



Islamic ecotheology and environmental fatwas in government policy integration: A literature review of Indonesia's strategy to achieve net zero emissions by 2060

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ABSTRACT

Background: The issues of climate change and global environmental degradation demand collaboration between the government and society, including religious institutions. In Indonesia, the Indonesian Ulema Council (MUI) has issued several environmental fatwas affirming the moral responsibility of Muslims towards nature. However, most previous research has focused on theological aspects and has not addressed how these fatwas are integrated into public policy, particularly in the strategy towards Net Zero Emissions by 2060. This research gap highlights the need for studies linking religious values to national environmental governance. This study aims to analyze the role of MUI environmental fatwas (No. 04/2014, No. 41/2014, and No. 86/2023) in supporting the government's strategy to achieve Net Zero Emissions, and to explain the model for integrating Islamic ecotheology with national climate policy. **Methods:** The method used is a qualitative literature review, examining fatwa documents, government regulations (Presidential Regulation No. 98/2021, Indonesia's National Development Planning Agency), and international academic literature on faith-based environmental governance. **Findings:** The research findings indicate that fatwas function in three ways: (1) providing moral legitimacy to environmental policies; (2) encouraging social participation through networks of Islamic boarding schools, mosques, and Islamic organizations; and (3) strengthening public policies with religious ethical values. However, their effectiveness is still limited by the lack of implementation mechanisms, financial support, and institutional incentives. **Conclusion:** This research broadens the understanding of Islamic ecotheology as the ethical basis for environmental policies, while also providing practical recommendations for the government to involve religious institutions in transition strategies towards low-carbon and sustainable development. **Novelty/Originality of this article:** The environmental fatwas issued by the Indonesian Ulema Council (MUI) serve as a moral legitimacy for public policy toward achieving Net Zero Emission 2060, while the novelty of this research lies in integrating Islamic ecotheology with national climate policy within a co-governance framework.

KEYWORDS: Islamic Ecotheology; Environmental Fatwa; Net Zero Emissions 2060; Co-Governance.

1. Introduction

Maintaining environmental sustainability is a shared responsibility of all elements of society. Within a development framework, environmental policies are not solely oriented toward economic growth (Najicha et al., 2023), but also need to integrate ecological dimensions and moral responsibility towards nature (Sahal et al., 2023). The state is

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required to provide space for humans to act as just and non-exploitative caliphs (Nurdiansyah et al., 2022). Indonesia's commitment to Net Zero Emissions 2060 demonstrates efforts to harmonize national policies with global agendas such as the Paris Agreement and the NDC (Ariani et al., 2022; DGCC, 2021). For this commitment to be effective, technical regulations must be accompanied by an ethical foundation that can foster collective public awareness.

In practice, there remains a gap between ideals and the implementation of environmental policies. Although the government has issued various regulations and action plans, problems such as deforestation and land fires continue to recur (Wahyudin et al., 2020). Meanwhile, the Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) has issued several environmental fatwas, such as Fatwa No. 86/2023, No. 22/2011, and No. 04/2014 (MUI, 2023), but their influence on public policy remains limited. Some studies of Islamic ecotheology also have not addressed the concrete relationship between fatwas and state policy (MUI, 2023).

This gap weakens the moral legitimacy of climate policy. Without the support of ethical values and community participation, policies risk being perceived as merely technocratic projects (Ney & Thompson, 2003; Peters et al., 2013). Therefore, an in-depth study is needed on how ecotheology-based environmental fatwas can be integrated with national climate strategies to strengthen public support and moral legitimacy. This study uses the concept of Islamic ecotheology as the main normative basis, which emphasizes the religious relationship between humans and nature through the concepts of monotheism, caliphate, trust, and cosmic balance (Fazlhashemi, 2025; Ouis, 1998). Analysis was conducted on the text of the fatwa and national climate policy using a discourse analysis approach and literature review, supported by the theory of public policy legitimacy and the role of religion in development.

This research is unique in that it explicitly explores the relationship between the MUI's environmental fatwa and the Net Zero Emissions 2060 strategy, using an interdisciplinary approach that combines theology and public policy (Sobirin & Khasanah, 2023), it is hoped that the results of this study will enrich the discourse on the contribution of religious values to environmental policy in Muslim-majority countries. This research seeks to answer the following questions: how is the concept of Islamic ecotheology represented in the MUI's environmental fatwas; to what extent are these fatwas integrated with government policy strategies; and what are the obstacles and opportunities for synergy. Thus, this research is expected to strengthen the bridge between religious ethics and public policy in realizing a just climate transition.

