



Mekong Energy Transitions: Divergent Green Governance in Thailand and Vietnam

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August 31, 2026

Discussion Paper

No.114

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Abstract

As the primary economic engines of the Greater Mekong Subregion (GMS), Thailand and Vietnam face the critical paradox of sustaining rapid industrial growth while fulfilling international decarbonization mandates. Through a political economy lens, this study interrogates how the interplay of taxation, subsidies, and green finance within these two nations' divergent governance architectures fundamentally dictates their national energy trajectories. The analysis reveals two distinct models of transition: Thailand's "market-led gradualism," characterized by a revenue-neutral carbon tax and mature capital markets aimed at improving energy intensity, and Vietnam's "state-directed mobilization," which leverages aggressive green credit mandates and an Environmental Protection Tax to curb emissions. However, the study finds that Thailand's reliance on gas and Vietnam's high-growth coal pipeline remain entrenched by deep-seated institutional path dependencies and vested interests. By exposing the tension between rhetorical climate commitments and the political-economic reality of fossil fuel persistence, the paper offers targeted recommendations for GMS governance. It advocates for institutional reform, strategic green finance mobilization, and regional grid cooperation as essential levers to align regional fiscal policy with verifiable carbon reduction.

Keywords: Mekong Energy Transition, Green Governance, SDG 7, SDG 13

JEL Classification: Q48; H23; O13; E62; P48; Q01

1. Introduction

The global imperative to mitigate climate change through sustainable energy transitions represents one of the most significant economic reorientations of the twenty-first century. As codified in the Paris Agreement and United Nations Sustainable Development Goals (SDG 7 and 13), decarbonizing the power sector requires not only technological innovation but also the strategic deployment of fiscal instruments. Within the Greater Mekong Subregion (GMS), a territory characterized by rapid industrialization and acute climate vulnerability, the transition is increasingly dictated by the efficacy of green fiscal frameworks designed to bridge an estimated USD 680 billion annual investment gap (ERIA, 2025).

Thailand and Vietnam serve as the primary economic engines of the GMS, yet they represent divergent institutional approaches to energy governance. While both nations confront with historical reliance on fossil fuels and escalating electricity demand, their respective fiscal strategies offer a compelling comparative study in policy design. Thailand, characterized by a sophisticated capital market and a mature regulatory environment, has prioritized a gradualist,

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Preliminary versions of this work benefited significantly from discussions at the Greater Mekong Subregion Academic and Research Network International Conference (Vang Vieng, Lao PDR, December 2025). The author is grateful to Dr. Subin Pinkayan and Dr. Yosapol Rathamarit for providing invaluable technical insights into the energy sector. The author retains full responsibility for the final content and any remaining inaccuracies.

revenue-neutral carbon taxation model. Vietnam, utilizing a state-directed developmental model, has implemented aggressive green credit targets and environmental protection taxes to mobilize resources toward its energy transition.

Table 1 Selected Socio-economic Indicators in GMS Member Countries

Member States	GDP (billion USD)	GDP per Capita (USD)	Trade (% GDP)	Poverty Ratio (%)	Gini Index
Cambodia	47.15	2,743.99	143	17.7	45.40
China	18,748.01	13,312.70	37	0.00	35.70
Lao PDR	14.95	1,945.13	75	18.30	38.80
Myanmar	64.28	1,179.40	NA	24.80	24.80
Thailand	528.92	7,527.38	137	5.40	34.90
Vietnam	468.49	4,649.05	165	4.30	36.10

Sources: The data for GDP (in USD billion, 2024) and GDP per capita (in USD, 2024) are from IMF (2024). The data for Trade and Poverty Ratio (Headcount ratio at national poverty lines) and Gini Index (latest available year) are from World Bank Group (2025). The Gini index of Cambodia (2019) is calculated by World Economics, London (n.d.).

