



Carbon Pricing for a Low-Carbon Future: Justifying Policy Adoption in Malaysia and Indonesia with Insights from Islamic Values

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ABSTRACT - The Indonesian government has implemented a mandatory intensity-based cap-tax-and-trade system and is planning to introduce a carbon tax as an additional carbon pricing policy. In contrast, Malaysia has outlined plans to implement a carbon tax and a domestic emissions trading system to achieve its climate targets and transition toward a low-carbon economy. These developments reflect both governments' commitment to mitigating climate change. However, implementing new policies that directly affect the economy presents significant challenges. Historical evidence indicates that, without a clear understanding of their necessity, carbon pricing policies often face public rejection, resulting in depletion of substantial financial, administrative, and human resources. Clarifying the importance of carbon pricing instruments is therefore essential, yet prior research has not critically addressed this area. This paper provides an in-depth analysis of the necessity of carbon pricing policies for both nations. Using a qualitative research methodology based on document and thematic analysis, the study identified six key justifications for adopting carbon pricing in both nations. In the context of Islamic countries, these justifications are supported by Islamic values, offering a holistic and grounded perspective. By examining these factors in detail, this paper provides a comprehensive understanding of the underlying rationale for these policies. Ultimately, by embedding Islamic values into the discourse, the justifications may enhance public trust and foster more effective communication strategies.

ARTICLE HISTORY

Received: 23rd Oct 2025

Revised: 24th Apr 2026

Accepted: 06th May 2026

Published: 01st June 2026

KEYWORDS

Carbon pricing, carbon tax, emissions trading system, low-carbon economy, Islamic environmentalism.

INTRODUCTION

Climate change is a defining challenge for the planet, demanding immediate and comprehensive action (Scheffran, 2025). The ASEAN region has embraced this necessity, with seven of its ten member states, excluding Cambodia, Laos, and Myanmar, spearheading a remarkable surge in climate ambition. This momentum is driven by the active assessment, design, or implementation of compliance-market carbon pricing instruments in many nations (The Asia Foundation, 2023). These instruments reinforce existing low-carbon policies and initiatives, accelerating the region's transition towards a sustainable future.

Among the ten ASEAN countries, Malaysia and Indonesia share comparable economic structures. Both are upper-middle-income developing nations with a Gross Domestic Product (GDP) growth between 5% and 5.2% in 2025 (World Bank, 2026). In 2024, Malaysia was the world's fifth-largest exporter of liquefied natural gas (LNG), accounting for approximately 7% of

global LNG trade with exports valued at USD13.8 billion (Malaysian Gas Association, 2024; Statista, 2025). Indonesia, conversely, is the world's second-largest coal exporter, with exports exceeding USD30 billion. Consequently, coal remains a significant contributor to its energy supply and national revenue (World's Top Exports, 2025).

The intensive utilisation of LNG and coal has resulted in 332.17 million tons of greenhouse gas (GHG) emissions from Malaysia and 1.32 billion tons from Indonesia, positioning both countries among the highest emitters in the ASEAN region (Worldometer, 2026). Beyond these economic similarities, both nations are also characterised by their Muslim-majority populations. According to the Current Population Estimates 2025 report, Muslims account for 63.5% of Malaysia's total population, estimated at approximately 34.2 million residents as of early 2025 (DOSM, 2025). As for Indonesia, in 2024, it is home to the world's largest Muslim population, with over 242 million people, accounting for around 87% of its total population and 12.3% of the global Muslim population (World Population Review, 2026).

Given their comparable economic structures, shared religious demographics and mutual commitments to carbon pricing, Malaysia and Indonesia operate within a common context that makes the justification for the policy implementation particularly pertinent. However, as developing nations, they face shared obstacles; implementing carbon pricing is likely to raise concerns not only among industry stakeholders but also among the public, particularly lower-income groups (Muhammad, 2024). Carbon pricing policies often exert a regressive impact, as they lead to significant price increases in essential sectors such as electricity, energy, and transportation. Consequently, these measures impose higher living and labour costs on the populace (Rahma et al., 2025). Furthermore, underlying issues typical of developing nations, such as resource constraints and social inequity, may further complicate carbon pricing policy design compared to the frameworks utilised in developed economies (Muhammad, 2022).

An insufficient understanding of the importance of carbon pricing policies may provoke public resistance, potentially resulting in diminished policy outcomes and the inefficient allocation of public sector resources (Rahma et al., 2025; Muhammad, 2024). Thus, clear and well-founded justifications are essential to support newly implemented policies. Although previous studies have acknowledged the significance of carbon pricing, a detailed examination of the underlying rationales remains absent, particularly from the perspective of Islamic values. This study seeks to address these gaps by providing an in-depth analysis that integrates both practical and Islamic-based reasoning.

The following section presents a literature review of carbon pricing instruments and initiatives implemented by the Malaysian and Indonesian governments, highlights research gaps, and defines the study's primary objective. A detailed description of the research methodology follows this. Subsequently, the results and analysis section offers a comprehensive examination of key justifications for implementing carbon pricing. Following this analysis, a dedicated section evaluates these justifications through the lens of Islamic values derived from the Al-Quran, Hadith and Islamic environmental studies. The paper concludes with a summary of the findings, the study's contributions, and recommendations for future research.

LITERATURE REVIEW

Conceptual framework of carbon pricing instruments

Carbon pricing is a market-based approach to addressing climate change by internalising the negative externalities of GHG emissions (The Asia Foundation, 2023). However, such policies may have a regressive effect on low-income households and small- to medium-sized enterprises (SMEs), which often face disproportionate financial burden in the absence of robust compensatory mechanisms (OECD, 2023; Steckel et al., 2021). Furthermore, carbon pricing can induce short-term economic adjustment costs, particularly in nations heavily reliant on fossil fuels. Rising energy prices may influence inflation, production costs, and employment levels within carbon-intensive

industries, especially during the initial phases of implementation (World Bank, 2024). In developing economies, institutional weaknesses may further diminish policy efficiency and undermine regulatory credibility (Muhammad, 2022). These regressive effects can, however, be mitigated by developing feasible frameworks tailored to a country's specific economic, social, and environmental context (Muhammad, 2024).

There are two primary categories of carbon pricing instruments: compliance markets and voluntary markets. Compliance markets, including carbon taxes and the emissions trading system (ETS), are mandatory for regulated entities and enforce emission reductions through statutory requirements. In contrast, voluntary markets involve the trading of carbon credits generated by projects that reduce or sequester GHG emissions. Organisations or individuals can purchase these credits to offset their emissions or fulfil voluntary carbon-neutrality commitments (Foramitti et al., 2021). Both Malaysia and Indonesia have introduced voluntary carbon markets to align their domestic emissions-reduction targets with international carbon trading opportunities.

In 2022, Malaysia launched the Bursa Carbon Exchange (BCX), the world's first Shariah-compliant voluntary carbon exchange. Notably, the Shariah-compliant nature of the BCX represents an early and significant integration of Islamic-based principles into regional carbon markets, signalling a move toward aligning environmental policy with Islamic values. The BCX facilitates the trading of high-quality carbon credits and Renewable Energy Certificates (RECs) (Bursa Malaysia, 2026). In Indonesia, the Indonesia Carbon Exchange (IDX Carbon) was introduced in 2023 to facilitate trading for both mandatory ETS and voluntary markets (IETA, 2024). IDX Carbon is largely driven by expansive nature-based solutions, including Reducing Emissions from Deforestation and Forest Degradation (REDD+) and high-integrity forest projects (PwC, 2024).

While voluntary markets mobilise essential private finance for nature-based solutions and low-carbon technologies, they lack the legal enforcement, environmental certainty, and scale necessary for systemic decarbonisation (OECD, 2025). Therefore, this paper focuses on compliance-based and mandatory policies – carbon tax and ETS – as these instruments are strongly endorsed by the Organisation for Economic Co-operation and Development (OECD), World Bank, and International Monetary Fund (IMF). These organisations advocate for mandatory measures due to their proven effectiveness and diverse advantages in addressing the complexities of climate change (OECD, 2025; World Bank, 2025; IMF, 2023).

Carbon taxes represent the most direct form of carbon pricing. By levying a fixed price per unit of carbon dioxide (CO₂) equivalent emissions, these taxes internalise the cost of pollution for emitters (Konradt et al., 2024). This price signal incentivises businesses and individuals to invest in low-carbon technologies and practices, such as renewable energy, energy efficiency, and carbon capture and storage (CCS). Ultimately, the policy's effectiveness is contingent on the price level, as higher rates typically yield larger emission reductions (OECD, 2025).

Alternatively, an ETS, or 'cap-and-trade', operates by setting a limit on the total emissions allowed within covered sectors (World Bank, 2025). Under this framework, emitters are allocated permits or allowances representing the right to emit a specific quantity of CO₂-equivalent. These permits can be traded in a market where the price is determined by supply and demand. Over time, the emission cap is gradually lowered, requiring emitters to either reduce their carbon footprint or acquire additional permits at a market premium (Parry, 2021).

The carbon tax and the ETS have gained considerable momentum as policy instruments in recent years. The number of jurisdictions adopting such measures has more than doubled since 2010. As of May 2025, 78 carbon pricing instruments are operational worldwide, comprising 43 carbon taxes and 35 ETS, covering approximately 28% of global GHG emissions (World Bank, 2025). This expansion reflects a growing global consensus, with over 50 countries integrating explicit carbon pricing into their national frameworks to balance revenue generation with decarbonisation targets (OECD, 2025). As these mechanisms evolve, they will play an increasingly pivotal role in the global transition toward a low-carbon economy.

