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Research Paper

Carbon Pricing in Islamic Economics: A Normative Analysis of Carbon Tax and Emissions Trading Systems

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Abstract

Climate change mitigation has encouraged the use of carbon pricing instruments, particularly carbon taxes and emissions trading systems (ETS). While these mechanisms are widely adopted for their economic efficiency, their ethical legitimacy remains contested in Muslim-majority contexts, where economic activities must conform to Islamic principles. This study examines the compatibility of carbon pricing instruments with Islamic economic jurisprudence, focusing on the ethical validity of ETS and carbon taxation. Using a qualitative normative–interpretive approach, the study analyzes Islamic legal sources, policy documents, and relevant literature, supported by expert consultation for analytical triangulation. The analysis is grounded in *fiqh al-muʿāmalah*, Islamic fiscal ethics, *maqāṣid al-sharīʿah*, and Sharia Enterprise Theory. Rather than measuring policy effectiveness empirically, the study evaluates carbon pricing based on transaction structure, ownership characteristics, and the presence of uncertainty or speculative elements. The findings indicate that emissions trading systems raise significant shariah concerns. Carbon allowances function as administrative permissions rather than tangible or usufruct-based assets, creating issues related to *gharar* and speculative trading. In contrast, carbon taxation shows stronger compatibility with Islamic fiscal principles when implemented transparently, proportionally, and with revenues allocated for public welfare and environmental protection. This study contributes by reframing carbon pricing as an issue of ethical governance rather than technical efficiency. It concludes that carbon taxation, supported by *maqāṣid al-sharīʿah* and Islamic fiscal principles, offers a more ethically defensible pathway for climate policy in Muslim-majority contexts.

Keywords *Carbon Tax; Emission Trading System; Islamic Economics*

INTRODUCTION

Climate change has emerged as one of the most urgent global challenges, prompting nations to adopt innovative policy instruments aimed at curbing greenhouse gas (GHG) emissions. Among these instruments, carbon pricing mechanisms—including carbon taxes and emissions trading systems (ETS)—have gained prominence for their ability to internalize the negative externalities of carbon emissions (Green, 2021; Hepburn et al., 2020). By assigning economic value to each ton of carbon dioxide equivalent (tCO_2e), these mechanisms incentivize polluters to reduce emissions or invest in cleaner technologies. However, in Muslim-majority settings, the legitimacy of carbon pricing is not only assessed by effectiveness, but also by whether the instrument's underlying transactions and fiscal burdens comply with Islamic economic principles—especially justice (*ʿadl*), stewardship (*khilāfah*), and public welfare (*maṣlaḥah*).

In line with its commitment to the Paris Agreement, Indonesia enacted Presidential Regulation No. 98 of 2021, mandating the implementation of carbon pricing through a combination of carbon taxes, emissions trading, and result-based payments. While countries such as the United Kingdom and members of the European Union have implemented robust ETS frameworks with verifiable emission reduction outcomes (Le & Azhgaliyeva, 2023), Indonesia is still in the early stages of developing a hybrid carbon pricing model. This model combines cap-and-trade emissions allowances with fiscal measures in the form of a carbon tax. The ETS is primarily focused on large coal-fired power plants (PLTUs) with a capacity of 25 MW or more, as outlined in national regulations such as the Ministry of Energy and Mineral Resources Regulation No. 16 of 2022. It is

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operationalized through the national registry system (SRN-PPI) and coordinated with oversight institutions including the Ministry of Environment and Forestry, IDXCarbon, and the Financial Services Authority (OJK), with third-party verification conducted by accredited bodies (Menteri Energi dan Sumber Daya Mineral, 2022; Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia, 2022). Yet beyond administrative readiness, the hybrid model raises a foundational Islamic-economic question: what exactly is being exchanged in ETS, who acts as the seller, and whether the traded "emission allowance" qualifies as a valid object of sale (*mabīʿ*) under *al-bayʿ* (Islamic sale contract).

From the perspective of *fiqh muʿāmalah*, a sale (*al-bayʿ*) requires (i) a lawful and valuable subject matter (*māl mutaqawwin*) or a recognized transferable benefit (*manfaʿah/ḥaqq*), (ii) a clear ownership basis (*milk*) and transferability, and (iii) transparency that avoids excessive uncertainty (*gharar/jahālah*) and gambling-like speculation (*maysir*). In ETS, the traded unit is typically a government-created permission/right to emit within a cap (an intangible administrative right), which may be initially allocated by the state/regulator and then exchanged among firms in the market when surplus allowances are sold. This structure makes ETS analytically close to the sale of rights (*baiʿ al-ḥuqūq*) rather than the sale of a tangible commodity, thereby intensifying debates over whether "permission to pollute" constitutes a shariah-compliant tradable asset and whether price formation driven by volatility and secondary trading introduces prohibited elements. Therefore, the Islamic assessment must move from general ethical claims (e.g., Islam supports environmental protection) toward transaction-level scrutiny: the identity of contracting parties, the legal nature of the allowance, and the presence/degree of *gharar* and *maysir* embedded in market operations.