A comparative analysis of the fiscal and environmental taxation frameworks in Thailand and Vietnam is highly relevant, given their congruent socio-economic profiles (Table 1). Both nations have comparable GDPs, high trade-to-GDP ratios (137% and 165%, respectively), rapid economic growth, significant reliance on fossil fuels, and high climate vulnerability (Thailand Ministry of Energy, 2024, Vietnam Ministry of Industry and Trade, 2024). They also have low poverty rates, at 5.4% for Thailand and 4.3% for Vietnam. Their differing political and economic trajectories, however, offer a compelling "natural experiment." Thailand has a constitutional monarchy with a history of political instability. In contrast, Vietnam operates as a single-party socialist republic. Thailand, a more mature economy, has a larger GDP but faces a stagnating population and slower growth. On the other hand, Vietnam's younger population and high foreign direct investment fuel a dynamic, high-growth economy. This comparison allows for a deeper understanding of how distinct governance and demographic contexts shape and influence the efficacy of energy transition policies.

This study adopts a political economy framework to interrogate the friction between green fiscal architectures and actual carbon outcomes in Thailand and Vietnam. The research is driven by three primary objectives, namely: (i) to deconstruct the institutional underpinnings and the ground-level implementation of environmental taxation; (ii) to evaluate the efficacy of fiscal incentives relative to established sustainable development indicators; and (iii) to synthesize actionable, context-specific policy implications for the broader GMS. By analyzing the structural interplay between direct taxation, renewable energy subsidies, and emerging green finance ecosystems, this paper demonstrates how divergent governance models fundamentally dictate the velocity and viability of national energy trajectories in the Mekong.

2. Literature Review and Theoretical Groundwork

Theoretical discourse on sustainable energy is rooted in environmental economics. This field advocates for policies that internalize negative externalities (Pigou, 1920; Baumol & Oates, 1988). Central to this is carbon pricing. It aims to discourage fossil fuel use while potentially yielding a "double dividend": improved environmental quality and revenue to offset distortionary taxes (Bovenberg & de Mooij, 1994; Goulder, 1995). While the robustness of this dividend is

debated (Fullerton & Metcalf, 2001), well-designed environmental taxes are widely viewed as drivers of green growth (Freire-González & Ho, 2019; Chien et al., 2021).

2.1 From Economic Optimality to Political Feasibility

In practice, policy outcomes are shaped more by political economy than pure economic efficiency (Oates & Portney, 2003; Stavins, 2004). Implementation depends on the interplay between government goals, vested interests, and institutional capacity (Ostrom, 2010a; Ali & Kamraju, 2025). Research shows that policy success often relies on national endorsement rather than simple lobbying (Lucas, 2019). However, institutional fragmentation and a "North-South divide" in climate awareness remain significant barriers (Kalogiannidis et al., 2024; Lamb & Minx, 2020). Due to public and industrial resistance, policymakers often favor "second-best" instruments like subsidies over carbon taxes for their political palatability (Furceri et al., 2023). Thailand's revenue-neutral carbon tax (Thailand PRD, 2024) and Vietnam's fuel tax cuts (Vietnam Briefing, 2025a) illustrate this compromise between theory and political reality.

2.2 Addressing the Analytical Gap in the GMS

Existing literature often uses broad comparative approaches. These frequently overlook specific national-level effects of fiscal tools (Ember, 2024; IEA, 2022; Derouez & Ifa, 2025). While some studies call for stronger governance in Southeast Asia (Tang et al., 2025), few provide granular country-to-country analyses (Sarkar et al., 2024). This study addresses that gap. It follows Elinor Ostrom's (2010b) advocacy for focused, context-specific case studies. By systematically examining Thailand and Vietnam, two interconnected GMS economies with distinct governance models, this research explores how specific political dynamics influence the design and effectiveness of energy transition policies.

3. Thailand's Green Fiscal Framework: The "Soft-Touch" Transition

Thailand's energy landscape is defined by a deep-seated structural paradox: a sophisticated vision for a "Green Economy" clashing with a historical reliance on fossil fuels. Currently, oil and natural gas dominate 67.40% of the energy mix, while renewables, primarily hydroelectricity, account for a modest 16.6% (ASEAN Centre for Energy, 2023). This carbon-intensive dependency is not merely an environmental burden but an economic and public health crisis, as air pollution from industrial and agricultural sources continues to escalate climate vulnerability (Thampanishvong et al., 2021; Archer et al., 2024; Ongkittikul & Ratanaburi, 2025). In response, the Thai state has repositioned fiscal policy and environmental taxation as central catalysts for a sustainable transition.