2. Methods

This research uses a descriptive qualitative approach, combining document analysis and a literature review. The main principles of this method are ensuring transparency and replicability, so that the research steps can be repeated in similar contexts (Creswell, 2009; Khosla, 2021). The primary data sources include three environmental fatwas from the Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI): Fatwa No. 04/2014 on Endangered Wildlife Conservation, Fatwa No. 41/2014 on Waste Management, and Fatwa No. 86/2023 on Climate Change Control. These data are supplemented by national policy documents such as Presidential Regulation No. 98 of 2021 on the Economic Value of Carbon (NEK) and Indonesia's Nationally Determined Contributions (NDC), as well as international academic literature on eco-fatwas, faith-based environmental governance, and co-governance (European Commission, Directorate General for Research and Innovation, 2023; Khan et al., 2025). Source selection was conducted through purposive sampling based on their level of authority and relevance to the issue of integrating religious values into climate policy.

Data analysis was conducted through normative discourse analysis to examine the structure of obligations (*taklif*), prohibitions (*nahy*), and recommendations (*irsyād*) in the fatwa text (Kamaruddin & Firdaus, 2017). The results of the analysis were then interpreted

within the framework of transition and co-governance to assess the role of fatwas as moral instruments in sustainable climate policy (Al-Jayyousi et al., 2023).

The analysis stages include: compilation of fatwa and policy documents; reduction and classification of relevant texts; contextual interpretation within the framework of co-governance; comparison with other countries' eco-fatwa practices; and the synthesis of the results into a conceptual model of fatwa integration in environmental public policy. The validity of the research was ensured through source triangulation by comparing theological texts (Islamic ecotheology), public policies (Net Zero Emission strategies), and international empirical findings on the role of religious organizations in environmental governance (Aboukhousa et al., 2024; Al-Jayyousi et al., 2023). This triangulation strengthened the consistency of interpretation and ensured that the conclusions represent the actual interactions between religion, policy, and social practice.

Research Methodological Flow:

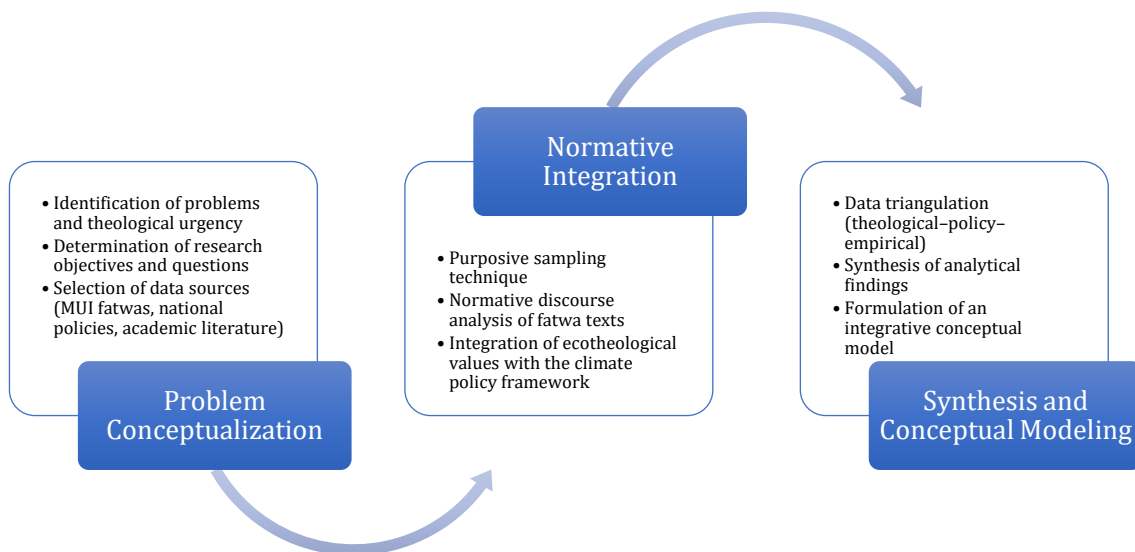


Fig. 1. Three-concept framework of the study

3. Results and Discussion

3.1 Indonesia's government policy toward net zero emission

The Indonesian government has set a Net Zero Emission target of 2060 as a long-term commitment to climate change mitigation within the Paris Agreement. This commitment is realized through various national strategies that emphasize the energy transition and controlling greenhouse gas emissions. Based on analysis by the International Energy Agency (IEA) and the Ministry of Energy and Mineral Resources (ESDM), success in achieving carbon neutrality requires integrated, sustainable steps and cross-sector coordination among all stakeholders (International Energy Agency, 2022).