Carbon pricing initiatives in Malaysia

Aligned with its Nationally Determined Contribution (NDC), Malaysia aims to achieve a 45% reduction in the GHG emissions intensity of GDP by 2030, compared with 2005 levels. Furthermore, the nation has committed to achieving net-zero GHG emissions by 2050. The endorsement of the Domestic Emissions Trading System (DETS) in 2021, alongside the incorporation of a carbon tax in the 12th Malaysian Plan (2021-2025), emphasises the nation's commitment to climate mitigation. This ambition extends to renewable energy, with revised targets aiming for it to constitute 40% of total installed electricity capacity by 2035 and a staggering 70% by 2050 (Ministry of Economy, 2023a; Government of Malaysia, 2021).

Currently, Malaysia is developing both a carbon tax and a DETS framework through feasibility studies led by the Ministry of Finance and the Ministry of Natural Resources and Environmental Sustainability. This is supported by the World Bank's Partnership for Market Implementation (PMI) and the United Kingdom Government (UK PACT, 2026; Noh, 2025; Bernama, 2023; Ministry of Economy, 2023b; Aziz, 2021). In parallel with these policies, the Government is rationalising the fossil fuel subsidy between 2025 and 2030. Additionally, authorities are evaluating whether to maintain the BCX as a voluntary mechanism – operating within a domestic or international framework – or to transition it into a compliance-based system integrated with the carbon pricing policies (Noh, 2025).

In the 2026 Budget speech, tabled on 10 October 2025, the Government reaffirmed its intention to implement a carbon tax in 2026, initially targeting the iron, steel, and energy sectors (Ministry of Finance Malaysia, 2025). This move aligned with the National Carbon Market Policy and the upcoming Climate Change Bill (IETA, 2025). However, in April 2026, the Government announced that the policy's implementation would be deferred in response to geopolitical instability in the Middle East. This strategic pause reflects a prioritisation of social welfare, aimed at shielding the public from additional economic strain amid global uncertainty (Koya, 2026). Notwithstanding this delay, the Government remains steadfast in its commitment to the transition toward a low-carbon economy.

Collectively, the initiatives demonstrate Malaysia's transition from voluntary climate commitments to a robust, mandatory regulatory framework designed to drive systemic decarbonisation. This strategic shift in Malaysia finds a significant parallel in the evolving climate policies of its neighbour, Indonesia.

Carbon pricing initiatives in Indonesia

Indonesia's climate-policy architecture is anchored in an increasingly ambitious NDC. In its initial 2016 submission, the country pledged an unconditional 29% reduction in GHG emissions and a conditional 41% reduction against a business-as-usual baseline by 2030 (Resosudarmo et al., 2023). Subsequently, an enhanced NDC was lodged in 2022, raising these targets to 31.89% and 43.20%, respectively, while maintaining a sector-specific abatement target of 11-14% for the energy sector (Kamandika & Dhakal, 2023). Consistent with its net-zero-emissions aspiration for 2060, the Government emphasises a rapid expansion of renewables, significant energy-efficiency gains and the mobilisation of innovative finance, most notably Islamic green *sukuk*, to mitigate persistent fiscal constraints (Resosudarmo et al., 2023).

To translate these headline goals into price signals that internalise the social cost of carbon, Indonesia has adopted a dual carbon-pricing framework. The first pillar is a carbon tax introduced under Law No. 7/2021, with an initial rate of IDR30 per kg of CO₂e (Kamandika & Dhakal, 2023). Revenue generated is intended to be recycled through targeted household transfers and investments in renewable energy (Hartono et al., 2023). The second pillar consists of a cap-and-trade ETS, phased in under Presidential Regulation No. 98/2021 on Carbon Economic Value (OECD, 2022). A pilot market covering more than 80 coal-based power units commenced in 2021, establishing allowance trading under a declining emissions cap and supported by the National Registry System for Climate Change Control. The full national roll-out followed in 2023,

encompassing 99 coal-fired power plants. The system, however, faced strict limitations in international voluntary carbon market projects (IETA, 2024). To attract broader international stakeholder participation, the newly elected Indonesian government announced a sophisticated ‘cap-tax-and-trade’ hybrid model through Presidential Regulation No. 110/2025 (ICAP, 2025).

Under this hybrid model, in addition to traditional carbon trading activities, entities that exceed their emission quotas and fail to meet compliance obligations through trading are required to pay a tax (Rahmansyah & Cross, 2026). The hybrid system primarily mandates participation by coal-fired power plants while actively preparing to expand into industrial sectors such as nickel and cement (McCulloch et al., 2026; World Bank, 2025). The Government aims to activate full-scale market operations by late June 2026, supported by a new, decentralised blockchain-based registry, the Carbon Unit Registry System (SRUK) (ANTARA, 2026).

Lessons from policy rejection: The importance of justifying carbon pricing

Previous research on Malaysian and Indonesian carbon policy instruments has primarily focused on carbon pricing frameworks (e.g. McCulloch et al., 2026; Muhammad, 2024; Muhammad, 2022), their impact on emissions (e.g. Sunanda et al., 2025; Al-Amin et al., 2020), socioeconomic (e.g. Rahma et al., 2025; Prabawani et al., 2025), and public acceptance (e.g. Muhammad et al., 2022). However, there remains a lack of constructive analysis regarding the fundamental justifications for implementing such policies at the national level. This omission is significant; failing to properly justify these measures and convince stakeholders often results in policy rejection.

Governments worldwide face formidable challenges in implementing carbon pricing, largely due to low levels of industry and public awareness regarding the concept and long-term benefits (Gymnastiar, 2025). Although such policies support global mitigation efforts, a lack of public understanding often leads to their being perceived as an additional financial burden rather than a necessary tool for climate action (Wimala & Jeremy, 2022). Historical precedents illustrate this volatility: carbon pricing proposals have been rejected or repealed in Australia, Washington State, Switzerland, France, and Canada (Carattini et al., 2017). For instance, Australia’s 2011 mechanism faced intense opposition, leading to its repeal in 2014 and a decade of policy instability. Similarly, the partial dismantling of Canada’s framework in 2025, following widespread resistance and repeated failures of carbon tax ballot measures in Washington State, exemplifies how insufficient public support can undermine carbon pricing policies even in progressive jurisdictions (Logg-Scarvell, 2025; Hammerle et al., 2021).

Regionally, Malaysia’s cancellation of the Goods and Services Tax (GST), a globally proven revenue source, due to political pressure and public outcry, demonstrates how the perceived legitimacy of a ‘good’ policy can diminish without proper societal buy-in (Uda & Ani, 2023). In Indonesia, historical resistance to fuel price hikes reached a critical juncture in 1998, when an IMF-mandated price surge triggered nationwide unrest that contributed to the end of President Suharto’s 32-year administration (Kyle, 2018). These instances suggest that when policies are poorly communicated or appear inequitable, they risk triggering significant social resistance.

This paper builds on existing literature by examining the imperative for Malaysia and Indonesia to strengthen their commitment to carbon pricing instruments. Through an exploration of the global and regional context, including initiatives and the potential socio-economic and environmental benefits, this study presents a compelling case for policy adoption. As both nations navigate transformative policy transitions, carbon pricing stands out as a critical mechanism for promoting sustainable development and advancing toward a low-carbon future. Furthermore, integrating Islamic values is essential to ensuring that climate policies align with the ethical and spiritual principles central to the majority-Muslim populations in both countries.

METHODOLOGY

This study provides a comprehensive analysis of the imperative for carbon pricing policies in Malaysia and Indonesia. It employs a qualitative research methodology, utilising document analysis as the primary method, therefore allowing for the systematic examination of written materials and the extraction of meaningful patterns and interpretations (Bowen, 2009). A systematic review was conducted by searching for keywords – namely, ‘carbon pricing,’ ‘carbon tax,’ ‘emissions trading systems,’ ‘Malaysia,’ and ‘Indonesia’ – within the Google Scholar and Scopus databases.

The retrieved documents were manually reviewed, and only those directly relevant to the research objective were retained for analysis. A total of 82 documents were selected, including academic journal articles, official policy documents, ministerial websites and international frameworks on carbon pricing. Thematic analysis was subsequently applied to categorise the findings into main themes, each representing a critical justification for policy implementation. This technique enables researchers to systematically organise qualitative data and identify recurring patterns and concepts (Schreier, 2012).

Following the identification of these themes, the study incorporates relevant Islamic values to anchor the analysis in religious teachings. By integrating verses from the Al-Quran and Hadith, alongside insights from existing literature on Islamic environmental values, this approach provides a spiritually informed and context-sensitive perspective. Consequently, carbon pricing is framed not merely as an economic or environmental policy, but as a moral and religious duty in addressing climate change.

RESULT AND ANALYSIS

The document analysis revealed six key justifications for adopting carbon pricing policies in Malaysia and Indonesia. These justifications integrate both environmental and socioeconomic considerations and are further reinforced by their alignment with foundational Islamic principles. Collectively, these thematic elements offer a comprehensive and ethically grounded framework for developing climate policies that are socially acceptable and nationally relevant to both nations.