3.1 Target Acceleration and the "Business-as-Usual" Gap

Thailand's climate ambitions have undergone a rapid "policy pivot." While the revised Long-Term Low Greenhouse Gas Emission Development Strategy (LT-LEDS) initially sought carbon neutrality by 2050 and net-zero by 2065 (ONEP, 2022a), a 2025 policy declaration accelerated the net-zero target to a more aggressive 2050 timeline (The Nation, 2025). Under its 2022 Nationally Determined Contribution (NDC) update, the nation pledged to reduce emissions by 30–40% by 2030, building on a successful 15.4% reduction achieved through National Appropriate Mitigation Actions (NAMAs) (ONEP, 2022b). However, these commitments exist in tension with a persistent "business-as-usual" trajectory, necessitating a transformative shift in

national production models (ONEP, 2022a; ONEP, 2022b; Thailand Ministry of Natural Resources and Environment, 2025).

3.2 The Governance Lag: PDP 2024 and Legislative Delays

The governance of this transition is anchored in the National Energy Plan (NEP), a massive coordination effort across power (PDP), alternative energy (AEDP), and efficiency (EEP) sub-plans (UNDP, 2025). The draft PDP 2024 is particularly ambitious, proposing to increase the renewable share of electricity generation to 51% by 2037, up from 20% in 2024, while introducing hydrogen and small-scale nuclear technologies into the fold. However, the operative plan remains the outdated PDP 2018 (Revision 1), as the new roadmap remains stalled by political and legal complications (Energy News Center, 2025). The Ministry of Energy now anticipates a finalization by late 2025 or early 2026, though this timeline remains subject to the prevailing political climate (Energy News Center, 2025).

3.3 Fiscal Innovation: The Revenue-Neutral Carbon Tax and ETS

Thailand's carbon pricing strategy is currently in its "foundational" phase. In early 2025, the government approved a revenue-neutral carbon tax on oil products, set at THB 200 per tonne of CO₂ equivalent (Thailand Government Public Relations Department, 2024; Baker McKenzie, 2025). Crucially, this is a reallocation mechanism rather than a new levy, designed to cultivate greenhouse gas (GHG) awareness without immediately disrupting market behavior. This foundational step is a precursor to a mandatory Emissions Trading System (ETS) and a Carbon Border Adjustment Mechanism (CBAM) designed to safeguard industrial competitiveness (International Carbon Action Partnership, 2024). The success of this legislative architecture depends on a proposed Climate Fund, though its implementation faces significant "bureaucratic friction" and resistance from pricing-averse stakeholders (Tilleke & Gibbons, 2025; Supajakwattana & Chambers, 2025).

3.4 Mobilizing Capital: BOI Incentives and the Green Taxonomy

To bypass fiscal constraints, Thailand leverages institutional maturity to attract private capital. The Board of Investment (BOI) provides a robust suite of corporate tax exemptions and non-tax benefits, such as 100% foreign ownership, while Feed-in Tariffs (FiT) provide revenue stability for solar developers (Lex Nova, 2024). Furthermore, the Thailand Taxonomy Phase 1 (2023), a "traffic light" sustainability categorization system, has solidified the nation's status as a regional leader in green bond issuance (World Bank, 2024; UNDP, 2025). New market decentralization initiatives, such as piloting Direct Power Purchase Agreements (DPPA) and utility green tariffs, further empower large consumers to procure renewable energy directly (CCPI, 2025).

3.5 Institutional Constraints and the Just Transition

Despite these advancements, the transition is hindered by a "policy conflict" between long-term decarbonization and immediate energy security. Entrenched manufacturing lobbies continue to advocate for low-cost fossil fuels, resulting in a continued reliance on coal and a cautious tax design (UNDP, 2025). This is compounded by a fragmented and politicized bureaucracy that struggles with policy execution (Energy News Center, 2025; Bangkok Post, 2025). While the government simultaneously explores new domestic fossil fuel sources (US ITA, 2021; Oil & Gas Today, 2025), a burgeoning social challenge looms: an estimated 60,000 jobs are at risk by 2030,

necessitating a comprehensive "just transition" through reskilling to ensure the transition remains socially sustainable (Thampanishvong et al., 2021; UNDP, 2025).