Existing scholarship provides strong support for Islamic environmental ethics—through *khilāfah*, *maqāṣid al-sharīʿah*, and harm-prevention maxims—affirming that environmental protection is a moral and legal duty (Dusuki & Abdullah, 2007; Qizwini & Mustomi, 2024; Zauro et al., 2024). In parallel, studies on environmental taxation in Islamic perspectives generally regard well-designed taxes as potentially legitimate when they are fair, transparent, and directed to public welfare and remediation. However, comparatively fewer studies have interrogated ETS as a concrete market transaction under *al-bayʿ*—specifically examining the saleability of emission rights, the clarity of ownership and benefit (*manfaʿah*), and the risk of *gharar/maysir* in allowance trading—particularly in emerging hybrid regimes such as Indonesia's. This gap matters because policy debates in Muslim-majority countries often require not only "green effectiveness," but also a defensible shariah rationale for the mechanism used.

To strengthen the ethical-accountability lens, this study also draws on Sharia Enterprise Theory (SET), which frames organizational accountability as simultaneously vertical (to God) and horizontal (to society and the environment), thereby complementing maqāṣid-based reasoning when evaluating the distributive and governance implications of carbon pricing instruments. Accordingly, the central problem addressed here is not whether Islam endorses environmental protection (it does), but whether the operational design of ETS and carbon tax can be justified under Islamic rules of exchange and fiscal ethics without violating justice and *maṣlaḥah*.

Based on this framing, the study asks the following research questions: (RQ1) In ETS, who is the seller and what is the traded object from the standpoint of *al-bayʿ*—does an emission allowance qualify as *māl/ḥaqq/manfaʿah* that can be validly exchanged? (RQ2) What forms of *gharar*, *jahālah*, and *maysir* potentially arise in allowance trading and price formation, and how do these risks affect shariah legitimacy? (RQ3) Under Islamic fiscal ethics, under what conditions can a carbon tax be considered a more legitimate instrument, and how should revenue use and burden distribution be designed to meet *ʿadl* and *maṣlaḥah*? (RQ4) For Indonesia's hybrid pathway, what shariah-sensitive design implications follow when mapping policy features (registry, allocation, trading rules,

verification, and revenue recycling) to Islamic normative criteria?

This study uses a qualitative approach combining content analysis of Islamic legal sources—including the Qur'an and Hadith—with expert validation through focus group discussions (FGDs) involving Muslim scholars and relevant stakeholders. Rather than treating Qur'an and Hadith as "comparative theories" across countries, these sources are employed as normative criteria to evaluate the permissibility of transactions and the ethical legitimacy of fiscal instruments, while the Indonesia–UK–EU comparison is used to map concrete policy features and mechanisms that shape those transactions. The expected theoretical contribution is a more transaction-specific Islamic economics reading of carbon pricing—linking *al-bayʿ*, ownership/transferability, and *gharar/maysir* diagnostics to contemporary ETS design—alongside a *maqāṣid*- and SET-informed ethical evaluation. Practically, the study offers policy guidance for Muslim-majority jurisdictions—especially Indonesia—on designing carbon pricing instruments that are environmentally credible and shariah-defensible, including design principles for carbon tax earmarking/revenue recycling and governance safeguards that reduce speculative trading behavior.

LITERATURE REVIEW

Islamic Environmental Ethics as the Normative Foundation of Climate Policy

Islamic economics embeds environmental protection within its normative and ethical architecture through the concepts of *khilāfah* (human stewardship), *maṣlaḥah* (public welfare), and the higher objectives of Islamic law (*maqāṣid al-sharīʿah*). These principles collectively affirm that environmental preservation is a moral and legal obligation rather than a discretionary policy choice. Bsoul et al. (2022) emphasize that the Qur'an and Sunnah repeatedly advocate balance (*mīzān*), prohibit ecological corruption (*fasād*), and assign humans the role of trustees over natural resources. Similarly, Muslimin et al. (2020) demonstrate that environmental protection is embedded in Yusuf al-Qaradawi's interpretation of *maqāṣid*, particularly the preservation of life (*ḥifẓ al-nafs*) and wealth (*ḥifẓ al-māl*).