As a policy instrument, Presidential Regulation No. 98 of 2021 concerning the Economic Value of Carbon (NEK) establishes a carbon pricing framework to support the achievement of the Nationally Determined Contribution (NDC) and reduce greenhouse gas emissions efficiently, effectively, and equitably (DGCC, 2021). In the energy sector, the National Energy General Plan (RUEN) serves as a strategic roadmap that regulates the balance between national energy supply and demand. However, realizing renewable energy potential still faces various implementation obstacles that require more targeted policy interventions (Langer et al., 2021).

Furthermore, Indonesia's National Development Planning (NDC) document emphasizes that achieving Net Zero Emissions by 2060 is determined not only by technical factors, but also by governance, funding, and socio-political legitimacy. Therefore, public support and the integration of social values, including through the role of religion and

resistance. Therefore, the success of achieving the target depends on the effectiveness of implementation and consistency of governance at each stage of implementation.

However, its implementation still faces three major challenges: regulatory gaps, low public participation, and limited funding. These regulatory gaps are evident in the dominance of coal and the weakness of policies supporting clean energy investment, indicating structural barriers to energy governance (Climate Transparency et al., 2024). Furthermore, the still top-down policy approach results in a lack of integration of social, cultural, and religious dimensions, thus suboptimal public participation especially among vulnerable communities in climate financing and action (Nurfitriani & Wijaya, 2023).

On the other hand, funding is a major obstacle in supporting climate mitigation and adaptation programs. While global climate finance flows play a role in reducing emissions, their effectiveness depends heavily on the institutional capacity of recipient countries to manage funds transparently and accountably (Alwerthan, 2024). In the Indonesian context, fiscal constraints and dependence on external financing sources have the potential to hinder the success of the energy transition and green economy, necessitating a more sustainable and inclusive funding mechanism.

Fang et al. (2025) in *Humanities and Social Sciences Communications* asserted that the effectiveness of climate finance across countries is greatly influenced by the quality of governance and economic structure. In the Indonesian context, the successful utilization of climate finance depends not only on the amount of funds received, but also on inter-institutional coordination, institutional capacity, and fiscal accountability in channeling funds for climate mitigation and adaptation (Fang et al., 2025). These findings reinforce the view that regulatory barriers, public participation, and funding are the main bottlenecks in implementing the Net Zero Emission 2060 strategy.

3.2 *The values of islamic ecotheology and their relevance to climate policy*

From the perspective of Islamic ecotheology, humans are not seen as absolute rulers over nature, but rather as *khalifah fi al-arḍ* God's representatives on earth who are tasked with protecting and managing creation in a just and sustainable manner (Rakhmat, 2022). The principle of *maqāṣid al-syarī'ah* places *ḥifẓ al-bi'ah* (environmental care) on a par with *ḥifẓ al-dīn* and *ḥifẓ al-nafs*, because ecological damage threatens life, food security and social stability (Muslimin et al., 2018; Nasir et al., 2022). Thus, nature conservation is a sharia obligation in the context of modern Islam.

The concept of *mīzān* (cosmic balance) and the prohibition of *isrāf* (waste) also strengthen Islamic ecological ethics. The Qur'an emphasizes the importance of maintaining balance and prohibits excessive behavior (QS. al-Raḥmān [55]: 7–9; QS. al-A'rāf [7]: 31). These principles demonstrate the alignment between Islamic ecotheological values and the direction of national climate policy, as they prioritize ecological responsibility and intergenerational justice (Kaskas, n.d.; Zuhdi et al., 2024).

In the Indonesian context, the study "Islamic Ecotheology: Principles of Environmental Conservation in the Qur'an" asserts that Islam prohibits *fasād fi al-arḍ* (destruction of the earth) and encourages frugal living without *isrāf* as a manifestation of human trust in God's creation. This principle strengthens the moral legitimacy of energy transition strategies, forest conservation, and emission control (Widiastuty & Anwar, 2025). Globally, Islamic ecotheology is developing as an interdisciplinary discipline that combines theology, ethics, and social activism in responding to the ecological crisis (Shefer Mossensohn, 2025).

The application of ecotheological values is evident in the eco-pesantren model in Indonesia, which functions as both a religious educational institution and a socio-ecological laboratory. Through the values of *khalifah*, *mīzān*, and the prohibition of *isrāf*, pesantren build ecological awareness that links Islamic spirituality with environmental responsibility. The study *Pedagogy, Culture & Society* confirms that eco-pesantren is not merely a conservation practice, but the formation of a new religious paradigm that connects spirituality with ecological ethics (Wijaya Mulya & Salvi, 2025). Ibn 'Arabi's *wahdat al-wujūd* approach also broadens the moral and ontological basis for Islamic environmental

ethics, affirming the unity between humans, nature, and God as the spiritual foundation for sustainability (Harfiyah Haleem, 2000; Lohlker, 2024).