Mitigating Carbon Emissions

Carbon pricing helps reduce carbon emissions by imposing a monetary cost on GHG emissions, which encourages companies and individuals to adopt cleaner energy sources and improve efficiency (McCulloch et al., 2026; Asian Development Bank, 2024). The World Bank (2025) reports that countries utilising carbon pricing have achieved annual emissions reductions of 2% to 5%, particularly within the electricity and heavy industries. For instance, the European Union (EU) ETS reduced emissions in covered sectors by 37% between 2005 and 2023, primarily due to stricter emission caps and rising allowance prices. Similarly, in Sweden, where the carbon tax now exceeds USD130 per ton, emissions have fallen by more than 25% since the 1990s without compromising economic growth (World Bank, 2024).

Empirical research consistently supports these outcomes. Black et al. (2023) estimate that a carbon price of USD75 per ton of CO₂ emissions (/tCO₂e) by 2030 could reduce emissions in G20 countries by up to 45%. Furthermore, the OECD (2023) found that higher effective carbon rates correlate with lower per capita emissions. Rafaty et al. (2022) also demonstrated that national carbon pricing is associated with measurable reductions in emissions, particularly in jurisdictions with robust institutions and clear enforcement. Using dynamic panel regressions, Kohlscheen et al. (2025) found that higher carbon taxes and permit prices reduce emissions even after controlling for macroeconomic factors such as GDP growth, urbanisation, and energy mix. Notably, an increase in carbon taxes by USD10/tCO₂e reduces per capita CO₂ emissions by 1.3% in the short run and 4.6% in the long run. Research suggests that emission reductions are often more pronounced under a carbon tax than an ETS, particularly in Asian contexts (Ahmad et al., 2024). However, an integrated mechanism combining both instruments with complementary policies may

offer a more effective approach than relying on a single policy (Pan et al., 2024).

In the Malaysian context, carbon pricing is a pivotal tool for meeting long-term reduction targets. Al-Amin et al. (2020) projected that if Malaysia, Indonesia, and Thailand implement their NDCs, they could achieve significant GHG reductions by 2050. Specifically, Malaysia could reduce total emissions by 33.88%, while Indonesia and Thailand could achieve reductions of 42.50% and 41.68%, respectively. Complementing this, Yahoo and Othman (2015) estimated that Malaysia could achieve a 40% reduction in carbon emissions by introducing a carbon tax ranging from USD60 to USD70/tCO₂e.

Similarly, research confirms that Indonesia can achieve substantial GHG reductions through integrated carbon pricing. Simulations by Hartono and Resosudarmo (2008) and Yusuf and Resosudarmo (2015) indicate that even modest carbon taxes can achieve meaningful reductions without imposing undue burdens on GDP or employment, provided revenues are recycled through targeted transfers and clean energy investments. Kamandika and Dhakal (2023) found that a carbon price of USD25/tCO₂e is necessary for Indonesia's power sector to meet NDC targets; a price below this threshold is likely to be ineffective. This is supported by Rokhmawati et al. (2024), who suggest that to remain aligned with enhanced NDC targets, carbon prices must fall within the range of USD25–43.78/tCO₂e, well above the current rate of approximately USD2/tCO₂e.

Changing public behaviour

Beyond direct emissions reductions, carbon pricing would catalyse systemic behavioural change at both the industrial and individual levels. By reflecting the true environmental cost of carbon in economic decisions, these policies could guide businesses and individuals toward more sustainable practices (The Asia Foundation, 2023; World Bank, 2021). Assigning a tangible value to emissions compels companies to evaluate their operational models, leading to reduced energy consumption, improved efficiency, and increased investment in cleaner technologies (Nurhayati et al., 2024; Carbon Pricing Leadership Coalition, 2023). This approach encourages industrial innovation and reduces fossil fuel dependency, fostering an environmentally responsible and economically competitive landscape. Over time, these structural shifts strengthen national efforts to achieve climate targets and align with global sustainability goals (World Bank, 2023).

Simultaneously, carbon pricing influences consumer behaviour by increasing the relative cost of carbon-intensive products and services. This price signal incentivises individuals to opt for low-carbon alternatives and cultivate a heightened awareness of their environmental footprint (Kousta, 2019). As these choices become normalised, they facilitate a broader shift in public attitudes toward sustainability. In this regard, carbon pricing transcends its role as a fiscal instrument; it acts as a driver for gradual cultural transformation. Linking financial accountability to environmental harm promotes shared responsibility and encourages long-term habits that mitigate climate risks (Parry, 2021).

The capacity of price signals to catalyse behavioural shifts is fundamentally contingent upon public acceptance; in the absence of societal endorsement and perceived policy legitimacy, economic incentives risk being undermined by resistance and non-compliance. Muhammad et al. (2023) and Goh and Matthew (2021) found that the public is generally willing to bear higher costs for climate action, provided the rationale is clear. Their research highlights the importance of enhancing environmental awareness and communicating climate risks effectively to bolster public support. In a related study, Muhammad et al. (2022) explored the role of institutional trust in shaping the acceptance of carbon taxation. While institutional competence and integrity are foundational to building trust, the study found that public perceptions of accountability, specifically regarding how carbon tax revenue is managed, had a more significant impact on overall acceptability. Thus, fostering public trust and ensuring transparency in policy design and revenue utilisation are critical for the success of carbon pricing in Malaysia.

In the Indonesian context, the proposed carbon tax has demonstrated the potential to shift

public behaviour, yet its effectiveness is currently constrained by several structural and informational barriers (Wulandari & Semertzidis, 2024). While the public generally exhibits a high level of climate change awareness and believes that a carbon tax will yield positive environmental impacts (Ilmi et al., 2025; Kusumawardhani et al., 2024), acceptance remains relatively strong only when tax rates are modest, typically between 1% and 3% (Wulandari & Semertzidis, 2024). Furthermore, there is a prevailing belief that both individuals and industries share a collective responsibility for climate mitigation (Wulandari & Semertzidis, 2024).

Nevertheless, a low initial tax rate combined with the limited availability of affordable renewable energy options may weaken the policy's capacity to trigger substantial behavioural shifts (Dewi & Dewi, 2022). Moreover, equity remains a paramount concern, as carbon taxes can disproportionately impact low-income demographics. However, evidence suggests that if revenues are redistributed transparently through progressive mechanisms, such as targeted subsidies or lump-sum transfers, the policy can enhance social acceptability and even achieve a distributionally progressive outcome (Dossa & Miassi, 2024; Steckel et al., 2021). These findings highlight the necessity for robust public engagement campaigns, sophisticated policy design, and equitable revenue recycling to effectively influence consumer choices and foster enduring behavioural change.

Increase the usage of renewable energy

While fostering public trust and social acceptance is essential, the long-term success of carbon pricing also depends on its ability to drive a structural shift toward energy security and the mass adoption of renewable technologies. Implementing carbon pricing in Malaysia and Indonesia is critical for facilitating the transition towards a sustainable, low-carbon economy and accelerating the deployment of renewable energy. Empirical studies demonstrate that carbon pricing mechanisms significantly promote renewable energy development by discouraging fossil fuel use and stimulating investment in clean energy technologies (Tang et al., 2026; Zhao & Tang, 2025; Xu & Yang, 2024; Feng et al., 2024; Li et al., 2020; Erdiwansyah et al., 2019). This aligns with the broader consensus that renewable energy constitutes a central pathway for mitigating environmental degradation and achieving long-term sustainability goals (Schuch et al., 2024).

Technological advancements, coupled with an increasing societal inclination towards sustainability, have created a favourable environment for the shift from fossil-based to renewable energy sources (Moslehpour et al., 2023; Shibli et al., 2021). Beyond environmental impacts, the employment potential of the renewable energy and energy-efficiency sectors adds a significant socioeconomic dimension. Estimates suggest these sectors can generate three times as many full-time jobs as equivalent government spending on fossil fuels, highlighting the dual benefits of prioritising green technologies (Garrett-Peltier, 2017).

In the Malaysian context, the National Energy Transition Roadmap (NETR) serves as a strategic framework to expedite this shift (Ministry of Economy, 2023b). The roadmap identifies six key energy transition levers – renewable energy, hydrogen, bioenergy, green mobility, energy efficiency, and carbon capture, utilisation and storage (CCUS) (MIDA, 2024a). An integral part of the NETR is the commitment to increase the installed renewable capacity from 40% in 2040 to an ambitious 70% by 2050, aligning with global goals for sustainable energy development (Ministry of Economy, 2023b). Research indicates that a carbon tax in Malaysia would prompt companies to adopt green technologies, effectively replacing high-cost conventional methods (Al-Amin et al., 2015). Furthermore, carbon abatement measures are anticipated to be more effective than general energy taxes in substantially enhancing renewable energy adoption (Solaymani, 2017; Yahoo & Othman, 2015).

Similarly, an increasingly ambitious policy architecture frames Indonesia's renewable-energy agenda. The National Energy Policy and General Plan for National Energy set binding targets of 23% and 31% for the share of renewable energy in the primary energy mix by 2025 and 2050, respectively (Yudha & Tjahjono, 2019). These goals are parallel to the enhanced NDC, which

prioritises coal-to-renewable substitution and a net-zero commitment for 2060. Both pledges envisage the early retirement of coal-fired power plants and a rapid scale-up of clean-energy investment (Aditya et al., 2025; Resosudarmo et al., 2023).

Regulatory momentum has further accelerated through Presidential Regulation No. 112/2022, which introduced fixed tariffs for solar and hydro projects to improve bankability. Additionally, the Just Energy Transition Partnership provides a USD20 billion blended-finance package aimed at de-risking renewables and expediting the coal phase-out. Macroeconomic modelling shows that recycling carbon pricing revenues into the renewable energy sector can simultaneously raise GDP, increase employment, and improve emissions intensity outcomes (Rokhmawati et al., 2024; Hartono et al., 2023). This reinforces the fiscal and developmental case for rapid expansion of renewables.