Saged et al. (2017) further conceptualize environmental preservation as a valid legal cause (*ʿillah*) within Islamic jurisprudence, reinforcing the view that environmental degradation constitutes injustice that Islamic law seeks to prevent. Recent studies extend this ethical reasoning to contemporary sustainability discourse. Klongrua et al. (2025) and Zauro et al. (2024) show that Islamic economic principles are compatible with sustainable development agendas, including climate mitigation and ecological resilience.

However, while this literature clearly establishes Islam's pro-environmental stance, it remains largely normative and principle-based. Most studies do not examine how these ethical imperatives should be operationalized when evaluating specific policy instruments, particularly market-based mechanisms such as carbon pricing. This gap necessitates a closer examination of carbon pricing tools through Islamic transactional and fiscal frameworks rather than relying solely on general ethical endorsement.

Islamic Fiscal Ethics and Environmental Taxation

Environmental taxation has received more direct attention within Islamic economic scholarship. Unlike zakat, environmental taxes fall under discretionary fiscal instruments (*dharībah* or *taʿzīr mālī*) that may be imposed by the state to prevent harm and promote public welfare. Al-Rawi et al. (2023), based on interviews with Islamic jurists, identify two dominant positions: one that permits environmental taxes as corrective instruments for harmful activities, and another that cautions against unjust burden distribution and misuse of tax revenues.

Muhammad (2023) reinforces this position by arguing that environmental taxes are permissible when they meet three core conditions: fairness in imposition, transparency in

administration, and allocation of revenues toward remediation and public benefit. These conditions resonate with the Islamic principles of justice (*ʿadl*) and *maṣlaḥah ʿāmmah*. Nasir et al. (2022) further support this view through the legal maxim *sadd al-dharā'iʿ* (blocking harmful means), suggesting that fiscal intervention is justified to prevent greater environmental damage.

Empirical economic studies strengthen this argument. Gugler et al. (2023) causal evidence that the UK carbon tax significantly reduced emissions in the electricity sector, while Parry et al. (2022) show that carbon taxes generally offer greater administrative simplicity and price certainty compared to ETS. However, distributive impacts remain a major concern. Siregar (2025) and Darwili et al. (2025) demonstrate that carbon taxes in Indonesia risk being regressive unless accompanied by compensatory mechanisms such as targeted subsidies or revenue recycling—an outcome that would contradict Islamic principles of distributive justice.

Taken together, this body of literature suggests that carbon taxation is conditionally compatible with Islamic fiscal ethics, provided that equity, transparency, and accountability are embedded in policy design. Yet, this literature does not fully address how carbon taxation compares with ETS from an Islamic transactional perspective.

Emissions Trading System (ETS) as a Transaction under *Fiqh al-Muʿāmalah*

In contrast to environmental taxation, the Islamic economics literature on emissions trading systems remains limited and fragmented. ETS operates through the allocation and exchange of emission allowances—government-issued permissions that grant the right to emit a specified quantity of greenhouse gases. From an Islamic legal perspective, this raises fundamental questions concerning the nature of the traded object, the identity of contracting parties, and the validity of the exchange under *fiqh al-muʿāmalah*.

Classical Islamic jurisprudence stipulates that a valid sale (*al-bayʿ*) requires a lawful and valuable subject matter (*māl mutaqawwin*) or a recognized transferable benefit (*manfaʿah*), clear ownership (*milk*), and the absence of excessive uncertainty (*gharar*) or gambling-like speculation (*maysir*) (Auda, 2008; Hallaq, 2009). Emission allowances, however, are intangible administrative rights whose value is derived not from intrinsic utility but from regulatory scarcity and compliance requirements.

This structure places ETS closer to the sale of rights (*baiʿ al-ḥuqūq* or *manfaʿah*) than to conventional commodity exchange. Classical jurists differ on the permissibility of selling such rights, particularly when they lack direct material benefit or clear ownership. Moreover, the price volatility and speculative behavior observed in secondary carbon markets intensify concerns related to *gharar* and *jahālah*. While mainstream economic literature highlights ETS as a cost-effective mechanism for emissions reduction (Le & Azhgaliyeva, 2023), Islamic scholarship has yet to systematically evaluate ETS as a concrete transactional arrangement governed by Islamic rules of exchange.

This reveals a critical conceptual gap: ETS is increasingly implemented in practice, including in Muslim-majority countries, yet its transactional legitimacy under Islamic law remains under-theorized, particularly when compared to fiscal instruments such as carbon taxes.

Integrating *Maqāṣid al-Sharīʿah* and Sharia Enterprise Theory as Evaluative Benchmarks

To bridge the gap between ethical principles and policy instruments, recent scholarship advocates integrating *maqāṣid al-sharīʿah* into contemporary governance analysis. Anwar et al. (2025) argue that *maqāṣid*-based frameworks enable policymakers to evaluate not only policy outcomes but also the ethical integrity of mechanisms. Tumiran (2024) demonstrates that low-carbon development strategies can be aligned with the five essential protections of Islamic law, reinforcing public acceptance in Muslim contexts.