In general, the development of Islamic ecotheology has followed two main paths: first, a normative-theological path that connects classical texts with modern sustainability principles; and second, a socio-institutional path that implements it through community movements such as *eco-pesantren*. The two complement each other the normative dimension provides theological legitimacy, while the practical dimension embodies it in public policy. Within the framework of global development, Islamic ecotheology serves as a normative bridge between religious teachings and sustainable development goals. Values such as *khalifah*, *mizān*, *amanah*, and the prohibition of *isrāf* align with the principles of the *Sustainable Development Goals* (SDGs) and the *Paris Agreement*. A systematic study shows the equivalence between *maqāṣid al-sharī'ah* and the pillars of the SDGs: *ḥifẓ al-nafs* with Goal 3 (Good Health and Well-being), *ḥifẓ al-māl* with Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth), and *ḥifẓ al-bi'ah* with Goal 13 (Climate Action) and Goal 15 (Life on Land). These Islamic legal principles serve as an ethical language that bridges ecological responsibility and global development commitments (Harahap et al., 2023).

Table 1. The relationship between sustainable development goals (SDGs) and Maqāṣid al-Syarī'ah in the perspective of Islamic ecotheology

SDGs (United Nations Sustainable Development Goals)	Maqāṣid al-Syarī'ah
Goal 1: No Poverty	<i>Hifẓ al-māl</i> (protection of assets)
Goal 3: Good Health and Well-being	<i>Hifẓ al-nafs</i> (protection of soul/life)
Goal 6: Clean Water and Sanitation	<i>Hifẓ al-nafs</i> & <i>Hifẓ al-bi'ah</i>
Goal 8: Decent Work and Economic Growth	<i>Hifẓ al-māl</i>
Goal 13: Climate Action	<i>Hifẓ al-bi'ah</i> (environmental protection)
Goal 15: Life on Land	<i>Hifẓ al-bi'ah</i>

The link between the SDGs and the maqāṣid al-syarī'ah confirms that Islamic ecotheology provides a moral and normative framework compatible with global sustainability policies. This opens up opportunities for Indonesia to develop an Islamic sustainability framework, in which the Net Zero Emissions 2060 strategy is not merely technocratic but also grounded in Islamic ethical and spiritual legitimacy. Several studies show that religion, particularly Islam, plays a strategic role not only at the normative level but also operationally in sustainable development. Schliesse (2024), emphasizes the importance of religious literacy the ability to articulate religious values in public policy so that the social and moral potential of religious communities can be optimized. Practices such as *eco-pesantren* in Indonesia serve as concrete examples of how Islamic ecotheology can transform into a social development instrument through the synergy of environmental education, conservation, and community independence (Mulya & Salvi, 2025). Furthermore, the link between Islamic ecotheology and the Paris Agreement demonstrates the potential for integrating religious ethics into global climate diplomacy. Recent literature, such as Harahap (2023), Schliesser (2024), and Mulya & Salvi (2025), shows that the concrete integration between religious institutions and national climate policy remains unexplained systematically. This opens up further research on how religious documents, such as environmental fatwas, can be mainstreamed into public policy toward Net Zero Emissions by 2060 (Harahap et al., 2023; Mulya & Salvi, 2025; Schliesser, 2024).

3.2.1 Fatwa No. 4/2014 (preservation of endangered species)

The Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) Fatwa Number 04 of 2014 affirms that the preservation of endangered species is a sharia obligation for Muslims as well as a moral responsibility towards the environment. This principle stems from the view that all living creatures are God's creations, whose role is to maintain ecosystem balance and the public good. This fatwa is not only normative but also serves as a social

instrument that encourages changes in community behavior. Through this mechanism, the MUI seeks to suppress illegal hunting practices, strengthen local wisdom, and optimize the role of religious leaders in environmental education. Thus, this fatwa reflects a religious strategy aimed at social transformation and strengthening biodiversity protection (MUI, 2014a).

This fatwa has four main strategic functions as a socio-religious instrument. First, it provides normative legitimacy that protecting endangered animals is a manifestation of the values of *ihsan* and the mandate of the human caliphate. Second, it serves as a tool for social mobilization through a network of Islamic boarding schools, mosque administrators, and religious leaders in public education. Third, it encourages policy harmonization between laws and regulations and the involvement of regional officials. Fourth, it emphasizes animal welfare by establishing limits on the use of animals permitted by sharia for the benefit of the people (MUI, 2014a).

