



The Role of Energy Waqf in Addressing Environmental Crises Through Islamic Philanthropic Principles and Community-Driven Renewable Energy Initiatives

Muhammad Fatihul Haq¹, Muhammad Syafril Nasution²
¹² UIN Sultanah Nahrasiyah Lhokseumawe, Aceh, Indonesia

Article Info	Abstract
Keywords: Community Engagement, Energy Waqf, Environmental Crisis, Islamic Philanthropy, Sustainable Development. Article history: Received: 2024-08-13 Revised: 2025-01-22 Accepted: 2025-02-20	This study employs a systematic literature review to examine energy waqf as an innovative mechanism within Islamic philanthropy, presented as a conceptual contribution to the growing scholarship on Islamic social finance and the global environmental crisis. Grounded in thematic analysis of 42 peer-reviewed publications sourced from Scopus, Web of Science, and Google Scholar, the review synthesises evidence on the social, cultural, and institutional dynamics shaping community acceptance and participation in energy waqf initiatives. The synthesis reveals that strong religious commitment and cultural norms constitute primary motivational drivers, encouraging individuals to engage actively in such programmes as expressions of environmental stewardship and community service. Additional factors identified through the synthesis encompass emotional and psychological predispositions, awareness of waqf-related benefits, and trust in the credibility of administering institutions. Drawing on the Theory of Planned Behavior, Social Capital Theory, and Trust Theory, this review advances three explicit conceptual propositions as its primary theoretical contribution and as a foundation for future empirical investigation. The study further underscores the importance of public education and transparent governance structures in reinforcing community involvement and sustaining the long-term viability of energy waqf programmes. The conceptual insights derived offer guidance for policymakers, religious leaders, and development practitioners who seek to advance climate action through Islamic social finance. Energy waqf is proposed within this review not only as a philanthropic instrument rooted in Islamic principles but also as a strategically viable approach for accelerating renewable energy adoption and cultivating environmentally conscious communities. <i>This is an open-access article under the CC BY-NC license.</i>



Corresponding Author: Muhammad Fatihul Haq UIN Sultanah Nahrasiyah Lhokseumawe, Aceh, Indonesia; muhammadfatihulhaq22@gmail.com Citation: Haq, M.F., & Nasution, M.S. (2025). The Role of Energy Waqf in Addressing Environmental Crises Through Islamic Philanthropic Principles and Community-Driven Renewable Energy Initiatives. <i>Tanwirul Uqul</i>, 6(1), 22-34.

1. INTRODUCTION

Global environmental challenges, including climate change, resource depletion, and ecological degradation, have emerged as urgent and pressing threats to human civilization (Allah Pitchay et al., 2018; Amaliah et al., 2024; Anam et al., 2022; Asni et al., 2020). In this context, the urgency for innovative and sustainable responses is widely acknowledged (Badolo, 2024). Among the promising yet underexplored mechanisms within Islamic philanthropy is energy waqf, a model that integrates renewable energy development with the enduring values of Islamic endowment principles to empower communities while simultaneously addressing environmental concerns (Amaliah et al., 2024; Dewananda et al., 2023; Muhdlor, 2024; Rusydiana, Sukmana, Laila, & Ali, 2024; Sarango-Lalangui et al., 2023). Despite its considerable potential, the conceptual foundations and practical applications of energy waqf remain insufficiently developed in both academic scholarship and real-world implementation.

Existing research affirms the promise of energy waqf in expanding access to renewable energy and generating positive socio-economic outcomes (Anam et al., 2022; Muhdlor, 2024; Siswantoro, 2023). However, many such initiatives are constrained by limited community engagement and inadequate public awareness. A persistent disconnect also exists between Islamic philanthropic values and the practical demands of contemporary energy systems, which frequently impedes effective implementation (Asni et al., 2020). Much of the current literature concentrates narrowly on technical and financial dimensions (Paul et al., 2021; Siswantoro, 2023), thereby neglecting the socio-cultural dimensions that fundamentally shape community reception. Several studies have observed that energy waqf efforts frequently fail to align with local values and norms, which suggests the need for more context-sensitive approaches (Allah Pitchay et al., 2018; Amaliah et al., 2024; Asni et al., 2020; M. S. M. Khan et al., 2023).

This critical gap in the literature underscores the need to transcend purely technocratic perspectives and engage more seriously with the human dimensions of energy waqf implementation. Although energy waqf is widely recognized as a promising instrument for sustainable financing, its ultimate success depends on a nuanced understanding of local values, community perceptions, and participatory mechanisms (Allah Pitchay et al., 2018; Amaliah et al., 2024; Asni et al., 2020; M. S. M. Khan et al., 2023). Neglecting these contextual factors risks the development of initiatives that are misaligned with community needs and expectations, generating resistance or indifference rather than enthusiastic adoption. There is therefore an urgent need for research that examines the socio-religious and institutional conditions necessary for energy waqf to flourish as a transformative force for sustainable development.

This study addresses a significant gap in the literature on Islamic philanthropy, namely its underutilization as a strategic instrument for responding to environmental degradation and the global energy transition. Although waqf has historically supported sectors such as education, healthcare, and religious infrastructure, its strategic potential for addressing ecological challenges and promoting renewable energy remains largely underdeveloped. The concept of energy waqf, which involves the dedication of endowment assets to finance clean energy solutions, offers an innovative mechanism for mitigating climate change and contributing to the achievement of the Sustainable Development Goals (SDGs). Nevertheless, its integration into Islamic social finance frameworks and local community development plans remains limited.