Complementing this approach, Sharia Enterprise Theory (SET) extends accountability beyond shareholders to include society, the environment, and ultimately God. This framework strengthens the ethical assessment of carbon pricing instruments by emphasizing distributive justice, transparency, and long-term stewardship (Dusuki & Abdullah, 2007). Haris et al. (2024) empirically illustrate how *eco-maqāṣid* narratives embed these values in climate communication, highlighting their relevance in governance practice.

Despite these advances, *maqāṣid* and SET are rarely operationalized to evaluate specific carbon pricing instruments, particularly in comparing carbon taxes and ETS. Most applications remain abstract, focusing on general sustainability alignment rather than examining transaction structures, ownership arrangements, and fiscal flows.

Integrated Conceptual Analytical Framework: Carbon Tax vs. ETS in Islamic Economics

Synthesizing the above literature, this study develops an integrated conceptual analytical framework that evaluates carbon pricing instruments through four interconnected dimensions: (i) policy instrument, (ii) transaction structure, (iii) Islamic economic benchmarks, and (iv) ethical outcome.

Table 1. Integrated Conceptual Analytical Framework of Carbon Pricing Instruments in Islamic Economics

Carbon Pricing Instrument	Transaction Structure	Islamic Economic Domain	Key Islamic Benchmarks	Ethical Outcome
Carbon Tax	Non-exchange-based fiscal obligation; vertical relationship between state and emitters	Islamic fiscal ethics (*dharībah*, *taʿzīr mālī*)	Justice (ʿadl); public welfare (*maṣlaḥah ʿāmmah*); harm prevention (*sadd al-dharā'iʿ*); accountability (SET)	Conditionally permissible if progressive, transparent, and revenues are recycled for environmental and social purposes
Emissions Trading System (ETS)	Exchange-based market transaction; horizontal trading of emission allowances	*Fiqh al-muʿāmalah* (al-bayʿ; *baiʿ al-ḥuqūq/manfaʿah*)	Valid tradable object (*māl/manfaʿah*); clear ownership (*milk*); absence of *gharar*, *jahālah*, and *maysir*; distributive justice	Ethically contested due to intangible rights, price volatility, speculative trading, and unequal access
Hybrid Model (Carbon Tax + ETS)	Combination of fiscal levy and market exchange	Mixed domain: fiscal ethics + transactional law	Coherence across benchmarks; institutional accountability; prioritization of *maṣlaḥah*	Requires further ijtihād and governance refinement

RESEARCH METHOD

Research Design and Theoretical Orientation

This study adopts a qualitative exploratory design aimed at understanding the compatibility of carbon pricing instruments—specifically carbon taxes and ETS—with the normative and ethical framework of Islamic economics. Given the interdisciplinary nature of the topic, the methodology combines documentary analysis, normative textual interpretation, and expert validation through

FGDs. This triangulated approach ensures both doctrinal rigor and contextual relevance in assessing the Islamic legal and economic perspective on carbon pricing policies.

This study adopts a qualitative normative research design aimed at examining the compatibility of carbon pricing instruments—specifically carbon tax and ETS—with the principles of Islamic economics. The research does not seek to test empirical relationships or measure policy effectiveness quantitatively; rather, it focuses on evaluating the legal–ethical coherence of carbon pricing mechanisms using Islamic jurisprudential and economic frameworks.

The study is positioned within a normative–interpretive paradigm, which is commonly applied in Islamic legal studies and policy-oriented ethical research. This approach is appropriate because the core research problem concerns the legitimacy of transactions, fiscal instruments, and governance mechanisms, rather than behavioral or statistical outcomes. Accordingly, the analysis draws upon *fiqh al-muʿāmalah*, Islamic fiscal ethics, and *maqāṣid al-sharīʿah* as its primary theoretical foundations.

In line with this orientation, the research employs qualitative content analysis as its main analytical method, enabling systematic interpretation of legal texts, policy documents, and scholarly arguments. This approach has been widely used in socio-legal and Islamic economic research to examine normative consistency between contemporary policy instruments and religious-ethical principles (Hallaq, 2009; Mayring, 2014).

Data Sources and Data Collection

This study is grounded in a qualitative content analysis framework, a widely adopted method in socio-legal and religious economics research for extracting thematic meanings from religious texts and policy documents (Mayring, 2014). It applies an interpretive paradigm rooted in Islamic jurisprudence (*fiqh muʿāmalāt*) to assess the legal and ethical legitimacy of carbon pricing instruments—specifically emissions trading and carbon taxation—through the lens of *maqāṣid al-Sharīʿah* (higher objectives of Islamic law), including justice (*ʿadl*), harm prevention (*sadd al-dharā'i*), and public welfare (*maṣlaḥah*).