Various studies have shown that religious communities play an effective role as "shadow conservation networks" that protect habitats and species through local norms and practices. However, the effectiveness of faith-based approaches depends heavily on policy design and synergy with secular conservation organizations. Exclusive approaches risk creating value conflicts, particularly when certain beliefs drive demand for animal products (belief-based use) or are used instrumentally without scientific consideration (Tatay & Merino, 2023).

Ulema Council (MUI) Fatwa No. 04/2014 serves as an example of a potential religious policy, but its effectiveness depends on integrating religious values with conservation ethics and sustainable economic strategies. Without such integration, religious symbolism has the potential to be misused to justify destructive practices such as the illegal wildlife trade (Cortés-Capano et al., 2022). Therefore, the success of ecotheology-based fatwas depends on cross-sector collaboration that positions religious values as the moral legitimacy for rational and ecologically just conservation policies.

3.2.2 Fatwa No. 41/2014 (waste management)

The Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) Fatwa No. 41 of 2014 was issued in response to the escalating waste crisis in Indonesia. This fatwa affirms that littering is haram (forbidden), while waste management based on the principles of *reduce, reuse, and recycle* (3R) is a collective obligation (*wajib kifayah*). Through this decree, the MUI places environmental management as part of the faith and religious ethics of Muslims (MUI, 2014).

This fatwa has three main functions. First, it provides moral-religious legitimacy so that waste management becomes an act of worship, not just a technical obligation. Second, it utilizes the Islamic missionary network—ulama, Islamic boarding schools, and mosques to spread the values of cleanliness and environmental awareness. Third, it bridges religious values and public policy through collaboration with the government in education and the provision of waste sorting facilities (MUI, 2014b).

International research demonstrates the effectiveness of faith-based approaches in encouraging environmentally friendly behavior. A study in Malaysia found that religious communities increased recycling participation through stronger moral messages than technical appeals (Mohamad et al., 2012). Other research has shown that religiosity positively influences the intention to reduce food waste, especially among Muslims who eschew wasteful behavior (*israf/tabdzir*) as the basis for sustainable consumption ethics (Baran et al., 2024). This principle aligns with the substance of the Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) Fatwa No. 41/2014, which emphasizes the prohibition of *israf/tabdzir* as the foundation of Islamic ecological ethics.

Studies in Iraq show that large-scale religious activities, such as the commemoration of Arba'een, can generate high volumes of waste. However, the involvement of religious institutions in planning and coordination has been shown to improve management effectiveness, particularly with the support of formal policies and government collaboration

(Abdulredha et al., 2020). These findings confirm that religion has the practical capacity to mobilize collective community participation through its moral and institutional authority.

Thus, MUI Fatwa No. 41/2014 represents a form of faith-based environmental governance that aligns with global discourse on religious-based environmental governance. Its effectiveness depends on public policy support, such as the provision of infrastructure, incentives, and strengthened regulations. If implemented collaboratively between communities, religious institutions, and the government, this fatwa has the potential to make a real contribution to environmental sustainability in Indonesia.

3.2.3 Fatwa No. 86/2023 (climate change control)

Fatwa of the Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) No. 86 of 2023 emphasizes that controlling climate change is a moral and religious legal obligation. All actions that cause environmental damage and accelerate the climate crisis are classified as haram, while efforts to prevent, reduce emissions and restore the environment are categorized as obligatory *kifayah*. The principle of human trust as *khalifah fi al-ard* and the prohibition of *mafsadah* are the syar'i basis for this provision (Indonesian Ulema Council, 2023).

As a socio-religious instrument, this fatwa works through three channels: providing moral-religious legitimacy by framing climate mitigation as an obligation, mobilizing religious networks ulama, Islamic boarding schools, and Islamic organizations to integrate climate messages in preaching and education, and encouraging the synchronization of public policies such as deforestation moratoriums, peat restoration, and emission reductions (Indonesian Ulema Council, 2023). Global research highlights the role of religion in framing climate change issues. Salter and Wilkinson (2024) show that religious actors interpret the climate crisis as a moral and justice issue (Salter & Wilkinson, 2024), while Sharma et al. (2021) emphasize that high religiosity does not necessarily correlate with ambitious climate policies. Therefore, the effective role of religion requires collaboration between religious authorities, scientific evidence, and strong public policy (Sharma et al., 2021).

In Indonesia, integrating fatwa messages with technical approaches is crucial. Religious education and faith community activities, such as calculating and reducing the emissions footprint of religious institutions, have been shown to increase the effectiveness of climate action (Aldrin, 2024). Three MUI environmental fatwas No. 04/2014 on the preservation of endangered species, No. 41/2014 on waste management, and No. 86/2023 on climate change control affirm Islam's consistency in positioning humans as *khalifah fi al-ard* (vicegerents) who maintain balance and avoid damage. Normatively, all three provide religious legitimacy for conservation and mitigation; socially, they activate da'wah networks and institutions; and policy-wise, they encourage synchronization with government programs.