The objective of this study is to explore how energy waqf can be effectively embedded within society by examining the social, cultural, and institutional dynamics that shape its acceptance and implementation. Specifically, the study addresses three research questions. First, what is the conceptual foundation of energy waqf in responding to the environmental crisis? Second, what factors motivate individuals and communities to participate in energy waqf initiatives? Third, how do institutional actors, including Islamic philanthropic bodies, government agencies, and local leaders, support and shape the development of energy waqf projects?

This study contends that the successful implementation of energy waqf as a sustainable response to environmental challenges is closely tied to context-sensitive understandings of the socio-cultural fabric of targeted communities. Communities characterized by strong collectivist norms and heightened environmental awareness are more likely to support energy waqf initiatives. For such programs to be effective and sustainable, they must be underpinned by robust infrastructure, increased energy literacy, and collaborative partnerships between religious institutions and local actors. Furthermore, the alignment of waqf objectives with indigenous cultural values emerges as a critical determinant of community acceptance and program sustainability. By foregrounding the interplay between socio-religious dynamics, community-based values, and institutional structures, this study advances theoretical discourse in the fields of Islamic social finance and environmental governance, while offering practical insights for policy formulation. The novelty of this research lies in its conceptual integration of waqf-based renewable energy solutions with socially embedded models of community engagement, a perspective that remains largely underdeveloped in the existing literature.

2. LITERATURE REVIEW

2.1. The Concept of Waqf in Islam

Waqf, as an established Islamic financial institution, has historically functioned as a crucial decentralized mechanism for financing public goods such as educational and healthcare facilities and for fostering broader social welfare. Its inherently perpetual nature renders it a highly suitable instrument for sustainable development, ensuring that benefits are sustained across generations, a point affirmed by various scholarly studies (Kabisch et al., 2017; Kailani & Slama, 2020; M. K. Khan et al., 2023). Waqf encompasses several modalities, including property, cash, and charitable endowments, and research has increasingly explored contemporary applications such as "Green Waqf" for environmental sustainability as well as factors influencing cash waqf contributions through frameworks including the Theory of Planned Behavior (Amaliah et al., 2024; Anam et al., 2022). The core function of waqf in redirecting private assets toward communal benefit underscores its significant potential in socio-economic development and the pursuit of broader societal goals, as consistently demonstrated across scholarly investigations.

The application of waqf theory is prominently reflected in research on productive waqf models, particularly within Islamic educational institutions such as pesantren. Studies in this area, including the work of Makhrus (2018), illustrate how waqf assets can be managed to generate income for reinvestment in community development, thereby amplifying their social impact (Medias et al., 2022). Such investigations highlight the relationship between effective waqf management, encompassing professionalism, transparency, and accountability, and the successful sustenance of institutions alongside the empowerment of communities (Rusydiana, Sukmana, Laila, & Ali, 2024). Further research connects waqf directly to community empowerment and the achievement of the Sustainable Development Goals, proposing innovative models such as waqf-based microfinance and its application to public infrastructure, thereby demonstrating the dynamic and evolving application of waqf principles in addressing contemporary societal needs and fostering long-term, positive social change (Riani and Fatoni, 2022; Medias et al., 2022).

2.2. Energy Waqf, Its Definition and Relevance

The concept of energy waqf, which involves dedicating endowment funds toward renewable energy initiatives such as solar or wind power systems, represents a significant innovation within Islamic finance, merging the traditional institution of waqf with pressing contemporary imperatives related to environmental protection and the energy transition. This approach is designed to establish sustainable energy infrastructures that yield broad societal benefits, reduce

reliance on fossil fuels, and actively contribute to global climate change mitigation efforts. For instance, studies indicate that leveraging waqf for solar energy adoption can effectively address climate change and promote socio-economic justice in Muslim communities by reducing fossil fuel dependence and thereby curtailing greenhouse gas emissions, thereby aligning environmental sustainability with Islamic principles of social justice (Ari & Koc, 2021). This perspective positions energy waqf not merely as an economic instrument but as an ethically grounded mechanism for addressing pressing global challenges.

The academic discourse surrounding waqf applications in the environmental and energy sectors has expanded considerably, with "Green Waqf" emerging as a prominent theoretical framework that encompasses energy waqf. Green Waqf is conceptualized as the utilization of waqf assets to promote ecological balance, environmental stewardship, and sustainability, which frequently includes renewable energy projects explicitly (Othman et al., 2025). Numerous studies have examined the practical implementation and theoretical underpinnings of this concept. For example, research on productive waqf for rural electrification through solar home systems in Indonesia demonstrates its viability and its positive socio-economic impacts, including enhanced community well-being and improved energy access (Niswah et al., 2024). This study, alongside others, highlights how waqf, whether through cash, asset, or land endowments, can overcome funding limitations for renewable energy projects. Similarly, earlier research by Ari & Koc (2021) proposed waqf-based alternative financing models for renewable energy investments, underscoring the long-term social implications, balanced economic growth, and environmentally favorable characteristics of such projects.