This approach is widely supported in Islamic economics literature. For example, Bakar (1998) underscores the importance of qualitative and normative inquiry in aligning contemporary policy instruments with Shariah ethical frameworks. Moreover, this research design draws on established methodological foundations in Islamic legal studies (Hallaq, 2009) and environmental ethics (Gardiner, 2013) facilitating a robust interdisciplinary analysis that bridges textual interpretation with environmental policy evaluation.

Data Sources and Data Collection

Data for this study were obtained from documentary sources and expert consultation, which together form the basis of the normative analysis.

1. Documentary Sources

The primary data consist of authoritative documents that are directly relevant to the evaluation of carbon pricing from an Islamic perspective. These include:

a. Islamic legal sources, comprising: Qur'anic verses related to stewardship (*khilāfah*), justice (*ʿadl*), prohibition of harm (*ḍarar*), and ethical economic conduct; authentic Hadith addressing commercial transactions, uncertainty (*gharar*), and unjust gain; classical and contemporary fiqh literature on *al-bayʿ*, *māl*, *manfaʿah*, ownership (*milk*), and fiscal obligations; and relevant DSN–MUI fatwas and recognized Islamic legal opinions used as doctrinal references.
b. Policy and regulatory documents, including Indonesia's carbon pricing framework (Presidential Regulation No. 98/2021 and related ministerial regulations); emissions trading

regulations from the United Kingdom and the European Union; and afficial policy reports related to carbon taxation and emissions trading mechanisms.

c. Scholarly literature, consisting of peer-reviewed journal articles on Islamic environmental ethics, carbon taxation, ETS, maqāṣid al-sharīʿah, and Sharia Enterprise Theory.

These sources constitute the main empirical material of the study and are analyzed to assess how contemporary carbon pricing mechanisms align with Islamic legal and ethical standards.

2. Expert Consultation and Triangulation

To strengthen interpretive validity, the study incorporated expert consultation as a form of triangulation, rather than as a primary empirical method. A total of six experts were consulted, consisting of Islamic economics scholars, *fiqh* specialists, and policy experts with experience in environmental governance and carbon regulation.

Expert consultations were conducted through focused group discussions (FGDs) and semi-structured interviews. Their role was to validate the interpretation of Islamic legal principles, clarify contentious issues related to carbon trading and taxation, and ensure that the analytical framework was consistent with established scholarly views.

The expert input was used to refine and verify the normative analysis, not to generate independent empirical findings. This approach ensures coherence between textual interpretation and contemporary scholarly understanding while avoiding methodological inconsistency.

Analytical Framework

The analysis was conducted using a qualitative content analysis with a narrative–comparative orientation. This method allows systematic interpretation of legal and policy texts while maintaining analytical flexibility. The analytical framework consists of two interrelated stages:

1. Normative Legal Analysis

   Carbon tax and ETS were examined using principles of fiqh al-muʿāmalah, with particular attention to the nature of the transaction (taxation vs. exchange), the legal status of the traded object (*māl* or *manfaʿah*), ownership and transferability (*milk*), and the presence of uncertainty (*gharar*), ambiguity (*jahālah*), or speculative behavior (*maysir*).

   This stage aimed to determine whether each instrument satisfies the minimum requirements of a valid and ethical economic transaction under Islamic law.

2. Ethical and Policy Evaluation

   In the second stage, the findings were assessed using Islamic fiscal ethics and maqāṣid al-sharīʿah, particularly: justice (*ʿadl*), public welfare (*maṣlaḥah ʿāmmah*), harm prevention (*sadd al-dharā'iʿ*), and accountability and stewardship as articulated in sharia enterprise theory.

Carbon tax and ETS were then comparatively evaluated using the same criteria to ensure analytical consistency and to identify differences in ethical implications and governance suitability.

Validity and Rigor

To ensure the robustness of the analysis, the study applied several forms of triangulation:

1. Data triangulation, through the use of legal texts, policy documents, and academic literature;
2. Methodological triangulation, combining documentary analysis with expert validation;
3. Interpretive triangulation, where analytical conclusions were reviewed by independent scholars to minimize subjective bias.

This multi-layered approach strengthens the credibility and trustworthiness of the findings and ensures that conclusions are grounded in both doctrinal rigor and contemporary policy relevance.

Methodological Positioning

In summary, this study adopts a qualitative, normative, and interpretive methodological approach that is consistent with its research objectives and theoretical foundations. The method allows for a systematic evaluation of carbon pricing instruments within Islamic economics without reducing ethical reasoning to empirical measurement. By integrating *fiqh al-muʿāmalah*, Islamic fiscal theory, and *maqāṣid*-based evaluation, the study provides a coherent methodological basis for assessing the ethical legitimacy of carbon tax and emissions trading systems in Muslim-majority contexts.