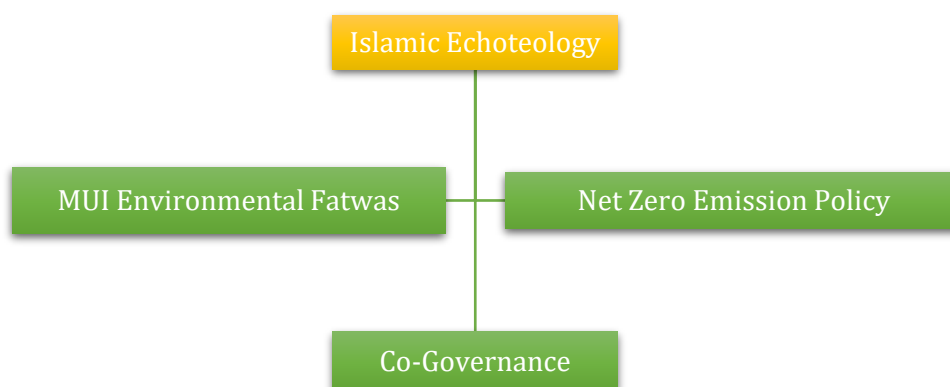


Fig. 3. This conceptual model illustrates the integration of Islamic ecotheology

MUI Environmental Fatwas, and the National Net Zero Emission Policy within a co-governance framework. Islamic Ecotheology provides normative values (khalīfah, mīzān, and isrāf) that inspire moral legitimacy; MUI Environmental Fatwas (No. 04/2014, No. 41/2014, and No. 86/2023) translate these values into socio-religious actions; while the government policy ensures technical and regulatory implementation. Their intersection forms a collaborative co-governance model toward sustainable climate policy. However, its application is still limited to the realm of moral discourse. Stronger integration between fatwas, regulations, and infrastructure is needed to impact ecological behavior change. Global studies confirm that the success of *faith-based approaches* depends on the support of facilities and good governance (Cortés-Capano et al., 2022; Mohamad et al., 2012). With cross-sector collaboration, fatwas have the potential to strengthen sustainable environmental governance and support national strategies towards *Net Zero Emissions by 2060*.

3.3 The integration of MUI fatwas and government strategies

The integration of Islamic ecotheology, environmental fatwas, and government strategy reflects an effort to reconcile moral legitimacy with technocratic policies. Substantial alignment is evident between the content of the MUI fatwas and the direction of national policy. Fatwa No. 41/2014 on waste management, for example, aligns with the 3R principle (reduce, reuse, recycle) in regional government programs. Meanwhile, Fatwa No. 86/2023 affirms a deforestation moratorium, peat restoration, fire control, and emissions reduction all of which are directly linked to the climate mitigation agenda in Indonesia 's (MUI, 2023).

Stacey (2024) emphasizes that religion should not only be a supporter of secular policies, but an active driver in sustainable governance (Stacey, 2024). However, cross-national research shows that levels of religiosity do not always correlate with progressive climate policies; religious legitimacy is only effective when combined with strong scientific and regulatory instruments (Sharma et al., 2021). Therefore, integrating fatwas into public policy requires institutional bridges connecting moral narratives with implementation mechanisms such as educational curricula, green economy incentives, and shared monitoring systems.

From an implementation perspective, collaboration can be realized through steps such as: incorporating climate change issues into religious education curricula, building the capacity of religious institutions in waste management and emissions footprint calculation, and providing incentives such as access to green financing for faith-based communities. The case of *eco-pesantren* in Indonesia serves as a concrete example of how religious institutions function as practical laboratories for measurable environmental action (Mulya & Salvi, 2025); a co-governance-based operational integration model can be formulated that includes three main components: first, normative legitimacy, namely the state's recognition of religious values in fatwas as part of public policy communication; second, technocratic instruments in the form of policies and resources such as the NDC, Presidential Decree No. 98/2021 concerning the Economic Value of Carbon, and ecosystem restoration programs; and third, implementation mechanisms through training, eco-religious curricula, *eco-pesantren* projects, and incentive schemes for religious institutions.

Institutionally, Indonesian climate policy remains dominated by technocratic and economic logic, while the Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) fatwas emphasize the normative-theological dimension, emphasizing the prohibition of environmental destruction and collective responsibility (*wājib kifayah*). This difference in orientation demonstrates the need for an operational bridge that connects economic indicators with moral legitimacy so that the Net Zero Emissions 2060 agenda can be implemented in a participatory manner.