4. Vietnam's Green Fiscal Framework: The Ambition of a Developmental State

Vietnam is currently navigating a high-stakes transition, balancing a 13% annual surge in electricity demand for its 100.3 million citizens against the urgent need to decarbonize a power mix where coal still commands a 46.1% share. While the nation has emerged as a regional solar powerhouse with 17.1 GW of capacity as of 2023 (ASEAN Centre for Energy, 2023), this rapid expansion has pushed an ageing grid to its breaking point. With the energy sector responsible for over half of the country's rising GHG emissions, Hanoi has deployed an aggressive mix of top-down mandates and market-based instruments to secure its "Net-Zero 2050" target (World Bank, 2023).

4.1 Strategic Anchors: PDP8 and the JETP

Vietnam's climate trajectory is codified in the National Climate Change Strategy (Decision No. 896/QD-TTg), which sets a rigorous cap of 185 MtCO₂eq by 2050 (Climate Action Tracker, 2023). This vision is operationalized through the Power Development Plan VIII (PDP8), which aims for a 28–36% non-hydro renewable share by 2030 and a complete coal phase-out by mid-century (Vietnam Briefing, 2025b). To bridge the domestic capital gap and navigate the political economy of coal, Vietnam has leveraged the Just Energy Transition Partnership (JETP), securing international finance to de-risk its ambitious transition (Hogan Lovells, 2024; Vietnam Law & Legal Forum, 2025).

4.2 Fiscal Interventionism: Taxation and Natural Capital

The backbone of Vietnam's green fiscality is the Environmental Protection Tax (EPT), which has functioned since 2012 as a primary deterrent against carbon-intensive consumption, levying charges such as VND 2,000 per liter on gasoline (Vietnam Briefing, 2025a; Trinh, 2025). Complementing this is a comprehensive Natural Resource Tax (NRT), which imposes significant levies, up to 18% on rare earths and 35% on timber, to internalize the costs of ecological extraction (Nhi, 2025). These "sticks" are balanced by "carrots" within the Law on Environmental Protection (2020), which provides duty exemptions for renewable equipment as a precursor to a looming national carbon trading market (ICAP, 2020; Nhi, 2025).

4.3 The Green Credit Surge and Institutional Friction

Vietnam is aggressively pivoting its banking sector toward sustainability, mandating a green credit share of 10% by 2025 and 25% by 2030 (Mudasser & Goyal, 2025). By early 2024, green credit reached VND 640,000 billion, bolstered by Decree No. 58/2025/ND-CP, which provides fee exemptions for frontier sectors like green hydrogen and offshore wind (Lin, 2025). However, this state-led mobilization faces significant structural friction. Implementation is often hampered by bureaucratic over-decentralization and local capacity gaps (Thang & Ta, 2023). Furthermore, the absence of bankable Power Purchase Agreements (PPAs) and a formal net-metering mechanism for rooftop solar continues to deter private investment, creating a "policy-implementation gap" (Power Technology, 2025; You-Jie, 2025). Ultimately, immediate energy security anxieties have prompted a fallback into LNG projects, creating a persistent policy conflict

between short-term reliability and long-term decarbonization (Vietnam Law & Legal Forum, 2025).

5. Comparative Analysis: Convergent Goals, Divergent Governance

While Thailand and Vietnam share the regional imperative of the “Green Mekong” transition, their fiscal strategies reveal a profound divergence in governance philosophy. This section interrogates the structural friction between Thailand’s market-oriented fiscalism and Vietnam’s state-directed green mandates, uncovering how distinct political economies translate shared climate rhetoric into vastly different decarbonization realities.

5.1 Fiscal Architectures: Market Incentives vs State Interventionism

The environmental taxation frameworks of Thailand and Vietnam reveal a fundamental divergence in how each state internalizes ecological costs, reflecting a tension between revenue-neutral market signaling and revenue-generating state mandates.

Thailand’s Gradualist Market Alignment

Thailand’s fiscal strategy is characterized by institutional caution and consensus-building. By adopting a revenue-neutral carbon tax focused primarily on oil, Thailand prioritizes public and industrial acceptance over immediate state revenue. This “soft-touch” approach is strategically designed to prepare the private sector for a more complex regulatory future, including the integration of an Emissions Trading System (ETS) and alignment with the Carbon Border Adjustment Mechanism (CBAM) under the forthcoming Climate Change Bill. In the Thai context, fiscal policy serves as a market signal, intended to incentivize efficiency through gradual pressure rather than disruptive extraction.