The relationship between waqf and broader sustainable development, particularly with respect to energy transition and climate action, constitutes a recurring theme in the literature. Studies have discussed cash waqf schemes as a means of supporting an equitable energy transition, emphasizing their potential to reduce costs and increase community access to renewable energy, including in the transportation sector (Putra et al., 2024). These studies frequently connect waqf applications to the achievement of the Sustainable Development Goals, particularly SDG 7 on affordable and clean energy and SDG 13 on climate action (Sukmana & Rusydiana, 2023). The literature also acknowledges the inherent compatibility between Islamic finance principles, including justice, equity, and stewardship as expressed through the concept of khalifah, and the objectives of green financing and renewable energy development (Siswanto, 2023). For example, the Green Waqf framework, analyzed through tools such as the balanced scorecard, is explicitly oriented toward achieving sustainability goals, adapting to climate change, and meeting energy needs in a low-carbon manner (Mahsun et al., 2022). While the potential is vast, researchers also identify challenges encompassing governance weaknesses, difficulties in financial integration, insufficient stakeholder awareness, and legal and administrative obstacles that must be addressed to effectively manage and scale energy waqf initiatives (Othman, Sheh Yusuff, & Md. Hussain, 2025). Collectively, the body of research demonstrates growing academic and practical interest in leveraging the waqf model as an innovative and ethically consistent financial instrument to advance renewable energy deployment and contribute to a sustainable global future.

2.3. The Environmental Crisis and the Waqf Response

The contemporary era is characterized by escalating environmental crises, including climate change, biodiversity loss, and the depletion of natural resources, which are predominantly driven by unsustainable anthropogenic activities, with regions such as Indonesia experiencing particularly alarming levels of ecological degradation (M. S. M. Khan et al., 2023). In response, the Islamic institution of waqf, as a perpetual charitable endowment, emerges as a potent and ethically grounded financial instrument for environmental remediation and sustainable development. At its core, waqf involves the permanent dedication of an asset by a donor (waqif)

for specified charitable purposes, with the principal corpus rendered inalienable and its usufruct perpetually directed toward designated beneficiaries or social causes. The inherent perpetuity and social welfare orientation of waqf render it uniquely suited to address long-term environmental concerns, a potential that is increasingly underscored in contemporary Islamic finance and development literature (Sukmana & Rusydiana, 2023).

A growing body of scholarly investigation systematically examines the nexus between waqf and environmental stewardship, often conceptualized under the label of "Green Waqf," which leverages waqf assets for ecological balance and sustainability. Othman et al. (2025) analyze Green Waqf as pivotal for achieving the Sustainable Development Goals by funding afforestation, renewable energy, and sustainable urban projects, aligning with broader initiatives such as the UNDP's Green Waqf Framework in Indonesia. Specific applications include waqf forests, extensively examined by Nour Aldeen et al. (2022) for their contributions to forest preservation and SDG achievement, with detailed productive models yielding both economic and ecological benefits. Further studies by Paul et al. (2021) explore optimal site selection criteria for such forests, while Setzer & Vanhala (2019) emphasize their role in upholding inter-generational environmental justice.

The utility of waqf extends beyond conventional charitable purposes to encompass financing for renewable energy and innovative environmental technologies. Research by Hasan & Syahrudin (2022) highlights the potential for enhancing Green Waqf to support carbonization technology in waste management and renewable energy generation. Concurrently, other studies explore the capacity of waqf institutions to accelerate the adoption of green technologies (Shabliy & Kurochkin, 2022), demonstrating their catalytic potential in promoting environmentally sustainable investments. Philanthropic capital channeled into tangible environmental projects, including reforestation, renewable energy infrastructure, and sustainable agriculture, can transform waqf into a durable mechanism for resource conservation and environmental justice. The intrinsic alignment between Islamic philanthropic values and environmental preservation further strengthens waqf's relevance as a driver of global sustainability. Waqf is increasingly recognized as a dynamic instrument for advancing environmental stewardship through community-led, faith-driven initiatives.

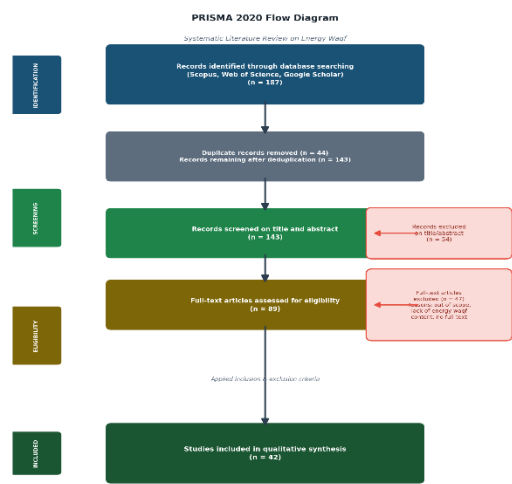
3. METHODS

This study adopts a conceptual research design grounded in a systematic literature review, following the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) reporting framework, aimed at constructing a theoretically grounded understanding of energy waqf as an innovative modality within Islamic philanthropy for addressing the escalating global environmental crisis. The analysis was conducted by synthesising secondary data derived from scholarly publications, including peer-reviewed journal articles, academic monographs, and authoritative reports relevant to the intersection of waqf, renewable energy, and environmental sustainability. A comprehensive literature search was undertaken across leading academic databases, encompassing Scopus, Web of Science, and Google Scholar, to ensure both the depth and credibility of the sources consulted. The temporal scope was delimited to publications issued between 2015 and 2024, reflecting the most recent developments in theory and practice. It is acknowledged that several seminal theoretical works predating this temporal boundary, most notably Ajzen (1991) on the Theory of Planned Behavior, have been deliberately retained as foundational references. Their inclusion is justified on the grounds that they constitute the theoretical bedrock upon which contemporary energy waqf scholarship builds, and their exclusion would impair the coherence of the conceptual framework presented in this review. These foundational works are not treated as primary review corpus materials but as theoretical anchors, clearly distinguished as such throughout the synthesis. The search strategy incorporated

targeted keywords such as energy waqf, Islamic philanthropy, renewable energy, and environmental sustainability (Candra Susanto et al., 2024).