FINDINGS AND DISCUSSION

Carbon Trading in Islamic Legal Perspective: Normative and Ethical Challenges

This study finds that the implementation of ETS raises significant normative and ethical concerns when assessed through the lens of Islamic economic jurisprudence. While ETS has been widely adopted as a market-based mechanism to reduce greenhouse gas emissions, its operational logic differs substantially from the ethical foundations of Islamic commercial law (*fiqh al-muʿāmalah*).

In Islamic jurisprudence, a valid transaction requires the existence of a lawful and valuable object (*māl mutaqawwin*), clear ownership (*milk*), and the absence of excessive uncertainty (*gharar*) or speculative elements (*maysir*). Carbon credits, however, represent administrative permissions to emit a certain amount of carbon rather than tangible or productive assets. Their value is determined primarily by regulatory scarcity and policy design, rather than intrinsic utility.

Expert consultations conducted in this study reinforce this concern. Expert E2 emphasized that carbon credits do not constitute ownership over a real asset, but merely reflect regulatory permission, which complicates their legal classification. Similarly, Expert E4 noted that emission allowance's function more as compliance tools than as legitimate objects of trade, thereby raising questions about their permissibility under Islamic law.

These findings are consistent with classical jurisprudential positions that restrict the sale of rights (*bayʿ al-ḥuqūq*) unless such rights are attached to clear material benefit or productive activity (Auda, 2008; Hallaq, 2009). As a result, the ethical validity of ETS remains questionable within the Islamic legal framework.

Gharar, Speculation, and Market Uncertainty in Emissions Trading

A second key finding concerns the presence of *gharar* and speculative behavior inherent in emissions trading markets. Carbon prices are highly sensitive to regulatory changes, political negotiations, and market expectations, resulting in price volatility that is detached from real economic activity.

Islamic law explicitly prohibits transactions characterized by excessive uncertainty, as reflected in the prohibition of *bayʿ al-gharar*. Expert participants confirmed that ETS often exhibits speculative dynamics similar to financial derivatives. Expert E1 observed that carbon trading frequently prioritizes price movements over actual emission reductions, while Expert E5 emphasized that secondary carbon markets tend to encourage speculative behavior rather than environmental accountability.

These observations align with empirical studies indicating that ETS markets are prone to volatility and rent-seeking behavior (Le & Azhgaliyeva, 2023; Parry et al., 2022). From an Islamic ethical standpoint, such dynamics conflict with the principles of transparency (*bayān*), justice (*ʿadl*), and harm prevention (*sadd al-dharā'iʿ*).

Carbon Taxation and Islamic Fiscal Ethics

In contrast to emissions trading, the findings indicate that carbon taxation exhibits stronger compatibility with Islamic fiscal principles. Islamic jurisprudence recognizes several forms of taxation beyond zakat—such as *kharāj*, *ʿushr*, *jizyah*, and *dharībah*—which were historically imposed to protect public welfare and address collective needs. From an Islamic perspective, taxation is permissible when it fulfills three essential conditions: (1) it serves a legitimate public interest (*maṣlaḥah ʿāmmah*), (2) it is implemented proportionally and fairly, and (3) its revenues are used transparently for socially beneficial purposes.

Experts consulted in this study generally viewed carbon taxation as ethically more defensible than ETS. Expert E3 stated that taxation assigns responsibility directly to polluters without creating artificial markets, while Expert E6 highlighted that carbon taxes align more closely with Islamic principles of accountability and deterrence (*zajr*). These findings are consistent with empirical economic studies showing that carbon taxes offer clearer price signals and lower vulnerability to market manipulation compared to ETS (Gugler et al., 2023; Parry et al., 2022). When combined with redistributive mechanisms, carbon taxation also addresses concerns of social equity, a core value in Islamic economic thought.

Islamic Fiscal Tradition as the Ethical Basis for Climate Policy

To further contextualize these findings, this study situates carbon taxation within the broader tradition of Islamic public finance. Classical Islamic governance employed various fiscal instruments—such as *zakat*, *kharāj*, *ʿushr*, *jizyah*, *khums*, and *dharībah*—to ensure social justice, economic balance, and public welfare.