Mitigating climate change issues

While the transition to renewable energy provides the structural foundation for a low-carbon economy, the ultimate necessity of carbon pricing lies in its capacity to mitigate the broader environmental and public health risks posed by systemic climate change. Increasing levels of CO₂ significantly contribute to GHG emissions, global warming, and climate change (IPCC, 2023). These environmental challenges have triggered widespread pollution, degradation of natural ecosystems, depletion of essential resources such as clean air, water, and soil, and the destruction of habitats, ultimately threatening biodiversity and leading to wildlife extinction (IPBES, 2019).

The resulting pollution and resource scarcity pose serious risks to human health, industrial productivity, and sustainable development, all of which are critical to economic progress (IPBES, 2019). Importantly, the harmful impacts of CO₂ emissions are not confined to the areas where they originate but have far-reaching global consequences. Uncontrolled GHG emissions pose substantial economic risks, with estimates suggesting that each 1°C increase in global temperature could result in annual losses of approximately 5.4% of global GDP (Kahn et al., 2019).

For Malaysia and Indonesia, both of which are highly exposed to climate risks such as floods, droughts, and coastal erosion, carbon pricing would serve as a critical mitigation tool. It helps lower national emissions, contributing to improved air quality, ecosystem protection, and the prevention of biodiversity loss (Joshi et al., 2023). Additionally, by reducing reliance on fossil fuels, carbon pricing diminishes local air pollution, thereby improving public health outcomes. Adopting carbon pricing is not just an economic strategy; it is also a direct and effective way to slow the progression of climate change and protect the environment, livelihoods, and well-being of current and future generations (World Bank, 2021).

Carbon border adjustment mechanism

Beyond the immediate environmental and public health imperatives, the adoption of domestic carbon pricing is increasingly dictated by the shifting landscape of international trade and global regulatory compliance. Implementing carbon pricing in Malaysia and Indonesia is becoming increasingly essential, given the growing global adoption of the carbon border adjustment mechanism (CBAM). As of January 1, 2026, the EU's CBAM transitioned from a reporting-only phase to a definitive regime, requiring importers to purchase certificates to cover embedded emissions (European Commission, 2026). This mechanism initially targets carbon-intensive sectors such as cement, aluminium, fertiliser, electricity, iron, and steel (Nyangon & Seifi, 2026).

Although the CBAM may be perceived as a trade barrier that disadvantages countries with less stringent emissions regulations, it is designed to align with World Trade Organisation (WTO) rules and uphold the principle of proportionality by applying equal treatment to both EU and non-EU producers (Espa et al., 2022). Despite the complexities of climate diplomacy and the challenges of harmonising carbon pricing frameworks across jurisdictions, the EU continues to evaluate various carbon pricing mechanisms to ensure global alignment (Kalinda, 2025). Ongoing dialogues with relevant stakeholders complement these efforts to address policy disparities and promote

mutual understanding (Climate Governance Malaysia, 2025).

A primary motivation for the EU to impose CBAM is to prevent carbon leakage (Nyangon & Seifi, 2026; Perdana & Vielle, 2023). This occurs when industries relocate to regions with less stringent climate regulations, leading to a net increase in global emissions. The mechanism has significant economic and regulatory implications for Malaysia and Indonesia as major exporters of carbon-intensive commodities to the European market. It also increases pressure on both countries to strengthen domestic carbon pricing and emissions regulation so that their industries can remain competitive and operate under comparable environmental standards (Kalinda, 2025). Approximately 75% of Malaysia's exports to the EU involve covered sectors such as iron, steel, and aluminium (MIDA, 2024b). Similarly, Indonesia is exposed through its expanding aluminium sector, which is projected to reach 1.5 million tons of output by the end of 2026 (Shivaprasad, 2025).

The introduction of the EU CBAM emphasises the urgent need for both countries to establish domestic carbon pricing initiatives (European Commission, 2021). Implementing these mechanisms is crucial to safeguarding the competitiveness of domestic producers (Espa et al., 2022). Without a robust domestic carbon pricing mechanism, businesses may face disadvantages in international trade as carbon costs become a significant factor in product pricing (Kalinda, 2025). Establishing domestic initiatives would mitigate these impacts and position Malaysian and Indonesian industries as more sustainable and globally competitive (Perdana & Vielle, 2023).

Furthermore, equalising the stringency of domestic regulations with those of key trading partners ensures smoother trade relations. It allows countries to retain domestically generated carbon pricing revenues rather than have them accrue to importing countries under CBAM (Espa et al., 2022). With the EU's CBAM entering full enforcement in 2026, Malaysia and Indonesia have a critical window to proactively shape their regulatory frameworks (European Commission, 2026). The introduction of CBAM reflects a growing global recognition that emissions must be priced to drive behavioural change and ensure environmental responsibility across borders.

Income generation for the Government

While domestic carbon pricing serves as a vital shield against international trade penalties such as CBAM, it also functions as a powerful engine for domestic resource mobilisation and fiscal reform. The implementation of carbon pricing in Malaysia and Indonesia holds immense potential as a significant source of public revenue with diverse applications. Global trends in 2022 showed that carbon taxes and ETS generated approximately USD95 billion in revenue, with 40% of these funds directed towards low-carbon investment and spending, highlighting the financial viability of such initiatives (The Asia Foundation, 2023).

Insights from an OECD (2023) study encompassing 16 emerging and developing economies, including Malaysia and Indonesia, reveal that reforming fuel subsidy policies and elevating carbon rates on fossil fuels to a benchmark of EUR30/tCO_{2e} could raise revenue equivalent to about 1% of GDP on average (OECD, 2023). This dual-purpose strategy aligns with the imperative of decarbonisation, facilitates domestic revenue mobilisation and ensures greater access to affordable energy. Moreover, such fiscal measures are integral to achieving the dual objectives of benefiting the environment and the economy.

In the Malaysian context, projections by Al-Amin et al. (2015) suggest that implementing carbon taxes could yield substantial revenues, with projections reaching RM9,535 billion (USD2,405 billion) if applied from 2010 to 2105. However, it is crucial to acknowledge the nuanced perspective presented by Loganathan et al. (2014), highlighting the need to complement carbon taxes with a holistic approach.

Similarly, a growing body of literature has examined the revenue-generating potential of carbon pricing mechanisms in Indonesia, emphasising its role in domestic resource mobilisation. Even at modest rates, carbon taxes and ETS can yield meaningful fiscal dividends, which can be further amplified through appropriate pricing structures and broader sectoral inclusion (OECD,

2023). For instance, Kamil et al. (2023) estimate that imposing a carbon tax of USD2.1/tCO₂e on coal-fired power plants could generate approximately IDR241 billion (USD1.35 million) annually, with Java accounting for 73% of the total revenue. This spatial distribution highlights the importance of region-specific strategies for revenue recycling, especially to enhance gross regional domestic product, labour incomes, and output in coal-dependent provinces.

Dynamic general equilibrium models further reveal that recycling carbon tax revenues, through household transfers and investments in renewable energy, can generate multiplier effects on GDP growth and employment creation, while cushioning the regressive impacts of the tax (Hartono et al., 2023). These findings align with international experiences, including the World Bank (2023) assertion that the effectiveness of carbon pricing depends significantly on how revenues are allocated, particularly when channelled toward green infrastructure and climate-resilient development. Building on this, the macroeconomic potential of carbon pricing varies across sectors and regions, necessitating calibrated policy interventions to optimise both environmental outcomes and revenue performance (Kamil et al., 2023). When paired with enabling policies, such as clean energy subsidies, regulatory certainty, and green finance instruments, carbon pricing can unlock transformative investments, enhance fiscal sustainability, and accelerate progress toward Indonesia's NDC and net-zero targets.

In sum, studies suggest that carbon pricing represents a credible and scalable revenue source for governments. When effectively designed and equitably implemented, such instruments can bridge the climate-financing gap, support structural reforms, and reinforce the economic rationale for a low-carbon transition. The implementation of carbon pricing in Malaysia and Indonesia will not only create opportunities to generate significant public revenue but also enable both nations to channel these funds strategically to meet their NDC and net-zero targets (Hartono et al., 2023; Al-Amin et al., 2015).

Pillars of the Islamic environmental values

The six multifaceted imperatives identified in the preceding analysis are not merely secular policy requirements; rather, they find their ultimate validation within Islamic environmental values. Islamic teachings provide a strong ethical foundation for environmental governance, particularly for policies aimed at preventing harm and restoring justice (Zulkifli et al., 2023; Bsoul et al., 2022; Ramlan, 2020). The analysis of past research on Islamic environmental values identifies three core pillars: *tawhid* (oneness and sovereignty), *kehalifah* (stewardship and accountability), and *mizan* (balance and justice) (Al-Qaradawi, 2022; Bsoul et al., 2022; Gueye & Mohamed, 2022; Meraj, 2016). Carbon pricing should be implemented around these core pillars to ensure that fiscal policy remains secondary to the enduring ethical mandates of Islam.

Tawhid recognises Allah as the sole owner and sustainer of the universe. Allah ﷻ explicitly states that humankind was brought forth to inhabit and care for the Earth:

هُوَ أَنشَأَكُم مِّنَ الْأَرْضِ وَاسْتَعْمَرَكُمْ فِيهَا

“It was He who brought you into being from the earth and made you inhabit it”
(Surah Hud, 11:61).