Vietnam’s Fiscal Interventionism

Conversely, Vietnam utilizes an aggressive, broad-based interventionist model. Its established Environmental Protection Tax (EPT) functions as a significant revenue-generating instrument, covering a wide array of harmful goods. Empirical evidence suggests this model has exerted a “strong and negative impact” on CO₂ emissions, indicating higher immediate efficacy than Thailand’s selective approach. Vietnam further leverages its Natural Resource Tax on petroleum, minerals, and timber as a direct lever of state power. Unlike Thailand’s excise-heavy framework, Vietnam’s NRT allows the state to strategically manage resource depletion by imposing high rates on ecologically sensitive sectors, a fiscal lever of “command-and-control” sustainability not yet evident in the Thai framework.

5.2 Strategic Finance: Capital Mobilization vs Credit Mandates

The promotion of sustainable energy in the Mekong region is increasingly defined by the maturity of national finance ecosystems and the speed of policy formalization.

The Thai Model: Mature Capital Markets

Thailand leverages its institutional maturity to drive the energy transition. By utilizing robust Board of Investment (BOI) incentives alongside established Feed-in Tariff (FiT) schemes, Thailand has cultivated a sophisticated national sustainable finance framework. This is evidenced by its strong track record in green bond issuance and the implementation of Taxonomy Phase 1. Thailand’s priority is market-based capital mobilization, seeking to de-risk green investments to attract private capital into a stable, regulated energy market.

The Vietnamese Model: State-Directed Credit and Formalization

Vietnam, in contrast, emphasizes state-directed credit targets, aiming for green credits to reach 10% of total loans by 2025 and 25% by 2030. This strategy targets “frontier” sectors such as green hydrogen, ammonia, and sustainable agriculture. While Thailand is still piloting Direct Power Purchase Agreements (DPPA), Vietnam has moved with characteristic speed to formalize an official framework via Decree 57/2025/ND-CP. However, this rapid policy formalization often faces significant operational impediments. Vietnam’s model is one of aggressive state-led mandate, prioritizing speed and volume in credit allocation to meet the surging energy demands of its manufacturing sector.

5.3 Decoupling Growth from Carbon

The GHG emission trajectories of Thailand and Vietnam provide a critical window into the divergent industrial metabolisms of the Mekong’s primary economic engines. While both nations exhibit a continuous upward trend, reflecting a persistent correlation between GDP growth and environmental load, the velocity and composition of these emissions reveal distinct structural realities (Figure 1).

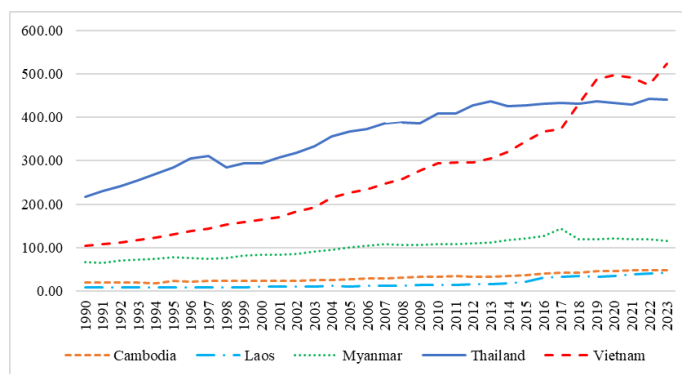


Figure 1 Total GHG Emission by Country (MtCO₂eq per year)

Source: Dataset from European Commission, Joint Research Centre and International Energy Agency (2024)

Note: GHG emissions include CO₂ (fossil only), CH₄, N₂O and F-gases.

CO₂ constitutes the cornerstone of the GHG profile for both nations, yet their fuel dependencies remain fundamentally at odds (Figure 2). Thailand’s carbon footprint, representing 60% of its total emissions (264.3 Mt), is anchored in the transport and power sectors, driven by oil (104.34 Mt) and natural gas (81.08 Mt). In contrast, Vietnam’s emissions (64% of total, 334.7 Mt) are characterized by an intensive coal-reliance (192.08 Mt) and a significant contribution from cement production (51.31 Mt). This reflects Vietnam’s role as the GMS’s primary manufacturing and infrastructure hub, where carbon-intensive “hard-to-abate” sectors remain central to its development model (Global Carbon Budget, 2024).

