap presents a significant opportunity for future research to develop more comprehensive approaches that not only articulate normative principles but also translate them into actionable strategies for climate change mitigation and sustainable development.

From an Islamic perspective, the concept of sustainable finance is normatively aligned with Sharia principles due to the prohibition on excessive speculation (gharar) and investment in environmentally damaging sectors, thus encouraging capital allocation to real economic activities with social value (Wan Zahari, 2025; Jalili et al., 2025). Furthermore, Islamic social finance instruments such as zakat, waqf, and infaq also have strategic potential in supporting climate change mitigation and adaptation, particularly through empowering vulnerable communities and reducing the financing gap in achieving the Sustainable Development Goals (SDGs) (Johan, 2022; Ismail & Firas, 2024; Jalili et al., 2025).

However, the integration of Islamic finance and green finance still faces various institutional and operational barriers. The available regulatory framework is still limited and has not yet received formal recognition in international safeguard systems such

as the World Bank's Environmental and Social Framework (ESF) (Wan Zahari, 2025). Furthermore, most stakeholders in the Islamic finance industry are still at the interest stage, with relatively low levels of awareness and technical capacity in implementing environmental finance projects (Rani et al., 2023; Jalili et al., 2025). Other obstacles include the lack of fiscal and non-fiscal incentives to encourage innovation in green instruments, as well as the lack of harmonization of standards and certification of green projects between Sharia authorities and global financial regulators. Therefore, strengthening governance through the formal integration of Green Sukuk into the World Bank's ESF is necessary so that the instrument gains international legitimacy and can be used more widely in sustainable development projects (Wan Zahari, 2025; Jalili et al., 2025). Harmonization of Sharia-based green project standards is also important, referring to the Maqasid al-Shariah principles, to align the values of justice, transparency, and sustainability across jurisdictions (Wan Zahari, 2025).

Table 1. presents selected articles most relevant to the topic of Islamic Finance for Climate Action based on the level of thematic relevance, conceptual contribution, and discussion of challenges and future research agendas. Identifying these articles is important to demonstrate how recent research has attempted to address the various limitations in the integration of Islamic finance, green finance, and the achievement of sustainable development goals (SDGs).

To enhance the credibility and effectiveness of Sharia green financing implementation, the adoption of a dual-assurance model is a crucial step through the mandatory provision of a Joint ESF-Shariah Compliance Statement signed by the corporate board and the Sharia supervisory board (Wan Zahari, 2025). The mitigation of financed emissions has emerged as a cornerstone of institutional climate strategy, reflecting an intensified demand from stakeholders for financial intermediaries to reconcile their portfolios with the objectives of the Paris Agreement. Defined as the greenhouse gas (GHG) emissions generated by the entities, projects, or activities to which capital is allocated, financed emissions underscore the pivotal role of financial institutions in facilitating the transition away from high-carbon industrial paradigms (Rizky & Firmansyah, 2024; Granoff & Lee, 2024).

In the context of institutional operations, these emissions are the most critical component of environmental impact and are classified under Category 15 (Investments) of Scope 3 emissions within the GHG Protocol. The systemic integration of climate-related variables into lending and investment frameworks is further reinforced by global initiatives such as the Task Force on Climate-Related Financial Disclosures (TCFD), the UN Net-Zero Coalition, the Net-Zero Banking Alliance (NZBA), and the Partnership for Carbon Accounting Financials (PCAF), which collectively indicate a growing institutional readiness to incorporate environmental metrics into financial decision-making processes (PCAF, 2022). Within this framework, the PCAF standard serves as the primary technical benchmark by providing methodologies for carbon accounting and alignment with global climate targets, particularly through the use of attribution factors that determine the proportion of client emissions assigned to financial products.

Table 1. The Future Agenda of Selected Articles Most Relevant to the Topic of Islamic Finance for Climate Action

No	Author	Article Goals	Main Results	Future Agenda
1	Rani et al. (2023)	Analyzing public perceptions in Muslim majority and minority countries towards the implementation of sustainable finance.	The majority of respondents in Muslim majority and minority countries showed that their perceptions were still at the interest stage <i>regarding</i> sustainable financial systems.	A roadmap for implementing a sustainable financial system that is structured according to the socio-economic and environmental conditions of each country.
2	Johan (2022)	Building linkages between Islamic financing, SDGs, and green financing.	Sharia financing and green financing are complementary instruments in efforts to accelerate the achievement of SDG targets.	Developing research on the aggregate effects of profits on the macro economy and conducting comparative quality analysis with conventional industries.
3	Pervez et al. (2015)	Determining emission factors and levels of burning activity related to culture and rituals in India.	Ritual burning activities at various religious sites contribute a significant amount of carbon emissions of 72.38 Gg/year in India.	Develop specific air pollution mitigation strategies for religious and cultural locations to protect public health (based on the scope of findings).
4	Ismail & Firas (2024)	Examining the Islamic approach to addressing the challenges of global warming and environmental degradation.	Islamic teachings emphasize human responsibility as stewards of the Earth to address the environmental degradation crisis holistically.	Expanding the understanding of Sharia teachings regarding real action and ethics towards the environment in the scope of nature conservation.
5	Tausch (2013)	Examining the long-term structural determinants of global environmental and public health performance.	The penetration of Multinational Corporations (MNCs) hampers the Environmental Performance Index (EPI) at the global level in a globalized world system.	Analyzing social, environmental, and public health realities using internationally recognized data through a more rigorous quantitative approach.
6	Ozturk et al. (2022)	Investigating the relationship between CO2 emissions, economic growth, energy consumption, and pilgrimage tourism in Saudi Arabia.	The number of pilgrims and energy consumption have a positive influence on increasing CO2 emissions in Saudi Arabia.	Increasing the share of renewable energy sources and ensuring that accommodation and transportation services for pilgrims are environmentally friendly.
7	Fazlhas hemi (2023)	Evaluating the role of religion in climate issues and the responses of Muslim theologians to Western perspectives.	Normative Islamic ecotheology offers a solution to the environmental crisis through the concept of nature as a sign of God (<i>verse</i>) as a counter to the Western worldview.	Conducting a critical examination of potential internal deficiencies in the ecotheological model itself and its real-world applications.
8	Wan Zahari (2025)	Examining the integration of Green Sukuk into the World Bank's Environmental and Social Framework (ESF).	Formal recognition of Green Sukuk within the ESF framework would elevate this instrument to a globally enforceable green financing tool for climate action.	Launching ESF-compliant Green Sukuk pilot programs in emerging markets such as Nigeria, Pakistan and Egypt.
9	Jalili et al. (2025)	Evaluating the contribution of Fiqh Principles in developing theoretical arguments for green investment practices.	Fiqh principles strengthen the ethical foundation of green investment in Islamic financial institutions.	Developing a robust standard definition and evaluation process for a future Sharia-based green investment framework.