This worldview highlights the sanctity and interconnectedness of all creation. Allah ﷻ also describes all living beings as communities deserving of protection:

وَمَا مِنْ دَابَّةٍ فِي الْأَرْضِ وَلَا طَائِرٍ يَطِيرُ بِجَنَاحَيْهِ إِلَّا أُمَّمٌ أُمَّتًا لَكُمْ

“All the creatures that crawl on the earth and those that fly with their wings are communities like yourselves” (Surah Al-An'aam, 6:38).

Under the lens of *tawhid*, mitigating the broader impacts of climate change is a religious

necessity. Because all creation is interconnected, the uncontrolled release of carbon in one region violates the sanctity of the global ecosystem (Kahn et al., 2019). Consequently, carbon pricing serves to respect this divine ownership by internalising the costs of pollution, thereby addressing CBAM challenges as matters of international justice and shared responsibility.

The recognition of Allah’s absolute ownership through *tanbih* provides the ethical foundation for the human role as *khalifah*, shifting the perspective from independent possession to responsible stewardship. Environmental legislation is considered an essential component of Islamic governance because Allah designates humans as trusted authorities over the Earth (Meraj, 2016). The Prophet Muhammad ﷺ stated:

“The Earth is green and pleasant, and Allah has appointed you as stewards over it, so He watches how you deal with it” (Al-Naysaburi, c. 875/2007, Hadith 2742).

Allahﷻ granted humans the privilege to utilise the Earth, but it comes with responsibility, and Allahﷻ is constantly watching human actions. This makes the sustainable management of natural resources a strict religious and social obligation (Gueye & Mohamed, 2022). Allah explicitly links environmental degradation to human accountability:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيذِيقَهُمْ بَعْضَ الَّذِي عَمِلُوا لَعَلَّهُمْ يَرْجِعُونَ

“Corruption has appeared on land and sea because of what the hands of people have earned, so He may let them taste part of [the consequence of] what they have done that perhaps they will return [to righteousness]” (Surah Ar-Rum, 30:41).

This verse frames environmental damage as a direct consequence of irresponsible human choices, which implies the need for corrective action (Meraj, 2016). Carbon pricing aligns with this principle by internalising the cost of pollution and encouraging behavioural change among producers and consumers. Furthermore, Allahﷻ warns against the deprivation of rights and the spread of corruption after a state of order has been established:

وَلَا تَبْخَسُوا النَّاسَ أَشْيَاءَهُمْ وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا

“And do not deprive people of their due and cause not corruption upon the earth after its reformation” (Surah Al-A’raf, 7:85).

This concept of stewardship firmly encourages behavioural change and the adoption of renewable energy as core spiritual and regulatory duties. By making carbon-intensive practices costlier, the policy discourages environmental corruption and incentivises the use of clean energy, fulfilling the *khalifah*’s mandate to maintain the Earth’s reformation.

The mandate of the *khalifah* is essentially the duty to protect and uphold the *mizan* (balance). The principle of *mizan* indicates that the universe exists in a state of precise harmony and ‘due measure’ that must not be overstepped (Murad, 2010). Allahﷻ instructs humanity to respect this divine equilibrium:

وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ. أَلَّا تَطْغَوْا فِي الْمِيزَانِ. وَأَقِيمُوا الْوَزْنَ بِالْقِسْطِ وَلَا تُخْسِرُوا الْمِيزَانَ

“And the heaven He raised and imposed the balance. That you not transgress with the balance. And establish weight in justice and do not make deficient the balance.” (Surah Ar-Rahman, 55:7–9).

Within this framework, carbon pricing may be understood as a practical mechanism for

upholding the divinely ordained balance by ensuring that the true cost of carbon is adequately internalised. It contributes to emissions mitigation by constraining industrial activities that risk transgressing this balance. Moreover, the injunction to ‘establish weight in justice’ highlights the importance of equitable, transparent revenue allocation to promote social equity and safeguard vulnerable groups. In this way, carbon pricing can support economic progress while preserving the natural order (Bsoul et al., 2022).

The delicate interdependence of all natural systems further emphasises the sanctity of this order:

وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ

“And the earth – We have spread it and cast therein firmly set mountains and caused to grow therein [something] of every well-balanced thing” (Surah Al-Hijr, 15:19).

Scholars emphasise that Allahﷻ produced every natural resource in due measure to form an ‘infinite chain of gradation and inter-dependence,’ thereby establishing delicate planetary boundaries that humanity must never transgress (Al-Qaradawi, 2022; Haddad, 2006; Khalid, 2002). Hence, carbon pricing and trade-related tools like CBAM are used to prevent systemic collapse. These mechanisms help discourage fossil fuel exploitation and accelerate the transition to renewable energy, ensuring that human progress avoids unnecessary climate risks and respects the divine pattern of balance.

In summary, the pillars of *tawhid*, *kehalifah*, and *mizan* converge to form a unified Islamic environmental value that reshapes the discourse on carbon pricing in Malaysia and Indonesia. By recognising Allahﷻ is the ultimate owner of the Earth (*tawhid*), acknowledging human accountability for its preservation (*kehalifah*), and respecting the delicate limits of the natural order (*mizan*), carbon pricing is elevated from a secular financial mechanism to a moral mandate. This alignment ensures that the six practical justifications for the policy, from trade competitiveness to emission mitigation, are not merely economic choices, but expressions of a deeper commitment to environmental stewardship.

CONCLUSION AND RECOMMENDATIONS

Although carbon pricing may initially exert a regressive impact due to increased costs, it remains a vital policy instrument for developing economies, including Malaysia and Indonesia. Research highlights that the efficacy of such instruments is inextricably linked to public understanding and acceptance. A failure to secure societal endorsement often results in policy reversals, leading to a significant waste of the public resources invested in their development. Consequently, comprehensive public education and social engagement are essential to shift perceptions, framing carbon pricing not as a financial burden but as a foundational step toward environmental sustainability. This paper establishes a robust communicative framework by critically analysing why carbon pricing is an imperative for both nations, even amidst valid socioeconomic concerns.

The qualitative analysis demonstrates that implementing carbon pricing instruments addresses immediate emission targets while mitigating the broader economic and health risks of climate change. As a transformative tool, it recalibrates business and consumer behaviour, catalysing a transition toward a low-carbon future. Strategically, the adoption of these mechanisms aligns both nations with the global evolution of trade regulations, such as CBAM, providing a competitive edge and preventing carbon leakage. Furthermore, carbon pricing offers a unique opportunity for domestic revenue mobilisation, providing the necessary funds to underpin renewable energy adoption. In essence, carbon pricing is a multifaceted strategy designed to resolve economic, environmental, and societal challenges simultaneously.

Ultimately, this study highlights that carbon pricing in Malaysia and Indonesia is more

than a secular mandate; it is a practical mechanism that follows the higher values of Islamic teaching. By adhering to the principles of *tawhid*, *khalifah*, and *mizan*, carbon pricing becomes a morally grounded act of governance. These pillars ensure that fiscal policy remains a subordinate tool for protecting the sanctity of creation and fulfilling the religious obligation of environmental preservation. However, for carbon pricing to succeed, it must be supported by rigorous fiscal and economic policies, alongside the strategic rationalisation of non-essential spending. Without a holistic and integrated framework, Malaysia and Indonesia risk facing wider fiscal deficits, public opposition, and heightened inflationary pressures. Overcoming implementation barriers and enhancing inter-agency coordination will be paramount to unlocking the full potential of these instruments.

This study addresses a critical gap in environmental literature by moving beyond generalised frameworks to provide a detailed, context-specific justification for carbon pricing tailored to the unique socioeconomic landscapes of Malaysia and Indonesia. The six multifaceted policy imperatives, together with the Islamic environmental pillars, establish a robust foundation for ministries and future researchers to justify adopting these instruments. Furthermore, the research contributes to enhancing public understanding by framing carbon pricing as a profound act of stewardship rather than a mere financial burden. This shift is vital for securing the societal endorsement necessary to prevent policy reversals. Ultimately, this paper serves as a roadmap to align national actions with proven global initiatives, ensuring that climate policy is not only technically sound but also culturally resonant and effective in mitigating climate change.

Future research should explore the practical integration of Islamic environmental values into the granular design of climate policy, with a focus on the long-term implementation and public reception of carbon pricing in Malaysia and Indonesia. Further investigation is required to determine how the six justifications identified in this paper interact in practice, particularly how revenue generated from carbon taxes can be most effectively channelled into *waqf* projects or green *sukuk* to accelerate the energy transition. Such studies will provide a data-driven roadmap for advancing just, inclusive, and Islamic-aligned climate action. Finally, comparative analyses across other Muslim-majority jurisdictions could enrich the global understanding of how Islamic-based values intersect with environmental governance, offering a culturally resonant framework for advancing just and inclusive climate action.

ACKNOWLEDGEMENT

This research paper is funded under the research grant number USIM/FRGS/FEM/KPT/50625.