Recent research shows that the successful integration of non-state actors, including religious institutions, depends on three key factors: formal multi-actor forums, technical

and financial support, and transparent accountability systems. In this context, religion can serve as social capital that strengthens legitimacy and community participation (Ives et al., 2024), provided it is accompanied by formal channels such as formal partnerships between civil society organizations and environmental agencies and access to climate finance (Khan et al., 2025).

Thus, fatwas can act as a normative bridge connecting moral-theological language with science-based policies. This model expands the function of fatwas from mere religious documents to public communication instruments that strengthen the social legitimacy of the government's technocratic strategies. This approach aligns with the concept of religious repertoires (Stacey, 2024) and the principle of co-governance. European Commission (2023) which emphasizes that true sustainability demands synergy between moral values and technical instruments in environmental governance.

3.4 Challenges and prospects for the implementation of environmental fatwas

3.4.1 Islamic ecotheology and climate transition governance

This research emphasizes that Islamic ecotheology needs to be understood as an interdisciplinary discipline that links religious norms with public policy, not simply a textual theological study. The use of fatwas as an object of analysis expands theoretical contributions in two main areas. First, in the realm of ecotheology, fatwas demonstrate how Islamic concepts such as *khalifah*, *mizān*, and the prohibition of *israf* can inform environmental policy. Second, in the study of transition governance, fatwas present a moral-cultural dimension in the form of *religious repertoires* that strengthen social acceptance of sustainable practices. This is in line with Stacey (2024), who emphasized that *religious repertoires* provide profound meaning that influences societal acceptance of transitional pathways toward sustainability (Stacey, 2024).

Methodologically, this research requires a *mixed-methods approach* to bridge the normative analysis of fatwa texts with quantitative evaluations of environmental policy outcomes, such as emission reductions or improved waste management. Ives (2024) emphasizes the importance of integrating instrumental, intrinsic, and relational value dimensions in the decision-making process and offers a framework for understanding the role of religion in shaping these value configurations. This approach can produce hybrid indicators that assess normative aspects such as religious awareness and ecological intentions, alongside measurable technical outcomes (Ives et al., 2024).

The future empirical research agenda encompasses several strategic directions. First, a comparative study between regions that have received fatwa socialization and those that have not for example, through mosque waste bank programs or eco-pesantren (Islamic boarding school) programs to assess the influence of fatwas on ecological behavior. Second, co-governance-based policy experiments need to be developed through shared standard operating procedures between the government, mass organizations, and Islamic boarding schools, using a quasi-experimental design approach to strengthen the validity of the findings. Third, long-term evaluation is needed to link da'wah activities, sermons, and educational curricula with measurable ecological outcomes. The study of eco-pesantren in Indonesia can serve as an evaluative model because it integrates ecological curriculum and practices (Mulya & Salvi, 2025).

Furthermore, critical studies are needed to examine the potential instrumentalization of religion, namely the use of religious symbols to justify environmentally damaging economic practices. Studies should also consider ethical pluralism in multifaith societies, as well as the impact of gender inequality and power relations on faith-based programs. Cross-national studies show that high religiosity does not always correlate with ambitious climate policies; institutional factors, bureaucratic capacity, and political leadership are often more important (Sharma et al., 2021). Therefore, comparative institutional analysis is crucial to understanding the conditions under which fatwas can serve as a reinforcement, rather than a barrier, to climate action.

3.4.2 Fatwa-government integration model in Islamic ecotheology-based climate governance

The initial step in integrating environmental fatwas into public policy is the establishment of a formal partnership forum between the government, Islamic organizations, Islamic boarding schools (pesantren), and religious institutions. This forum will design pilot programs and establish cross-sector monitoring mechanisms. Co-governance literature emphasizes that multi-actor forums with clear institutional structures are a key prerequisite for effective environmental collaboration (Carr Kelman et al., 2023).

Successful implementation of fatwa-based policies also requires capacity building for religious institutions through training in emissions footprint calculation, 3R waste management, and ecosystem restoration. Collaboration between scientists and faith-based organizations, particularly through youth education, has been shown to improve climate literacy and encourage collective action when tailored to the religious context (Boorse & Jablonski, 2024).

Furthermore, the sustainability of fatwa-based policies depends on strong green financing and accountability. Sharia-compliant financial instruments such as green sukuk, productive waqf, and environmental zakat (Islamic charity) have significant potential to support sustainable projects, but their effectiveness is determined by governance and reporting transparency (Karim, 2023). The government can provide incentives such as "Green Mosque/Islamic Boarding School" certification or awards for communities with the best environmental management, as measured by verified indicators such as the amount of segregated waste and reduced emissions (Khan et al., 2025).