The selection of sources followed explicit inclusion criteria, encompassing thematic relevance to energy waqf and its environmental applications, scholarly credibility of the publication outlets, and the potential of each study to contribute conceptual or empirical insights into sustainable philanthropic frameworks. Publications focusing exclusively on generic waqf discourse devoid of environmental or energy-related dimensions were systematically excluded to maintain analytical focus (Medias et al., 2022). The PRISMA 2020 screening procedure is reported as follows and illustrated in Figure A1 (PRISMA Flow Diagram). An initial database search across Scopus, Web of Science, and Google Scholar using the designated keywords retrieved a total of 187 potentially relevant records. Following deduplication, 143 unique records were subjected to title and abstract screening, of which 89 were retained for full-text assessment. After applying the inclusion and exclusion criteria to the full texts, 42 studies were ultimately incorporated into the synthesis. Quality appraisal of the included studies was conducted by both authors independently, using a structured checklist adapted from the CASP (Critical Appraisal Skills Programme) framework for qualitative and mixed-methods research, with particular attention to thematic richness, methodological transparency, and relevance to the energy waqf nexus. All discrepancies identified during the independent screening and appraisal stages were systematically documented and subsequently resolved through structured deliberation between the two authors until full consensus was reached. To analyse the selected literature, a thematic analysis approach was employed, enabling the identification of recurring conceptual patterns, critical issues, and gaps in the existing scholarship. This analytical process was informed by the theoretical lens of Islamic environmental ethics, which articulates principles such as amanah (trusteeship), maslahah (public interest), and adl (justice) as foundational to interpreting the role of energy waqf in promoting environmental sustainability and intergenerational equity. This normative framework guided both the selection of literature and the interpretation of its findings within a value-based epistemology rooted in Islamic thought. It is acknowledged that the review did not register a formal protocol with PROSPERO prior to commencement; future systematic reviews in this domain are encouraged to do so as a step toward enhanced methodological transparency and reproducibility. All bibliographic entries included in this manuscript have been individually verified against their respective source databases to ensure that in-text attributions correspond accurately to the listed references and that all cited works bear direct relevance to the study's subject matter.

Figure 3.1. PRISMA 2020 Flow Diagram of the Systematic Literature Review Process



Source: Authors' construction following PRISMA 2020 reporting guidelines

4. RESULTS AND DISCUSSION

4.1. The Fundamental Conceptual Basis of Energy Waqf in Addressing the Environmental Crisis

Addressing the first research question concerning the conceptual foundation of energy waqf in responding to the environmental crisis, this section synthesises the available scholarly evidence on the definitional, normative, and structural bases of energy waqf. Energy waqf represents an innovative Islamic philanthropic instrument, specifically designed to fund renewable energy projects such as solar panels and wind turbines, thereby integrating traditional endowment principles with contemporary environmental imperatives (Khan et al., 2023). This model aims to establish sustainable energy sources that benefit communities, mitigate dependence on fossil fuels, and contribute to climate change abatement (Khan et al., 2023; Makhrus, 2018). The relevance of energy waqf is further reinforced by its dual capacity to simultaneously address environmental degradation and promote social justice, particularly by facilitating affordable energy access for vulnerable populations in alignment with the Sustainable Development Goals (Anam et al., 2022; Nurul Huda et al., 2023). Beyond its environmental and social dimensions, energy waqf also holds intrinsic potential to stimulate economic development by mobilizing the Islamic financial sector for renewable energy investments, thereby fostering local economies and creating employment opportunities (Azwar, 2023; Nour Aldeen et al., 2022).

The conceptual model illustrating the nexus between energy waqf, philanthropy, renewable energy, and social equity demonstrates how philanthropic contributions, channeled through the waqf mechanism, facilitate investment in renewable energy projects. These projects, in turn, generate clean energy, enhance energy access for beneficiary communities, and ultimately foster social equity through improvements in livelihoods and educational opportunities. A detailed interpretive walkthrough of Figure 1 is provided here to fulfil the analytical function that a conceptual model is expected to serve in a Scopus-level contribution. The model comprises four primary nodes and three directional linkages. The first node, labelled Islamic Philanthropic Contributions, represents endowments made by individual and institutional waqif (donors) in accordance with Shariah principles of voluntary giving and social stewardship. The directional arrow from this node to the second node, the Waqf Fund Management Mechanism, reflects the transfer of resources to a nazhir (trustee) institution whose credibility and transparency determine the mobilisation capacity of the fund, consistent with the propositions of Trust Theory (Azwar, 2023). The second node is connected by a forward arrow to the third node, Renewable Energy Infrastructure Investment, which encompasses the financing of solar, wind, and other clean energy assets for community benefit. This linkage operationalises the finance-to-impact channel central to Islamic social finance. The fourth node, Socio-Environmental Equity Outcomes, is connected to the third by a consequence arrow representing the downstream effects of clean energy access on poverty reduction, educational opportunity, and community resilience. The overall architecture of the model integrates the Theory of Planned Behavior at the input stage, where donor attitudes, subjective norms, and perceived behavioural control determine contribution intent; Social Capital Theory at the management stage, where collective trust and network reciprocity govern fund mobilisation; and Trust Theory at the institutional stage, where perceived nazhir integrity sustains long-term participation. This tripartite theoretical grounding distinguishes the proposed model from simpler descriptive frameworks and provides a basis for future empirical operationalisation.