REFERENCES

- Al Quran.
- Aditya, I. A., Wijayanto, T., & Hakam, D. F. (2025). Advancing renewable energy in Indonesia: A comprehensive analysis of challenges, opportunities, and strategic solutions. *Sustainability*, 17(5), 1–20. <https://doi.org/10.3390/su17052216>
- Ahmad, M., Li, X. F., & Wu, Q. (2024). Carbon taxes and emission trading systems: Which one is more effective in reducing carbon emissions? —A meta-analysis. *Journal of Cleaner Production*, 476. <https://doi.org/10.1016/j.jclepro.2024.143761>
- Al-Amin, A. Q., Kabir Sarkar, M. S., Ahmed, A., & Doberstein, B. (2020). Comparative analysis of emission reduction targets toward INDC implementation in Malaysia, Indonesia and Thailand by 2050. *Climate Change Economics*, 11(2), 1–21. <https://doi.org/10.1142/S2010007820500116>
- Al-Amin, A. Q., Rasiah, R., & Chenayah, S. (2015). Prioritizing climate change mitigation: An assessment using Malaysia to reduce carbon emissions in future. *Environmental Science and Policy*, 50, 24–33. <https://doi.org/10.1016/j.envsci.2015.02.002>

- Al-Naysaburi, M. I. H. (2007). *Sahib Muslim* (N. al-Khattab, Trans.). Darussalam. (Original work published c. 875)
- Al-Qaradawi, Y. (2022). *Conservation of the environment in Islamic law*. ISRA Research Centre.
- ANTARA News. (2026). Indonesia opens trial for carbon registry ahead of July rollout. <https://en.antaranews.com/news/412681>
- Asian Development Bank. (2024). *Carbon pricing as a key for climate change mitigation*. Asia-Pacific climate report (Chapter 5). <https://www.adb.org/sites/default/files/publication/1008086/ap-climate-report-2024-chapter5.pdf>
- Aziz, A. (2021). *Special report on the 12th Malaysia Plan 2021–2025: The Malaysian case for carbon tax*. The Edge Malaysia. <https://theedgemalaysia.com/article/special-report-12th-malaysia-plan-2021-2025-malaysian-case-carbon-tax>
- Bernama. (2023, February 16). Government is not planning to impose a carbon tax in the near future. *New Straits Times*. <https://www.bernama.com/en/news.php?id=2165179>
- Black, S., Parry, I., Mylonas, V., Vernon, N., & Zhunussova, K. (2023). The IMF-World Bank Climate Policy Assessment Tool (CPAT): A Model to Help Countries Mitigate Climate Change. *IMF Working Papers*, 2023/128. <https://doi.org/10.5089/9798400242342.001>
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/QRJ0902027>
- Bsoul, L., Omer, A., Kucukalic, L., & Archbold, R. H. (2022). Islam’s perspective on environmental sustainability: A conceptual analysis. *Social Sciences*, 11(6), 1–11. <https://doi.org/10.3390/socsci11060228>
- Bursa Malaysia. (2026). *Sustainability report 2025*. https://www.bursamalaysia.com/sites/5d809dcf39fba22790cad230/assets/69a77aa9cd34aa8f26aa23ad/Bursa_SR_2025.pdf
- Carattini, S., Baranzini, A., Thalmann, P., Varone, F., & Vöhringer, F. (2017). Green taxes in a post-Paris world: Are millions of nays inevitable? *Environmental and Resource Economics*, 68(1), 97–128. <https://doi.org/10.1007/s10640-017-0133-8>
- Carbon Pricing Leadership Coalition. (2023). *Carbon Pricing Leadership Coalition report*. https://www.pmiclimate.org/sites/default/files/downloads/publication/CPLC%20report%202023_Final%20v2.pdf
- Climate Governance Malaysia. (2025). *Director’s Masterclass Series 2025: Session 1–9: Carbon pricing & markets: EU insights and implications for Malaysia*. <https://www.cgmalaysia.com/post/directors-masterclass-series-2025-session-1-9-carbon-pricing-markets-eu-insights-and-implications>
- Department of Statistics Malaysia (DOSM). (2025). *Current population estimates, Malaysia, 2025*. https://storage.dosm.gov.my/demography/population_2025.pdf
- Dewi, I. G. P. E. R., & Dewi, N. M. S. S. (2022). Analysis of the effectiveness of implementation of carbon tax in Indonesia. *Jurnal Economina*, 1(4), 880–889. <https://doi.org/10.55681/economina.v1i4.194>
- Dossa, K. F., & Miassi, Y. E. (2024). Impact of carbon pricing policies on economic growth and green innovation: A global analysis. *Climate Change*, 10(28), 1–13. https://discoveryjournals.org/climate_change/current_issue/v10/n28/e5cc1031.pdf
- Erdiwansyah, Mahidin, Mamat, R., Sani, M. S. M., Khoerunnisa, F., & Kadarohman, A. (2019). Target and demand for renewable energy across 10 ASEAN countries by 2040. *The Electricity Journal*, 32(10), 106–129. <https://doi.org/10.1016/j.tej.2019.106670>
- Espa, I., François, J., & van Asselt, H. (2022). *The EU proposal for a carbon border adjustment mechanism (CBAM): An analysis under WTO and climate change law* [WII Working Paper No. 06/2022]. World Trade Institute. https://www.wti.org/media/filer_public/ee/61/ee6171fd-a68d-4829-875e-d9b0c32298b5/wti_working_paper_06_2022.pdf

- European Commission (2021). *Proposal for a regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism* [Document 52021PC0564]. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0564>
- European Commission (2026). *Carbon Border Adjustment Mechanism*. https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en
- Feng, K., Yang, Z., Zhuo, Y., Jiao, L., Wang, B., & Liu, Z. (2024). Impact of carbon tax on renewable energy development and environmental–economic synergies. *Energies*, 17(21), 1–17. <https://doi.org/10.3390/en17215347>
- Foramitti, J., Savin, I., & van den Bergh, J. C. J. M. (2021). Regulation at the source? Comparing upstream and downstream climate policies. *Technological Forecasting and Social Change*, 172, 1–14. <https://doi.org/10.1016/j.techfore.2021.121060>
- Garrett-Peltier, H. (2017). Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model. *Economic Modelling*, 61, 439–447. <https://doi.org/10.1016/j.econmod.2016.11.012>
- Goh, I. Z., & Matthew, N. K. (2021). Residents' willingness to pay for a carbon tax. *Sustainability*, 13(18), 1–25. <https://doi.org/10.3390/su131810118>
- Government of Malaysia. (2021). *Malaysia's update of its first nationally determined contribution*. United Nations Framework Convention on Climate Change. <https://unfccc.int/sites/default/files/NDC/2022-06/Malaysia%20NDC%20Updated%20Submission%20to%20UNFCCC%20July%202021%20final.pdf>
- Gueye, M. K., & Mohamed, N. (2022). An Islamic perspective on ecology and sustainability. In L. Hufnagel (Ed.), *Ecotbeology - sustainability and religions of the world*. IntechOpen. <https://doi.org/10.5772/intechopen.105032>
- Gymnastiar, A. (2025). Challenges and prospects of carbon tax implementation in Indonesia: A systematic literature review. *Proceedings of the 1st International Conference on Public Administration and Social Sciences (ICoPASS 2024)*, 50–55. <https://jurnal.untirta.ac.id/index.php/ICoPASS/article/view/29659>
- Haddad, M. (2006). An Islamic approach towards environmental education. *Canadian Journal of Environmental Education*, 11(1), 57–73. <https://cjee.lakeheadu.ca/article/view/504>
- Hammerle, M., Best, R., & Crosby, P. (2021). Public acceptance of carbon taxes in Australia. *Energy Economics*, 101. <https://doi.org/10.1016/j.eneco.2021.105420>
- Hartono, D., & Resosudarmo, B. P. (2008). The economy-wide impact of controlling energy consumption in Indonesia: An analysis using a Social Accounting Matrix framework. *Energy Policy*, 36(4), 1404–1419. <https://doi.org/10.1016/j.enpol.2007.12.011>
- Hartono, D., Indriyani, W., Iryani, B. S., Komarulzaman, A., Nugroho, A., & Kurniawan, R. (2023). Carbon tax, energy policy, and sustainable development in Indonesia. *Sustainable Development*, 31(4), 2332–2346. <https://doi.org/10.1002/sd.2511>
- Ilmi, M., Pertiwi, G., Debora, G., Larasati, A., & Budi, A. (2025). Environmental concern and environmental tax awareness in shaping public acceptance of carbon tax. *Jurnal Inovasi Pajak Indonesia*, 2(2), 115–130. <https://analysisdata.co.id/index.php/JIPI/article/view/300>
- Intergovernmental Panel on Climate Change (IPCC). (2023). *Climate Change 2023: Synthesis Report*. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2019). *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. <https://doi.org/10.5281/zenodo.3831673>
- International Carbon Action Partnership (ICAP). (2025). *Emissions trading worldwide: Malaysia jurisdiction factsheet*. ICAP ETS Map. <https://icapcarbonaction.com/en/ets>