Integrating environmental issues into religious curricula is also crucial for strengthening awareness and behavioral change at the community level. The experience of eco-pesantren in Indonesia demonstrates that this approach is effective when supported by adequate educational policies and infrastructure (Mulya & Salvi, 2025). All these steps need to be strengthened through co-governance-based pilot projects with measurable outcome indicators, such as mosque waste banks or Islamic boarding school-based peatland restoration, to generate empirical evidence and open access to international climate finance (Ives et al., 2024).

3.4.3 Environmental fatwa co-governance model

Co-governance model that positions fatwas as religious legitimacy and the government as a technocratic instrument is relevant for Muslim-majority countries in translating climate commitments into concrete action. This model links moral authority with public policy: fatwas strengthen social acceptance, while government regulation and funding ensure program accountability. This approach aligns with the sustainability transition literature, which emphasizes the role of religious repertoires as sources of symbolic legitimacy in transforming moral values into collective practices (Stacey, 2024).

From a funding perspective, Islamic financial instruments such as green sukuk, environmental zakat, and productive waqf support ecosystem restoration and community renewable energy programs. Their effectiveness depends on governance, transparency, and consistent public policy integration (Alam et al., 2023). Cross-national findings indicate that religious legitimacy is effective when accompanied by concrete institutional strengthening, such as integrating environmental issues into religious curricula, establishing multi-actor forums, and implementing transparent monitoring systems (Ives et al., 2024).

The eco-fatwa phenomenon is also developing globally, such as the Egyptian *Dar al-Ifta fatwa* which emphasizes the moral obligation to protect nature, showing that the Indonesian model is part of a religion-based ecological governance movement (Shahid, 2022). The implementation of this model needs to be adapted to the institutional and political context of each country, for example, the differences between the centralized fatwa system in Egypt and the decentralized model in Indonesia, as well as variations in bureaucratic capacity and access to international climate finance. Global adaptation can

follow three stages: legal-policy alignment between fatwas and national policies, financial pathways through sustainable sharia instruments, and institutional channels in the form of permanent cross-actor forums between ministries, fatwa institutions, and Islamic education networks (Bruno et al., 2022; European Commission, 2023). Cross-national evaluations through pilot projects with measurable indicators, such as CO₂e emission reductions, restoration area size, or volume of sorted waste, will strengthen collective learning and increase the capacity of religious authorities to support national climate targets and global commitments.

4. Conclusions

This research confirms that environmental fatwas issued by the Indonesian Ulema Council/*Majelis Ulama Indonesia* (MUI) hold a strategic position as socio-religious instruments that bridge Islamic theological norms with public policy. Fatwas on endangered species conservation, waste management, and climate change control reinforce ecotheological principles such as *khalifah* (vicegerent), *mīzān* (religious order), and the prohibition of *isrāf* (traditional Islamic law), while providing moral legitimacy to state sustainability policies. Through this legitimacy, fatwas serve as a bridge between technocratic government policies, such as Presidential Regulation Number 98 of 2021 concerning the Economic Value of Carbon and the commitment to Net Zero Emissions by 2060, and social practices at the community level. The research findings demonstrate three main functions of environmental fatwas: first, providing normative legitimacy that makes ecological issues a spiritual responsibility; second, acting as a social instrument that mobilizes Islamic da'wah networks, Islamic boarding schools, and mass organizations; and third, having the potential to be developed as a public policy instrument that supports natural resource conservation and climate change mitigation.

However, this study also found implementation gaps, particularly in terms of formal mechanisms, incentives, and limited financing. Therefore, further research needs to be directed at comparative studies and longitudinal approaches to assess the concrete impact of fatwas on people's ecological behavior. The government is advised to establish formal partnership forums with Islamic organizations and religious educational institutions, expand access to sharia-based green financing, and integrate eco-religious curricula into Islamic education. With these steps, environmental fatwas will no longer be merely moral appeals but can be transformed into substantive policy instruments that contribute significantly to achieving the Sustainable Development Goals (SDGs) and strengthen Indonesia's commitment to Net Zero Emissions by 2060.

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Author Contribution

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Data Availability Statement

The data used in this study comes from publicly available public documents (MUI fatwas, government policies, and academic literature). No new data was created primarily for this study.

Conflicts of Interest

The author declares no conflict of interest in this research.

Declaration of Generative AI Use

During the preparation of this work, the authors used Grammarly to assist in improving grammar, clarity, and the academic tone of the manuscript. After using this tool, the authors carefully reviewed and edited the content as needed and take full responsibility for the content of the publication.

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