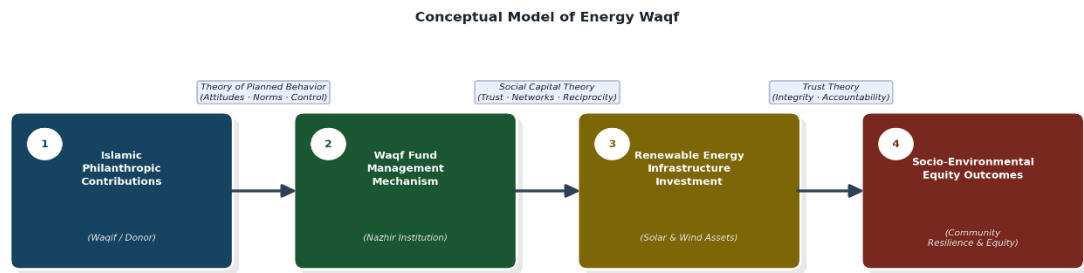


Figure 3.2. Conceptual Model of Energy Waqf

Source: Authors' elaboration based on literature review

The successful implementation and sustainability of energy waqf initiatives are significantly contingent upon community engagement and motivation, a dynamic that can be analyzed through established socio-psychological frameworks. The Theory of Planned Behavior (TPB) offers a robust analytical lens for understanding community participation, positing that individuals' intentions to support energy waqf projects are shaped by their attitudes toward such initiatives, the subjective norms emanating from their social environment, and their perceived behavioral control over contributing (Ajzen, 1991). Concurrently, Social Capital Theory highlights the pivotal role of strong social networks, reciprocal norms, and communal trust in mobilizing collective resources and fostering the participative governance essential for the longevity of these projects (Riani & Fatoni, 2022; Rusydiana, Sukmana, Laila, & Sanrego, 2024). Understanding these behavioral and social antecedents is therefore critical for designing effective community-centric energy waqf models.

Beyond community dynamics, the viability of energy waqf as a sustainable funding mechanism is inextricably linked to institutional trust and robust governance structures. Trust Theory elucidates that public willingness to contribute through waqf is profoundly influenced by the perceived competence, integrity, and transparency of the waqf management institutions (nazhir) responsible for administering these energy projects (Azwar, 2023; Nour Aldeen et al., 2022). The establishment and maintenance of trustworthy governance are therefore paramount for attracting endowments and ensuring the efficient deployment of resources toward achieving the intended environmental and social outcomes. This synthesis suggests that energy waqf operates as a complex socio-technical system in which technological innovation must converge with social acceptance and resilient institutional frameworks.

While the existing literature consistently highlights the multifaceted potential of energy waqf (Khan et al., 2023; Riani & Fatoni, 2022; Rusydiana, Sukmana, Laila, & Ali, 2024), a discernible gap remains in empirical research that rigorously investigates the interplay among these theoretical constructs, namely TPB, Social Capital Theory, and Trust Theory, within specific energy waqf contexts. The call for further research and innovation (Riani & Fatoni, 2022; Rusydiana, Sukmana, Laila, & Ali, 2024) is therefore particularly salient. Future scholarly endeavors should prioritize empirical validation of these frameworks to cultivate evidence-based strategies capable of significantly enhancing the efficacy of energy waqf in realizing its dual promise of fostering environmental sustainability and advancing social equity.

4.2. Conceptual Propositions Derived from the Synthesis

Based on the systematic synthesis of the reviewed literature and the tripartite theoretical framework employed in this study, three explicit conceptual propositions are advanced as the primary theoretical contribution of this review. These propositions are formulated at a level of

abstraction suited to empirical operationalisation and are intended to serve as testable hypotheses for future field-based investigations in energy waqf research.

Proposition 1 (P1). Communities characterised by strong religious commitment and collectivist cultural norms demonstrate significantly higher rates of participation intent in energy waqf initiatives than communities where such values are less prominent. This proposition is grounded in the Theory of Planned Behavior and Social Capital Theory, and is supported by the synthesised evidence of Allah Pitchay et al. (2018), Amaliah et al. (2024), and Khan et al. (2023).

Proposition 2 (P2). Institutional trust, operationalised through the perceived transparency, accountability, and integrity of nashir institutions, constitutes a significant positive determinant of individual waqf contribution intent. This proposition is grounded in Trust Theory and is supported by Azwar (2023), Nurul Huda et al. (2023), and Nour Aldeen et al. (2022).

Proposition 3 (P3). Public awareness and energy literacy function as mediating variables between institutional trust and the behavioral intention to participate in energy waqf programmes, such that even religiously motivated individuals require adequate knowledge to translate intent into active contribution. This proposition is grounded in the Theory of Planned Behavior and is supported by Anam et al. (2022), Muhdlor (2024), and Siswantoro (2023).

These three propositions collectively constitute a structured empirical agenda for future research on energy waqf participation. They distinguish the present review from purely descriptive syntheses by generating forward-looking theoretical output that advances the field beyond cataloguing existing findings toward producing testable knowledge claims.