- International Emissions Trading Association (IETA) (2024). *Indonesia ETS at a Glance*. https://www.ieta.org/uploads/wp-content/Resources/Business-briefs/2025/IETA_Business_Brief-Indonesia-final.pdf
- International Emissions Trading Association (IETA) (2025). *Effective carbon pricing and markets in Malaysia* [White paper]. https://www.ieta.org/uploads/wp-content/2025/10/Malaysia-White-Paper.V2_compressed.pdf
- International Monetary Fund. (2023). Climate crossroads: Fiscal policies in a warming world. *Fiscal Monitor*, October 2023, Chapter 1. IMF. <https://www.imf.org/en/Publications/FM/Issues/2023/10/10/fiscal-monitor-october-2023>
- Joshi, D., Markandu, D. R., Clements, R., Goh, C. S., & Mahadi, A. (2023). *Carbon pricing and the business case for emissions reductions and nature conservation in Malaysia: Research summary and policy recommendations*. The Asia Foundation. https://asiafoundation.org/wp-content/uploads/2024/08/Malaysia_Carbon-Pricing-and-the-Business-Case-for-Emissions-Reductions-and-Nature-Conservation-in-Malaysia_EN.pdf
- Kahn, M. E., Mohaddes, K., Ng, R. N. C., Pesaran, M. H., Raissi, M., & Yang, J. C. (2019). *Long-term macroeconomic effects of climate change: A cross-country analysis* [IMF Working Paper]. International Monetary Fund. <https://doi.org/10.5089/9781513514598.001>
- Kalinda, J. (2025). CBAM and the WTO: How the EU's climate tool may hurt developing countries. SSRN. <https://doi.org/10.2139/ssrn.5264425>
- Kamandika, F. A., & Dhakal, S. (2023). Impact of carbon price on Indonesia's power sector up to 2050. *Carbon Neutrality*, 2(1), 1–21. <https://doi.org/10.1007/s43979-023-00066-4>
- Kamil, A. S., Setyaningrum, L., Lesmana, A. C., Putri, M. S., Negara, S., Susiati, H., & Anggoro, Y. D. (2023). Regional impact analysis of carbon tax implementation on Indonesia's coal power plant with interregional input–output method. *International Journal of Energy Economics and Policy*, 13(3), 149–157. <https://doi.org/10.32479/ijeeep.14115>
- Khalid, F. M. (2002). Islam and the environment. In P. Timmerman (Ed.), *Encyclopedia of global environmental change* (Vol. 5, pp. 332–339). John Wiley & Sons. <https://islam-science.net/wp-content/uploads/2013/11/Islam-and-the-Environment.pdf>
- Kohlscheen, E., Moessner, R., & Takáts, E. (2025). Effects of carbon pricing and other climate policies on CO₂ emissions. *National Institute Economic Review*, 1–16. <https://doi.org/10.1017/nie.2025.10066>
- Konradt, M., McGregor, T., & Toscani, F. (2024). *Carbon prices and inflation in the Euro Area* (IMF Working Paper 2024/031). International Monetary Fund. <https://doi.org/10.5089/9798400267277.001>
- Kousta, S. (2019). Nudging carbon pricing. *Nature Human Behaviour*, 3(11). <https://doi.org/10.1038/s41562-019-0776-2>
- Koya, Z. (2026, April 21). Carbon tax plan put on hold amid Middle East tensions, says Kurup. *The Star*. <https://www.thestar.com.my/news/nation/2026/04/21/carbon-tax-plan-put-on-hold-amid-middle-east-tensions-says-kurup>
- Kusumawardhani, A., Saptadjaja, V., & Cahyono, M. (2024). The effects of carbon tax, fairness, and government trust on public views of carbon tax. *InFestasi*, 20(1), 54–64. <https://doi.org/10.21107/infestasi.v20i1.25566>
- Kyle, J. (2018). Local corruption and popular support for fuel subsidy reform in Indonesia. *Comparative Political Studies*, 51(11), 1472–1503. <https://doi.org/10.1177/0010414018758755>
- Li, B., Nian, V., Shi, X., Li, H., & Boey, A. (2020). Perspectives of energy transitions in East and Southeast Asia. *Wiley Interdisciplinary Reviews: Energy and Environment*, 9(1). <https://doi.org/10.1002/wene.364>
- Loganathan, N., Shahbaz, M., & Taha, R. (2014). The link between green taxation and economic growth on CO₂ emissions: Fresh evidence from Malaysia. *Renewable and Sustainable Energy Reviews*, 38, 1083–1091. <https://doi.org/10.1016/j.rser.2014.07.057>

- Logg-Scarvell, J. (2025). *Backlash against carbon pricing in Australia and Canada*. Carnegie Endowment for International Peace. <https://carnegieendowment.org/research/2025/09/carbon-pricing-backlash-elite-grassroots-protest-australia-canada>
- Malaysia Investment Development Authority (MIDA). (2024a). *National Energy Transition Roadmap (NETR): Charting a path to a sustainable energy landscape*. <https://www.mida.gov.my/national-energy-transition-roadmap-netr-charting-a-path-to-a-sustainable-energy-landscape/>
- Malaysia Investment Development Authority (MIDA). (2024b). *Navigating the EU's carbon border policy: MIDA and Alliance Bank host CBAM workshop for Malaysian businesses*. <https://www.mida.gov.my/media-release/navigating-the-eus-carbon-border-policy-mida-and-alliance-bank-host-cbam-workshop-for-malaysian-businesses/>
- Malaysian Gas Association. (2024, June 28). *Malaysia secures position as top fifth world LNG exporter, rising importance of LNG for energy security*. <https://malaysiangas.com/2024/06/28/malaysias-secures-as-top-fifth-world-lng-exporter-rising-importance-of-lng-for-energy-security-bernama/>
- McCulloch, N., Cordon-Navarro, F. J., Duong, M., & Dünnenberger, S. (2026). *Implementing carbon pricing in Southeast Asia*. International Institute for Sustainable Development. <https://www.iisd.org/system/files/2026-03/carbon-pricing-southeast-asia.pdf>
- Meraj, M. A. (2016). Islamic approach to the environment and the role's in the environment protected. *Jurnal Ilmiah Peuradeun*, 4(1), 1–14. <https://doi.org/10.26811/peuradeun.v4i1.81>
- Ministry of Economy (2023b). *National Energy Transition Roadmap (NETR): Part 1: Flagship catalyst projects and initiatives*. https://www.st.gov.my/sites/default/files/2026-02/NETR_S3.pdf
- Ministry of Economy. (2023a). *National Energy Transition Roadmap: Energising the nation, powering our future*. <https://ekonomi.gov.my/sites/default/files/2023-08/National%20Energy%20Transition%20Roadmap.pdf>
- Ministry of Finance Malaysia. (2025). *The fourth MADANI Budget: The rakyat's budget*. <https://belanjawan.mof.gov.my/pdf/belanjawan2026/ucapan/bs26.pdf>
- Moslehpour, M., Chau, K. Y., Du, L., Qiu, R., Lin, C. Y., & Batbayar, B. (2023). Predictors of green purchase intention toward eco-innovation and green products: Evidence from Taiwan. *Economic Research - Ekonomiska Istraživanja*, 36(2), 1–22. <https://doi.org/10.1080/1331677X.2022.2121934>
- Muhammad, I. (2022). Carbon tax as the most appropriate carbon pricing mechanism for developing countries, and strategies to design an effective policy. *AIMS Environmental Science*, 9(2), 161- 184. <https://doi.org/10.3934/environsci.20220012>
- Muhammad, I. (2024). A proposed carbon tax framework for Malaysia and the challenges of implementation in the COVID-19 economic recovery plan. *Management Accounting Review*, 23(2), 169–190. <https://doi.org/10.24191/MAR.V23i02-08>
- Muhammad, I., Mohd Hasnu, N. N., Ibrahim, M. A., Abdul Hamid, S., & Mohd Hanefah, M. (2022). Trust in government and its determinants: An empirical study of public acceptability for carbon tax in Malaysia. *Sustainability*, 14(23), 1–12. <https://doi.org/10.3390/su142315684>
- Muhammad, I., Mohd Hasnu, N. N., Ibrahim, M. A., Abdul Hamid, S., & Mohd Hanefah, M. (2023). Public Acceptance of Carbon Tax Implementation: A Nationwide Empirical Study in Malaysia. *Jurnal Pengurusan*, 69, 1–16. <https://doi.org/10.17576/pengurusan-2023-69-06>
- Murad, M. M. (2010). Islamic environmental stewardship: Nature and science in the light of Islamic philosophy. *Union Seminary Quarterly Review*, 63(1–2), 145–163. <https://doi.org/10.7916/D8GQ6X2Z>
- Noh, N. (2025). *Malaysia's carbon pricing journey*. Partnership for Market Implementation (PMI) Global Knowledge Forum 2024. https://www.pmiclimate.org/sites/default/files/2025-01/Carbon-Pricing-Journey_Nirwan-Noh--Malaysia-.pdf