The implementation of this principle is reflected in the development of Green Sukuk as an innovative and effective instrument in mobilizing financing for renewable energy projects, waste management, and sustainable infrastructure, as seen in the issuance of sukuk for solar power projects in Malaysia and reforestation programs in Indonesia (Shahzad et al., 2017; Wan Zahari, 2025; Jalili et al., 2025). This approach ensures that funds raised not only meet religious compliance requirements but also adhere strictly to environmental and social safeguards, thereby minimizing the risk of greenwashing (Wan Zahari, 2025; Jalili et al., 2025). Furthermore, digitizing the impact reporting system through digital technology and blockchain is necessary to increase transparency in real-time fund use, with measurable indicators such as CO₂ emission reductions and renewable energy capacity generated (Wan Zahari, 2025). This process needs to be verified by independent auditors to ensure a tangible environmental impact and align with the Islamic principle of certainty (Wan Zahari, 2025; Jalili et al., 2025).

From a policy perspective, the government also needs to expand fiscal incentives, subsidies, and risk-sharing mechanisms to lower transaction costs and increase global institutional investor participation in the Green Sukuk market (Wan Zahari, 2025; Rani et al., 2023). On the other hand, technical capacity development for Islamic financial institutions remains a crucial aspect, particularly in the areas of environmental risk management, green project analysis, and the integration of Islamic jurisprudence principles such as the principle of *al-Ḍarar Yuzāl* into banking business strategies so that the gap between Sharia theory and sustainable investment practices can be minimized (Jalili et al., 2025; Wan Zahari, 2025).

4. Conclusion

This bibliometric analysis of 73 Scopus-indexed documents reveals that scholarly engagement at the intersection of Islamic finance and climate action has evolved across three distinct phases: an early technical-scientific foundation (2014–2017) dominated by environmental monitoring and pollution measurement; a socio-religious developmental turn (2018–2020) marked by the emergence of religion, economic development, and carbon emission as co-occurring themes; and a contemporary strategic-financial phase (2021–present) characterized by the convergence of Islamic finance, SDGs, energy policy, and climate change mitigation as the most recent and densely connected cluster. The keyword co-occurrence mapping identified five principal thematic clusters, with the core nexus centering on the synergy between Shariah-compliant ethical frameworks and global sustainability agendas. A persistent research gap is evident in the relative disconnection between technical environmental science clusters, encompassing air quality, gas chromatography, and atmospheric pollution, and the strategic financial mechanisms required for climate mitigation, such as Green Sukuk, Waqf-based climate funds, and ESG-Shariah screening, indicating that the field remains in an incipient stage of integrating formal carbon accounting within Islamic financial portfolios.

Based on these bibliometric findings, several future research directions are warranted, including the development of standardized methodologies reconciling Maqasid al-Shariah with PCAF-aligned carbon accounting standards, comparative studies across diverse Islamic finance jurisdictions beyond the current geographic concentration in Sub-Saharan Africa and Muslim-majority emerging economies, and interdisciplinary research bridging laboratory-level pollution data with policy-level financial instruments. Realizing this potential requires strengthening regulatory frameworks, fostering product innovation, and intensifying global collaboration. By bridging institutional and operational gaps, Islamic finance can serve as a principal driver in advancing sustainable development and inclusive, equitable climate action aligned with universal ethical principles.

Developing Islamic finance to support climate action requires an integrated approach that includes strengthening institutional capacity, harmonizing regulations, and providing adequate policy support. Improving literacy and technical capacity for both banking and non-banking financial institutions is a fundamental step to effectively implementing sustainability principles in Islamic business strategies (Johan, 2022; Wan Zahari, 2025; Jalili et al., 2025). The bibliometric evidence of increasing inter-cluster connectivity between Islamic finance and energy policy further reinforces the urgency of embedding Islamic financial institutions within formal climate governance architectures, confirming that synergy between institutional capacity, regulatory harmonization, policy incentives, and multi-stakeholder collaboration is the critical pathway for Shariah finance to fulfill its role as a credible and scalable instrument for sustainable development and climate change mitigation.

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