4.3. Motivations for Community Participation in Energy Waqf

Addressing the second research question concerning the factors that motivate individuals and communities to participate in energy waqf initiatives, this section systematically maps the motivational determinants identified across the synthesised literature onto the three theoretical frameworks introduced in the conceptual model. The concept of energy waqf, which integrates Islamic philanthropic principles with renewable energy initiatives, offers significant potential for mobilizing community participation in addressing contemporary environmental challenges. A comprehensive understanding of the multifaceted individual motivations for contributing to energy waqf, and particularly how these motivations interact, is essential for enhancing both its effectiveness and long-term sustainability.

Community identity and the spirit of collective action play an essential role in increasing participation in energy waqf. According to Rusydiana, Sukmana, Laila, & Ali (2024) and Shabliyy & Kurochkin (2022), a strong sense of belonging to a community can motivate individuals to contribute when they perceive a shared responsibility in confronting environmental challenges. Trust in the organization managing the energy waqf project, as highlighted by Mohamed & Akande (2025), is essential for building and sustaining community support. Furthermore, as explained by Anam et al. (2022), awareness and education constitute critical elements in increasing community knowledge about the benefits of energy waqf and renewable energy more broadly.

Emotional and psychological factors, including empathy and compassion toward those adversely affected by environmental degradation, can also strengthen individual engagement in energy waqf initiatives (Asni et al., 2020). Perceptions of contribution effectiveness play a significant additional role, as individuals are more inclined to participate when they believe that their involvement will generate meaningful and tangible impact (Allah Pitchay et al., 2018). Social media engagement can further broaden the reach and raise public awareness of these projects. Simultaneously, supportive policy frameworks, as outlined by Amaliah et al. (2024), are instrumental in encouraging greater participation in renewable energy initiatives. When these

factors are effectively integrated and mutually reinforcing, energy waqf demonstrates the potential to serve as an innovative and impactful response to contemporary environmental challenges.

4.4. The Role of Institutions in Supporting the Implementation of Energy Waqf

Addressing the third research question concerning the role of institutional actors, including Islamic philanthropic bodies, government agencies, and local leaders, in supporting and shaping the development of energy waqf projects, this section analyses governance frameworks, regulatory environments, and inter-institutional collaboration mechanisms. Whereas Section 4.2 examined individual and community-level motivations, this section focuses on the structural and institutional conditions that enable or constrain energy waqf implementation at the organisational and policy levels. This analytical distinction reflects the multi-level architecture of the theoretical framework employed, wherein individual behavioral intentions as conceptualised by the Theory of Planned Behavior are nested within social capital networks as described by Social Capital Theory, which are in turn embedded within institutional governance structures as theorised by Trust Theory. Energy waqf, as a mechanism integrating Islamic philanthropic principles with renewable energy initiatives, is increasingly recognised for its potential to address environmental challenges while simultaneously advancing social welfare at the community level.

Trust in waqf institutions also exerts a significant influence on community participation. When community members trust the organization managing an energy waqf project, they are substantially more likely to donate their resources (Nurul Huda et al., 2023). This trust is fostered through transparent and accountable governance mechanisms. Effective governance, as exemplified by the establishment of independent supervisory boards and regular audits in Malaysian waqf institutions, ensures that donations are managed in accordance with the donors' original intentions and Sharia principles. Furthermore, knowledge and awareness of the benefits of energy waqf, as well as the alignment of this initiative with Islamic teachings, are vital factors that encourage participation (Azwar, 2023). Effective educational campaigns, such as those conducted by the Indonesian Waqf Board (Badan Wakaf Indonesia), can increase community understanding of the importance of energy waqf in promoting sustainability and encourage greater public involvement.

Emotional and psychological factors similarly play a role in influencing participation in energy waqf. Empathy toward those adversely affected by environmental degradation can motivate individuals to engage in these initiatives (Dewananda et al., 2023). Moreover, appropriate policy support and incentives from government authorities can create an enabling environment that encourages community involvement in energy waqf projects (Kailani & Slama, 2020; Sukmana & Rusydiana, 2023). Government subsidies for waqf-funded renewable energy projects in several Middle Eastern countries have, for instance, significantly increased their rates of adoption (Mohamed & Akande, 2025).

Governance mechanisms occupy a critical position in determining the success of energy waqf initiatives. Effective institutional structures, including clearly defined roles and responsibilities for trustees (nazir), transparent financial reporting, and robust oversight arrangements, are essential for fostering trust and ensuring long-term sustainability. Conversely, weak governance characterized by insufficient accountability and a lack of transparency can undermine the effectiveness of energy waqf programs and discourage community participation. Best practices in waqf governance typically encompass the separation of management and supervisory functions, the active engagement of community stakeholders in decision-making processes, and the application of professional management standards. When governance is grounded in cultural and religious values and paired with community empowerment and institutional integrity, energy waqf holds significant potential to address sustainable energy needs while simultaneously advancing social and economic development (Putra et al., 2024).

5. CONCLUSION

Energy waqf emerges from this review as a theoretically grounded and practically promising innovation within Islamic philanthropy, offering a conceptually coherent response to the contemporary environmental crisis while deepening the integration between religious values and ecological imperatives. Grounded in the traditional principles of waqf, this mechanism supports renewable energy initiatives that can mobilise community engagement in climate action and promote equitable access to clean energy, thereby reinforcing Islamic ideals of social justice and intergenerational responsibility. The success of energy waqf is not determined solely by its environmental or religious merits; it is contingent upon a complex interplay of psychosocial motivations, institutional trust, and collective behavioral dynamics that this review has systematically mapped through its tripartite theoretical framework.