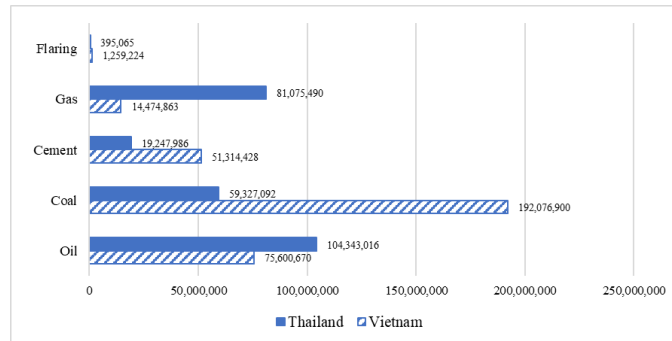


Figure 2 Annual Emission of CO2 by fuel or industry in tonne, 2023

Source: Global Carbon Budget (2024) – with major processing by Our World in Data (OurWorldinData.org)

5.4 The Efficiency Paradox: Per Capita vs GDP Intensity

A comparison of per capita and intensity metrics reveals a striking “efficiency paradox.” Thailand maintains significantly higher per capita emissions (Figure 3), a reflection of its more advanced consumption levels and upper middle-income status. However, when examining GHG intensity per unit of GDP (Figure 4), the narrative flips. Despite its lower per capita footprint, Vietnam’s economy remains relatively more carbon-intensive. This indicates that for every dollar of economic output, Vietnam generates a higher volume of GHGs than Thailand. This disparity suggests that Thailand’s economy has achieved a more mature, less carbon-intensive industrial structure, whereas Vietnam is still navigating the “dirty” phase of rapid industrialization.

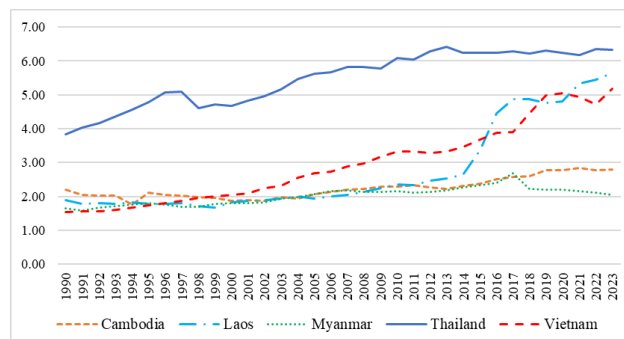


Figure 3 GHG Emission per Capita (Tonnes CO2 equivalent per thousand USD per year)

Source: Dataset from European Commission, Joint Research Centre and International Energy Agency (2024)

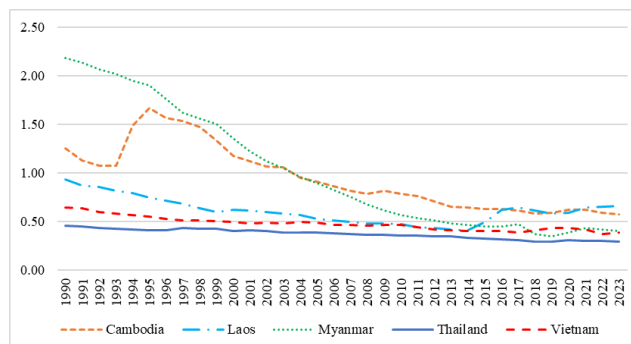


Figure 4 GHG Emission per GDP (Tonnes of CO2 equivalent per thousand USD per year)

Source: Dataset from European Commission, Joint Research Centre and International Energy Agency (2024)

The Carbon Outcomes: Immediate Efficacy vs Structural Resilience

The recent trends in these metrics offer a preliminary report card on national climate governance. Vietnam's temporary dip in emissions in 2022 (see Figure 1) suggests that its Environmental Protection Tax (EPT) and aggressive credit mandates can yield immediate, measurable influences on carbon behavior. However, the subsequent rebound highlights the immense pressure of its industrial expansion.