- Nurhayati, Y., Ifrani, Said, M. Y., & Yanova, M. H. (2024). Carbon pricing policy to support net zero emission: A comparative study of Indonesia, Finland and Sweden. *Environmental Policy and Law*, 54(1), 53–63. <https://doi.org/10.3233/EPL-230047>
- Nyangan, J., & Seifi, B. (2026). *How carbon border adjustment mechanism is energizing the EU carbon market and industrial transformation*. ArXiv. <https://arxiv.org/pdf/2601.05490>
- Organisation for Economic Co-operation and Development (OECD) (2022). *Indonesia emissions trading system: Summary of insights: Focus Group Discussions Nov 2021–May 2022*. <https://www.oecd.org/content/dam/oecd/en/about/programmes/cefim/indonesia/news-and-events/Indonesia-ETS-FGD-series-summary-report.pdf>
- Organisation for Economic Co-operation and Development (OECD). (2023). *Effective carbon rates 2023: Pricing carbon emissions through taxes and emissions trading*. OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD). (2025). *Effective carbon rates 2025: Recent Trends in Taxes on Energy Use and Carbon Pricing*. OECD Publishing. <https://doi.org/10.1787/a5a5d71f-en>
- Pan, J., Cross, J. L., Zou, X., & Zhang, B. (2024). To tax or to trade? A global review of carbon emissions reduction strategies. *Energy Strategy Reviews*, 55, 1–14. <https://doi.org/10.1016/j.esr.2024.101508>
- Parry, I. (2021). Five things to know about carbon pricing. *Finance & Development*, 58(3). <https://www.imf.org/en/publications/fandd/issues/2021/09/five-things-to-know-about-carbon-pricing-parry>
- Perdana, S., & Vielle, M. (2023). Carbon border adjustment mechanism in the transition to net-zero emissions: Collective implementation and distributional impacts. *Environmental Economics and Policy Studies*, 25(3), 299–329. <https://doi.org/10.1007/s10018-023-00361-5>
- Prabawani, B., Hadi, S. P., Séhier, C., & Hanani, R. (2025). Understanding the drivers of carbon tax rates: a global analysis of population, gross domestic product, and energy mix. *Sustainability: Science, Practice and Policy*, 21(1), 1–26. <https://doi.org/10.1080/15487733.2025.2582957>
- PricewaterhouseCoopers (PwC) (2024) *Indonesia Carbon Market White Paper*. <https://www.pwc.com/id/en/publications/esg/indonesia-carbon-market-white-paper.pdf>
- Rafaty, R., Dolphin, G., & Sprinz, D. F. (2022). Carbon pricing and the diffusion of climate policy. *Nature Climate Change*, 12(6), 526–532.
- Rahma, L., Hartono, D., & Hastuti, S. H. (2025). Carbon-tax implementation in Indonesia: a social accounting matrix analysis. *Sustainability: Science, Practice and Policy*, 21(1), 1–17. <https://doi.org/10.1080/15487733.2025.2454061>
- Rahmansyah, D., & Cross, A. (2026). *Indonesia introduces new carbon trading framework under Presidential Regulation No. 110 of 2025*. SSEK Law Firm. <https://ssek.com/blog/indonesia-introduces-new-carbon-trading-framework-under-presidential-regulation-no-110-of-2025>
- Ramlan, S. (2020). Implementing Islamic law to protect the environment: Insights from Singapore, Malaysia, and Indonesia. *Asia Pacific Journal of Environmental Law*, 23(2), 202–230. <https://doi.org/10.4337/apjel.2020.02.05>
- Resosudarmo, B. P., Rezki, J. F., & Effendi, Y. (2023). Prospects of energy transition in Indonesia. *Bulletin of Indonesian Economic Studies*, 59(2), 149–177. <https://doi.org/10.1080/00074918.2023.2238336>
- Rokhmawati, A., Sarasi, V., & Berampu, L. T. (2024). Scenario analysis of the Indonesia carbon tax impact on carbon emissions using system dynamics modeling and STIRPAT model. *Geography and Sustainability*, 5(4), 577–587. <https://doi.org/10.1016/j.geosus.2024.07.003>
- Scheffran, J. (2025). Systemic risks and governance of the global polycrisis in the Anthropocene: stability of the climate–conflict–migration–pandemic nexus. *Global Sustainability*, 8, 1–13. <https://doi.org/10.1017/sus.2025.10026>
- Schreier, M. (2012). *Qualitative content analysis in practice*. SAGE Publications. <https://doi.org/10.4135/9781529682571>

- Schuch, E., Apergi, M., Chow, D. Y. K., Eicke, L., Goldthau, A., Kurniawan, J. H., Lima-de-Oliveira, R., Tan, Z. G., & Weko, S. (2024). Breaking the carbon lock-in: Identifying pathways for Malaysia towards a low-carbon future. *Technological Forecasting and Social Change*, 202, 1–11. <https://doi.org/10.1016/j.techfore.2024.123331>
- Shibli, R., Saifan, S., Ab Yajid, M. S., & Khatibi, A. (2021). Mediating role of entrepreneurial marketing between green marketing and green management in predicting sustainable performance in Malaysia's organic agriculture sector. *AgBioForum*, 23(2), 37–49. <https://agbioforum.org/manuscript/index.php/agb/article/view/60>
- Shivaprasad, A. (2025, October 27). *Chinese firms drive aluminium expansion in Indonesia, raise surplus fears*. Reuters. <https://www.reuters.com/world/asia-pacific/chinese-firms-drive-aluminium-expansion-indonesia-raise-surplus-fears-2025-10-27/>
- Solaymani, S. (2017). Carbon and energy taxes in a small and open country. *Global Journal of Environmental Science and Management*, 3(1), 51–62. <https://doi.org/10.22034/gjesm.2017.03.01.006>
- Statista. (2025). *Export value of liquefied natural gas (LNG) from Malaysia from 2015 to 2024*. <https://www.statista.com/statistics/794684/export-value-of-liquefied-natural-gas-malaysia/>
- Steckel, J. C., Dorband, I. I., Montrone, L., Ward, H., Missbach, L., Hafner, F., Jacob, M. & Renner, S. (2021). Distributional impacts of carbon pricing in developing Asia. *Nature Sustainability*, 4(11), 1005–1014. <https://doi.org/10.1038/s41893-021-00758-8>
- Sunanda, W., Setyonegoro, M. I. B., Hadi, S. P., & Sarjiya. (2025). Carbon tax and trading mechanisms for emission reduction in the Indonesian power sector. *Cleaner Engineering and Technology*, 27, 1–20. <https://doi.org/10.1016/j.clet.2025.101024>
- Tang, R., Yu, D., Li, Y., et al. (2026). Accelerating the global energy transition through carbon pricing: An ex-post analysis of emissions reduction effects and mechanisms based on international data. *Engineering Management*. <https://doi.org/10.1007/s42524-026-5043-4>
- The Asia Foundation (2023). *A Guide to Carbon Pricing in Southeast Asia*. https://asiafoundation.org/wp-content/uploads/2023/12/Malaysia_A-Guide-to-Carbon-Pricing-in-Southeast-Asia.pdf
- Uda, A., & Ani, F. (2023). The abolition of GST under New Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 13(8), 743–756. <https://hrmars.com/ijarbss/article/view/18103/The-Abolition-of-GST-Under-New-Malaysia>
- UK PACT (2026). *Official Launch of Malaysia-UK PACT 2.0*. <https://www.ukpact.co.uk/news/official-launch-of-malaysia-uk-pact-2.0-to-strengthen-the-uk-malaysia-climate-partnership-by-accelerating-climate-action>
- Wimala, M., & Jeremy, J. (2022). Potensi penerapan kebijakan carbon tax pada industri konstruksi Indonesia. *Teras Jurnal: Jurnal Teknik Sipil*, 12(1), 295–306. <https://doi.org/10.29103/tj.v12i1.663>
- World Bank. (2021). *Malaysia Economic Monitor, December 2021: Staying Afloat*. <http://hdl.handle.net/10986/36795>
- World Bank. (2023). *State and trends of carbon pricing 2023*. <https://openknowledge.worldbank.org/entities/publication/58f2a409-9bb7-4ee6-899d-be47835c838f>
- World Bank. (2024). *State and trends of carbon pricing 2024*. <https://openknowledge.worldbank.org/entities/publication/b0d66765-299c-4fb8-921f-61f6bb979087>
- World Bank. (2025). *State and trends of carbon pricing 2025*. <https://openknowledge.worldbank.org/entities/publication/e5f6e755-e6a6-4d2c-927a-23b5cc8a9b03>

- World Bank. (2026). *East Asia and Pacific economic update, April 2026: Industrial policy in the digital age (English)*. <http://documents.worldbank.org/curated/en/099040726112040954>
- World Population Review. (2026). *Muslim population by country*. <https://worldpopulationreview.com/country-rankings/muslim-population-by-country>
- World's Top Exports. (2025). *Coal exports by country*. <https://www.worldstopexports.com/coal-exports-country/>
- Worldometer. (2026). *Greenhouse Gas (GHG) Emissions*. https://www.worldometers.info/greenhouse-gas-emissions/#google_vignette
- Wulandari, F., & Semertzidis, T. (2024). Investigating consumer's attitudes toward new carbon tax regulation in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 1395(1). <https://doi.org/10.1088/1755-1315/1395/1/012031>
- Xu, L., & Yang, J. (2024). Carbon pricing policies and renewable energy development: Analysis based on cross-country panel data. *Journal of Environmental Management*, 366. <https://doi.org/10.1016/j.jenvman.2024.121784>
- Yahoo, M., & Othman, J. (2015). Carbon and energy taxation for CO₂ mitigation: A CGE model of Malaysia. *Environment, Development and Sustainability*, 19(1), 239–262. <https://doi.org/10.1007/s10668-015-9725-z>
- Yudha, S. W., & Tjahjono, B. (2019). Stakeholder mapping and analysis of the renewable energy industry in Indonesia. *Energies*, 12(4), 1–19. <https://doi.org/10.3390/en12040602>
- Yusuf, A. A., & Resosudarmo, B. P. (2015). On the distributional impact of a carbon tax in developing countries: The case of Indonesia. *Environmental Economics and Policy Studies*, 17(1), 131–156. <https://doi.org/10.1007/s10018-014-0093-y>
- Zhao, F., & Tang, C. F. (2025). Impact of carbon pricing on renewable energy: A comparative study of developing and developed countries. *Malaysian Journal of Economic Studies*, 62(2), 209–230. <https://doi.org/10.22452/MJES.vol62no2.1>
- Zulkifli, Nuryaman, & Hafidhoh. (2023). Islamic approaches to the environmental preservation: A systematic literature review. *Al-A'raf: Jurnal Pemikiran Islam dan Filsafat*, 20(2), 176–208. <https://doi.org/10.22515/ajpif.v20i2.7848>