The primary theoretical contribution of this study consists in the synthesis of the Theory of Planned Behavior, Social Capital Theory, and Trust Theory into a tripartite conceptual model, and in the advancement of three explicit propositions as a testable scaffolding for future empirical research. These propositions position energy waqf scholarship at the intersection of Islamic social finance, behavioral science, and environmental governance, an intersection that remains substantially underexplored in the existing literature. The contribution of this study is primarily conceptual and taxonomic in character, consolidating and structuring an emerging body of literature, constructing a multi-theoretic analytical framework, and generating forward-looking propositions to guide empirical inquiry toward the production of evidence-based strategies for energy waqf implementation.

A central limitation lies in the study's theoretical orientation, which has not yet been subjected to empirical testing, and in the absence of a registered protocol with PROSPERO, which constrains the replicability of the search and selection procedure. Future research should prioritise field-based investigations designed to validate the proposed propositions, identify context-specific enablers and barriers, and formulate actionable implementation strategies. Survey-based studies employing structural equation modelling are recommended as a methodological approach well-suited to testing the mediating and moderating relationships embedded in the conceptual framework. The integration of case study evidence from Indonesia, Malaysia, and other Muslim-majority countries with active waqf sectors would significantly enhance the generalisability and policy relevance of the findings. Empirically grounded insights of this nature can enhance the governance, scalability, and contextual adaptation of energy waqf, thereby positioning it as a viable and impactful instrument within the broader landscape of Islamic social finance for advancing sustainable development and strengthening community climate resilience.

BIBLIOGRAPHY

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
2. Allah Pitchay, A., Mohd Thas Thaker, M. A., Mydin, A. A., Azhar, Z., & Abdul Latiff, A. R. (2018). Cooperative-waqf model: A proposal to develop idle waqf lands in Malaysia. *ISRA International Journal of Islamic Finance*, 10(2), 225–236. <https://doi.org/10.1108/IJIF-07-2017-0012>
3. Amaliah, I., Aspiranti, T., & Shaharuddin, A. (2024). Strategies to achieve sustainable development goals through diversification of waqf products. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v9i24.16839>
4. Anam, M. S., Ahmad, R. S., Ali, R. A., & Rosia, R. (2022). Waqf and environment: A bibliometric analysis. *Shirkah: Journal of Economics and Business*, 7(2), 201–218. <https://doi.org/10.22515/shirkah.v7i2.480>
5. Ari, I., & Koc, M. (2021). Towards sustainable financing models: A proof-of-concept for a

- waqf-based alternative financing model for renewable energy investments. *Borsa Istanbul Review*, 21, S46–S56. <https://doi.org/10.1016/j.bir.2021.03.007>
6. Asni, F., Mahamud, M. A., & Sulong, J. (2020). Socio-economics and management of Muslim cemetery waqf using istibdal and GIS method in Penang state. *Journal of Islamic Accounting and Business Research*, 11(7), 1343–1362. <https://doi.org/10.1108/JIABR-01-2019-0026>
7. Azwar, A. (2023). The role of Islamic philanthropy in green economy development: Case in Indonesia. *International Journal of Islamic Economics and Finance Research*, 6(2), 40–55. <https://doi.org/10.53840/ijiefer105>
8. Badolo, M. (2024). *Water, sanitation and hygiene sector resilience to climate change*. <https://doi.org/10.31219/osf.io/tz7x6>
9. Candra Susanto, P., Yuntina, L., Saribanon, E., Panatap Soehaditama, J., & Liana, E. (2024). Qualitative method concepts: Literature review, focus group discussion, ethnography and grounded theory. *Siber Journal of Advanced Multidisciplinary*, 2(2), 262–275. <https://doi.org/10.38035/sjam.v2i2.207>
10. Dewananda, W., Leniwati, D., & Wicaksono, A. P. N. (2023). Analysis of SDGs research: The relationship between climate change, poverty, inequality, and food security. *Journal of Accounting and Investment*, 24(3), 937–958. <https://doi.org/10.18196/jai.v24i3.19323>
11. Hasan, N. F., & Syahrudin, S. (2022). Enhancing green waqf for carbonization technology: Opportunities for sustainable development goals in Indonesia. *El Barka: Journal of Islamic Economics and Business*, 5(2), 235–251. <https://doi.org/10.21154/elbarka.v5i2.4739>
12. Kabisch, N., Stadler, J., Korn, H., & Bonn, A. (2017). *Nature-based solutions for societal goals under climate change in urban areas*. Springer. https://doi.org/10.1007/978-3-319-56091-5_19
13. Kailani, N., & Slama, M. (2020). Accelerating Islamic charities in Indonesia: Zakat, sedekah and the immediacy of social media. *South East Asia Research*, 28(1), 70–86. <https://doi.org/10.1080/0967828X.2019.1691939>
14. Khan, M. K., Abdul Rasid, S. Z., Bardai, B., & Saruchi, S. A. (2023). Framework of affordable cooperative housing through an innovative waqf-based source of finance in Karachi. *Journal of Islamic Accounting and Business Research*, 14(3), 379–397. <https://doi.org/10.1108/JIABR-05-2021-0140>
15. Khan, M. S. M., Harvey, C., Price, M., & Maclean, M. (2023). Philanthropy and socio-economic development: The role of large indigenous voluntary organizations in bridging social divides in Pakistan. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 34(6), 1335–1346. <https://doi.org/10.1007/s11266-022-00554-8>
16. Mahsun, M., Djalaluddin, A., Asnawi, N., Wahyuni, N., Danila, N., & Ali, M. M. (2022). Green waqf: Sustainable surplus perspective balanced scorecard analysis. *KARSA Journal of Social and Islamic Culture*, 30(2), 266–297. <https://doi.org/10.19105/karsa.v30i2.8472>
17. Makhrus, M. (2018). Social media based Islamic philanthropy to develop philanthropy awareness in Indonesia. In *Proceedings of the 5th International Conference on Community Development*. <https://doi.org/10.2991/amca-18.2018.100>
18. Medias, F., Rahman, A. A., Susanto, A. A., & Pambuko, Z. B. (2022). A systematic literature review on the socio-economic roles of waqf: Evidence from organization of the Islamic cooperation (OIC) countries. *Journal of Islamic Accounting and Business Research*, 13(1), 177–193. <https://doi.org/10.1108/JIABR-01-2021-0028>
19. Mohamed, A., & Akande, A. E. (2025). Waqf-led buildings and green infrastructure role in environmental sustainability: Understanding critical gaps in current research landscape. *Management & Sustainability: An Arab Review*. <https://doi.org/10.1108/MSAR-09-2024-0152>
20. Muhdlor, N. K. (2024). Model wakaf energy (solar panel) terhadap isu perubahan iklim. *Jurnal Syntax Admiration*, 5(7), 2793–2801. <https://doi.org/10.46799/jsa.v5i7.1318>
21. Niswah, F. M., Dwiyani, E., Ammar, T., & Listiana, L. (2024). Waqf as an alternative financing for solar energy in Indonesia: Opportunities and challenges. *ZISWAF: Jurnal Zakat Dan Wakaf*, 11(1), 40–59. <https://doi.org/10.21043/ziswaf.v11i1.20535>