Conversely, Thailand's revenue-neutral carbon tax is yet to demonstrate a significant short-term shock to the system. Nevertheless, Thailand's lower overall GHG/GDP intensity suggests a level of structural resilience, pointing toward a more advanced, albeit gradual, decoupling of economic growth from carbon emissions. For both Mekong societies, the long-term challenge remains: transitioning from "stable intensity" to absolute emission reductions without compromising regional economic leadership.

5.5 SDG 7 and the Decarbonization Dilemma: Divergent Energy Landscapes

The pursuit of SDG 7, ensuring affordable, reliable, and sustainable energy, functions as a primary driver of policy reform across the GMS. However, a longitudinal display of 2020–2024 data (Energy Institute, 2025) reveals that Thailand and Vietnam are navigating this transition through fundamentally different energy architectures. While both nations recorded rising primary energy consumption per capita, reaching 19,461 kWh in Thailand and 14,429 kWh in Vietnam by 2024, the composition of these increases exposes a widening gap in their decarbonization trajectories.

Thailand: The Persistence of Fossil Fuel Path Dependency

Thailand's energy landscape remains characterized by significant path dependency. Despite rhetorical commitments to the Bio-Circular-Green economy model, fossil fuel reliance remains entrenched, accounting for 94.1% of total consumption in 2024. Most notable is the expansion of oil's dominance to 47.3%, suggesting that Thailand's mature capital markets and gradualist fiscal policies have yet to decouple industrial growth from traditional carbon inputs. In the Thai context, the transition is evolutionary, marked by a cautious integration of renewables into a grid still anchored by natural gas and petroleum interests.

Vietnam: The High-Growth Paradox

In contrast, Vietnam represents a more volatile and aggressive transition model. Between 2020 and 2024, Vietnam achieved a measurable reduction in fossil fuel dependency, dropping from 82.7% to 78.5%. This shift was powered by a "dual-track" strategy. While coal's share was pruned to 47.6%, the state-directed mobilization of green credit fueled an explosive growth in solar (4.3%) and wind (2.1%). Nevertheless, this progress is undercut by a high-growth paradox. Vietnam's rapid industrialization demands an intensive energy supply, resulting in a transition that simultaneously embraces renewables while struggling to retire a heavy, coal-centric legacy.

The Legacy Advantage vs The Gas Lock-in

The evolution of renewable electricity shares in Thailand and Vietnam (Figure 5) underscores a profound divergence in regional energy governance. Thailand has maintained a consistent, albeit gradual, upward trajectory, growing from 6.72% in 2000 to 14.86% by 2024, with a notable acceleration following the 2015 policy shifts. In contrast, Vietnam's trajectory reveals the structural volatility of a transition in flux. Its share plummeted from a hydropower-dominated 54.78% in 2000 to 31.84% in 2005 as coal-fired industrialization surged, before recovering to 44.15% by 2024 through an aggressive, state-led renewable expansion.

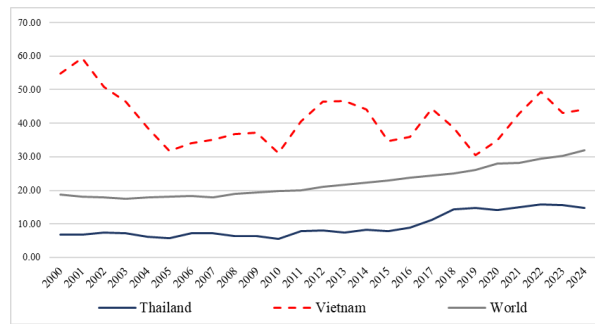


Figure 5 Share of electricity generated by renewables measured as a percentage of total electricity produced in the country

Source: Ember (2025); Energy Institute (2025) – based on various sources with major processing by Our World in Data Energy (OurWorldinData.org)

Note: Renewables include solar, wind, hydropower, bioenergy, geothermal, wave, and tidal sources

This data exposes the critical role of “legacy infrastructure” in the Mekong’s energy transition. Vietnam’s consistently higher renewable share is underpinned by its geopolitical and natural endowment of vast hydropower resources (Power Technology, 2025). This legacy provides Vietnam with a substantial structural advantage in meeting SDG 7 targets, offering a “green baseline” that Thailand lacks. Conversely, Thailand’s transition is hampered by a deep-seated natural gas lock-in (UNDP, 2025), necessitating a steeper and potentially more disruptive institutional pivot to displace entrenched fossil fuel interests.