Table 2. Comparative Overview of Islamic Taxes and Their Ethical Objectives

Type of Tax	Subject	Tax Object	Rate/Percentage	Legal Basis	Objective
Zakat	Muslims	Specific assets (e.g., gold, trade goods, crops)	2.5%; 5–10% for crops	Qur'an 9:103; Hadith	Wealth purification and poverty alleviation
Kharaj	Muslims & non-Muslims	Agricultural land	Fixed or proportional	Practice of Caliph ʿUmar	State revenue and land productivity
Jizyah	Non-Muslims	Adult capable individuals	Variable	Qur'an 9:29	Protection and public service provision
ʿUshr	Muslims & non-Muslims	Agricultural and trade goods	10% / 5%	Prophetic practice	Trade and production regulation
Fa'i	Islamic State	Non-combat acquisition	100% to treasury	Qur'an 59:7	Public expenditure
Ghanīmah	Muslim army	War spoils	20% to state	Qur'an 8:41	Collective benefit
Dharībah	Wealthy Muslims	General wealth	Contextual	Scholarly ijtihād	Emergency public financing

The historical use of these instruments demonstrates that Islamic fiscal policy has always been adaptive, context-sensitive, and ethically oriented. Unlike emissions trading, which relies on commodifying abstract rights, Islamic taxation emphasizes responsibility, proportionality, and collective benefit.

This comparison strengthens the argument that carbon taxation can be normatively justified

within Islamic law, whereas emissions trading lacks a clear analogue in classical fiscal practice and raises unresolved ethical concerns.

Reframing Carbon Pricing through Islamic Ethical Governance

Carbon pricing, when examined through the lens of Islamic economic thought, cannot be evaluated merely as a technical policy instrument designed to internalize environmental externalities. Rather, it must be assessed within the broader moral, legal, and institutional framework that governs economic behavior in Islam. From this perspective, the ethical legitimacy of carbon taxation and ETS depends not only on their environmental effectiveness but also on their conformity with Islamic principles of ownership, justice, accountability, and public welfare.

The analysis reveals that emissions trading systems pose fundamental challenges under *fiqh al-muʿāmalah*, particularly with regard to the nature of the traded object and the legitimacy of ownership. Carbon credits, as administrative permissions rather than tangible or productive assets, do not fully satisfy the classical criteria of *māl mutaqawwin*. Islamic jurisprudence requires that the object of exchange possess intrinsic or usufruct-based value and be free from excessive uncertainty (*gharar*) or speculative elements (*maysir*) (Auda, 2008; Hallaq, 2009). When carbon credits derive their value primarily from regulatory scarcity and market expectations rather than real economic activity, they risk falling into categories that Islamic law traditionally treats with caution or prohibition.

This concern is reinforced by expert perspectives (E1–E6), which consistently indicate that emissions trading tends to shift environmental responsibility from behavioral transformation to financial capability. Under such a mechanism, high-emitting actors may continue polluting by purchasing allowances rather than reducing emissions structurally. From an Islamic ethical standpoint, this dynamic contradicts the principles of justice (*ʿadl*), harm prevention (*lā ḍarar wa lā ḍirār*), and moral accountability that underpin legitimate economic conduct. Rather than encouraging responsible stewardship, ETS may inadvertently legitimize environmental harm through market transactions.

In contrast, carbon taxation demonstrates stronger alignment with Islamic fiscal ethics when implemented in a transparent, proportional, and socially accountable manner. Islamic legal tradition recognizes fiscal instruments such as *kharāj*, *ʿushr*, and *dharībah* as legitimate tools for advancing public welfare (*maṣlaḥah ʿāmmah*), particularly in situations where collective harm must be mitigated (Al-Qaradawi, 2000; Dusuki & Abdullah, 2007). Unlike emissions trading, carbon taxation does not commodify pollution rights but directly links financial liability to environmentally harmful behavior.

Empirical evidence further supports this ethical distinction. Studies show that carbon taxes provide clearer price signals, lower vulnerability to market manipulation, and greater regulatory certainty than ETS (Gugler et al., 2023; Parry et al., 2022). When tax revenues are transparently allocated toward environmental restoration, social protection, or clean energy transitions, carbon taxation aligns closely with Islamic principles of distributive justice, accountability, and collective responsibility.

The integration of *maqāṣid al-sharīʿah* further strengthens this ethical evaluation. The protection of life (*ḥifẓ al-nafs*), wealth (*ḥifẓ al-māl*), and the environment (*ḥifẓ al-biʾah*) emerges as central to determining the moral legitimacy of climate policy instruments. In this respect, the findings support arguments by Anwar et al. (2025) and Klongrua et al. (2025) that sustainability policies in Muslim-majority contexts must be assessed not only by outcomes but also by intention, institutional fairness, and social inclusiveness.

Importantly, Islamic economics does not reject climate intervention mechanisms per se.

Instead, it calls for their ethical reconfiguration. Instruments such as *juʿālah*, *waqf*, green sukuk, and *mushārakah* offer viable, shariah-compliant alternatives for financing climate mitigation without relying on speculative market structures (Alam et al., 2023; Pirgaip & Arslan-Ayaydin, 2024). These mechanisms embody shared responsibility, risk-sharing, and long-term stewardship—core values of Islamic economic thought.