22. Nour Aldeen, K., Ratih, I. S., & Sari Pertiwi, R. (2022). Cash waqf from the millennials' perspective: A case of Indonesia. *ISRA International Journal of Islamic Finance*, 14(1), 20–37. <https://doi.org/10.1108/IJIF-10-2020-0223>
23. Nurul Huda, E., Tohirin, A., & Luqmana, M. A. A. (2023). A bibliometric analysis of Islamic philanthropy. *Journal of Islamic Economic and Business Research*, 3(1), 97–124. <https://doi.org/10.18196/jiebr.v3i1.109>
24. Othman, Y., Sheh Yusuff, M. S., & Md. Hussain, M. N. (2025). An analysis of green waqf as an instrument for sustainable development. *Environment-Behaviour Proceedings Journal*, 10(SI24), 267–272. <https://doi.org/10.21834/e-bpj.v10iSI24.6394>
25. Paul, W., Faudji, R., & Bisri, H. (2021). Cash waqf linked sukuk alternative development of sustainable Islamic economic development. *International Journal of Nusantara Islam*, 9(1), 134–148. <https://doi.org/10.15575/ijni.v9i1.12215>
26. Putra, M. D., Fadilla, S., Shahmi, M. A., Mansur, M., Sahroni, A., & Hamzah, M. M. (2024). Collaboration for social justice: Islamic philanthropy, government, and communities in advancing welfare in marginalized areas. *TAMWIL*, 10(2), 71. <https://doi.org/10.31958/jtm.v10i2.13797>
27. Riani, R., & Fatoni, A. (2022). Waqf on infrastructure: How far has been researched? *International Journal of Waqf*, 2(2). <https://doi.org/10.58968/ijf.v2i2.167>
28. Rusydiana, A. S., Sukmana, R., Laila, N., & Ali, M. M. (2024). Waqf development for responsible consumption and production. *Fara'id and Wealth Management*, 3(2). <https://doi.org/10.58968/fwm.v3i2.374>
29. Rusydiana, A. S., Sukmana, R., Laila, N., & Sanrego, Y. D. (2024). Waqf development model for SDG-10: An ANP approach. *Economics and Sustainability*, 1(1). <https://doi.org/10.58968/es.v1i1.412>
30. Sarango-Lalangui, P., Castillo-Vergara, M., Carrasco-Carvajal, O., & Durendez, A. (2023). Impact of environmental sustainability on open innovation in SMEs. *Heliyon*, 9(9), e20096. <https://doi.org/10.1016/j.heliyon.2023.e20096>
31. Setzer, J., & Vanhala, L. C. (2019). Climate change litigation: A review of research on courts and litigants in climate governance. *WIREs Climate Change*, 10(3). <https://doi.org/10.1002/wcc.580>
32. Shabliy, E. V., & Kurochkin, D. (2022). Climate policy advancement and international environmental justice. In *Energy Policy Advancement* (pp. 1–17). Springer International Publishing. https://doi.org/10.1007/978-3-030-84993-1_1
33. Siswanto. (2023). Cash waqf linked sukuk and renewable energy: Potential, model, strategy. In *Renewable Energy: Policy and Strategy*. Penerbit BRIN. <https://doi.org/10.55981/brin.900.c787>
34. Sukmana, R., & Rusydiana, A. S. (2023). Waqf model for climate change: A Delphi method approach. *International Journal of Waqf*, 3(1). <https://doi.org/10.58968/ijw.v3i1.335>