5.6 The Energy-Development Nexus: SDG 13 and Beyond

The climate strategies of Thailand and Vietnam are not merely technical roadmaps for carbon reduction. They are deeply intertwined with the broader SDGs that define the Mekong’s future. By aligning their Nationally Determined Contributions (NDCs) with SDG 13 (Climate Action), both nations implicitly acknowledge that energy transition is the cornerstone for regional stability. However, the “Mekong Dilemma” lies in the interlinkages: the transition to sustainable energy directly dictates the success of poverty eradication (SDG 1), public health (SDG 3), and inclusive economic growth (SDG 8) (United Nations, n.d.).

The analysis throughout this study suggests that while the rhetorical alignment with these goals is robust, the actualization of a just transition is currently throttled by the political economy. The effectiveness of green fiscal frameworks in achieving these multi-dimensional SDGs is not a matter of policy design alone, but is critically dependent on the state’s ability to dismantle the vested interests and institutional inertia that currently prioritize short-term industrial output over long-term socio-ecological resilience.

6. Conclusion and Recommendations

The comparative analysis of green fiscal frameworks in Thailand and Vietnam reveals that the energy transition in the GMS is as much a political struggle as it is a technical or economic challenge. While both nations have institutionalized net-zero targets, their divergent trajectories are dictated by deep-seated political economy influences and varying degrees of state capacity. Thailand’s trajectory reflects a “gradualist consensus” model. Its policy outcomes are significantly moderated by the influence of fossil fuel-reliant industrial conglomerates, leading to a revenue-neutral carbon tax designed to preserve economic stability rather than shock the market into

decarbonization. This caution is compounded by a fragmented civil service and administrative inertia, which dilute the enforcement of sophisticated instruments like the upcoming Emissions Trading System (ETS). Conversely, Vietnam demonstrates an "interventionist mobilization" model. Despite systemic interagency coordination failures, the Vietnamese state exhibits a stronger capacity to override vested interests when strategic national goals and international partnerships, such as the Just Energy Transition Partnership (JETP), align. However, both nations face a "Mekong Paradox", a dual energy strategy where the expansion of renewables is counterbalanced by a continued reliance on gas in Thailand or coal in Vietnam to ensure the short-term stability required for rapid economic growth.

To move beyond incrementalism and achieve verifiable carbon reduction, tailored strategies are essential for each nation. Thailand should pivot from its current cautious stance to an accelerated carbon pricing regime, transitioning toward robust, revenue-generating mechanisms. Establishing clear pricing signals through a comprehensive ETS with ambitious caps is vital to displacing fossil fuel incumbency. Furthermore, revenues must be channeled transparently into a dedicated Climate Fund to support green research and development, while administrative fragmentation must be addressed through a centralized climate governance body capable of enforcing compliance across ministries. For Vietnam, the priority lies in strengthening green finance and infrastructure resilience. Vietnam must unify legal standards for Power Purchase Agreements (PPAs) to unlock private capital and reduce contractual ambiguities that currently hinder the bankability of large-scale projects. Substantial investment is also required for grid modernization and energy storage to mitigate the instability of an intermittent renewable surge. Moreover, expanding rooftop solar through formalized net-metering mechanisms would allow Vietnam to leverage decentralized generation and reduce the mounting load on the national grid.

Ultimately, the experiences of Thailand and Vietnam offer a critical roadmap for the broader Greater Mekong Subregion. Success in the GMS necessitates a proactive integration of political economy analysis to anticipate resistance and effectively sequence reforms. Regional grid cooperation and energy trade are no longer optional; they are fundamental to absorbing the variable outputs of a renewable-heavy future. Furthermore, GMS nations must embrace a "Just Transition" framework that addresses the socio-economic impacts of coal and gas phase-downs. By fostering regional knowledge exchange and mobilizing green finance through unified taxonomies, the Mekong societies can ensure that the path to net-zero is not only environmentally verifiable but also socially inclusive and economically resilient, securing long-term prosperity for the entire river basin.

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