In sum, while emissions trading may offer operational efficiency within conventional economic frameworks, its ethical legitimacy under Islamic law remains contested. Carbon taxation, when grounded in Islamic fiscal principles and guided by *maqāṣid al-sharīʿah*, emerges as a more coherent and morally defensible policy instrument. This reinforces the central argument of the study: climate policy in Muslim-majority contexts must move beyond technical efficiency toward ethically grounded governance rooted in Islamic legal and moral philosophy.

CONCLUSIONS

This study set out to examine whether carbon pricing instruments—particularly ETS and carbon taxation—are compatible with the principles of Islamic economics. By employing a qualitative, normative–interpretive approach grounded in *fiqh al-muʿāmalah*, Islamic fiscal ethics, and expert interpretation, the study addressed the central research question concerning the ethical legitimacy of carbon pricing mechanisms from an Islamic perspective.

The findings demonstrate that emissions trading systems do not fully satisfy the requirements of a valid transaction under Islamic law. The tradable units in ETS—carbon allowances—represent administrative permissions rather than tangible or usufruct-based assets, thereby failing to meet the criteria of *māl mutaqawwin*. Moreover, the presence of gharar (excessive uncertainty), jahālah (ambiguity of the traded object), and speculative price formation places ETS in tension with fundamental principles of Islamic commercial jurisprudence. These characteristics weaken the ethical foundation of ETS, particularly when market participation enables high emitters to offset responsibility through financial transactions rather than structural emission reductions.

In contrast, the study finds that carbon taxation demonstrates stronger normative compatibility with Islamic fiscal principles, provided that it is designed and implemented within a transparent, proportional, and socially accountable framework. Unlike emissions trading, carbon taxation does not commodify pollution rights but directly links economic liability to environmental harm. This structure aligns more closely with classical Islamic fiscal instruments such as *kharāj*, *ʿushr*, and *dharībah*, which were historically employed to safeguard public welfare (*maṣlaḥah ʿāmmah*) and prevent collective harm.

Importantly, this study contributes a conceptual novelty by reframing carbon pricing not merely as an environmental policy tool but as a question of ethical governance within Islamic economic thought. By integrating *maqāṣid al-sharīʿah*, expert interpretation, and comparative policy analysis, the study demonstrates that climate policy in Muslim-majority contexts must be evaluated through both outcome-based effectiveness and moral legitimacy. This dual evaluation has been largely absent from prior carbon pricing literature, which tends to privilege economic efficiency over ethical coherence.

From a practical perspective, the findings suggest that policymakers in Muslim-majority countries should exercise caution in adopting ETS models without substantial ethical adaptation. Carbon taxation, when accompanied by transparent revenue recycling, social compensation mechanisms, and environmental reinvestment, offers a more viable and morally defensible pathway toward climate mitigation. Moreover, complementary Islamic financial instruments—such as *waqf*, *green sukuk*, *juʿālah*, and *mushārakah*—can play a strategic role in supporting low-carbon transitions without relying on speculative market mechanisms.

Overall, this study affirms that Islamic economics does not oppose climate intervention, but

rather demands that such interventions be ethically grounded, socially just, and institutionally accountable. Climate governance, therefore, should not be reduced to technical efficiency alone, but must be embedded within a broader moral economy that reflects Islamic legal and ethical values.

LIMITATION & FURTHER RESEARCH

This study has several limitations that open avenues for further research. First, the analysis adopts a normative and interpretive approach rooted in Islamic jurisprudence. While this allows for deep ethical examination, it does not empirically assess behavioral responses or policy effectiveness in real-world carbon markets. Future studies could incorporate quantitative or mixed-method approaches to examine how firms and households respond to carbon taxation under Islamic ethical framing.

Second, although expert insights were incorporated to support analytical triangulation, the expert consultation was limited in geographical scope, primarily involving scholars and practitioners from Southeast Asia. Future research may benefit from broader cross-regional engagement, particularly involving scholars from the Middle East, North Africa, and Europe, to capture diverse schools of Islamic legal reasoning.

Third, this study focused primarily on comparing ETS and carbon taxation. Future research could explore comparative evaluations of alternative Islamic climate finance instruments, such as green sukuk, waqf-based environmental funds, and hybrid fiscal–financial mechanisms, to assess their empirical effectiveness and governance challenges.

Finally, further research is needed to operationalize *maqāṣid al-sharīʿah* into measurable policy evaluation frameworks. Developing indicators that translate Islamic ethical principles into climate governance metrics would significantly enhance the practical applicability of Islamic economics in sustainability policymaking.

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