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Policy Brief

Fiscal Pathways to Net Zero: Barriers and Solutions for ASEAN's Green Energy Shift

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ASEAN governments spent over US$30 billion on fossil-fuel subsidies in 2023 – around three times public spending on renewable energy (RE). This persistent fiscal bias, despite rising climate risks and net-zero commitments, entrenches dependence on fossil fuels and undermines the competitiveness of clean energy. This Policy Brief examines the fiscal barriers that sustain this dependency, including fossil-fuel subsidies, policy instability, and persistent financing gaps, and proposes policy pathways to accelerate a just energy transition. Focusing on Indonesia, Malaysia, and Thailand, the analysis shows that existing tax incentives, carbon pricing initiatives, and blended finance mechanisms have not yet been sufficient to offset fossil-fuel price advantages or mobilise investment at the scale required. The brief argues that phasing out fossil-fuel subsidies, scaling up green and blended finance, and proactively managing stranded assets are critical to breaking fossil-fuel lock-in and aligning fiscal policy with ASEAN's climate and development objectives.

Key Messages:

- Fossil-fuel dependency persists in ASEAN despite net-zero pledges, as fiscal incentives continue to favour conventional energy over renewables.
- Financing gaps and policy instability limit Indonesia, Malaysia, and Thailand's ability to attract investment at the scale required for the green transition.
- Fiscal reform can break the cycle by redirecting subsidies, derisking private investment, and managing stranded assets.
- Priority actions include phasing out fossil-fuel subsidies, scaling up blended finance, and strengthening strategies to mitigate stranded-asset risks.

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1. Fiscal Policy for the Green Transition

ASEAN's commitment to net zero is increasingly reflected in national strategies and long-term climate targets. However, the fiscal implications of the green transition are substantial. Fossil-fuel-dependent economies face potential job losses, declining public revenues, and political resistance to reform, while renewable energy deployment is capital-intensive and requires sustained investment.

In 2023, fossil-fuel subsidies across ASEAN exceeded US$30 billion, far outstripping public spending on renewable energy (RE). This imbalance weakens price signals, delays investment in clean energy, and locks economies into carbon-intensive development paths. Fiscal policy therefore plays a central role in reshaping incentives away from fossil-fuel consumption and towards RE deployment.

ASEAN Member States (AMS) have adopted a mix of fiscal instruments – including subsidies, tax incentives, carbon pricing, and blended finance – to support the transition (Table 1). While these measures represent important progress, their effectiveness remains uneven, and current policy settings may be insufficient to meet national climate targets.

Table 1. Key Fiscal Policy Instruments for the Green Transition

Policy Instrument	Indonesia	Thailand	Malaysia
Tax incentives	Tax and duty allowances for RE activities; tax holidays for 'pioneer industries', including RE power plants; EV-related incentives	Reduced import duties and excise tax on EVs	Green Investment Tax Allowance (GITA); Green Investment Tax Exemption (GITE)
Carbon pricing	Hybrid cap-and-tax scheme combining carbon tax and ETS (under development) [a]	Carbon tax to be integrated into excise taxes for petroleum products (under development) [b]	Carbon tax planned for implementation from 2026 [c]
Subsidies	Consumer subsidies for battery-based EVs (KBLBB)	Feed-in tariffs; EV purchase subsidies	Feed-in tariffs; SolaRIS rebates; Net Energy Metering (NEM); large-scale solar (LSS) auctions
Blended finance	Just Energy Transition Partnership (JETP); Energy Transition Mechanism (ETM)	Clean Technology Fund (CTF)	Green Technology Financing Scheme (GTFS)

[a] Under development, delayed from 2022.
[b] Under development.
[c] Under development, planned for implementation in 2026.
Source: Authors' summary based on Zen, Kimura, and Purwanto (2025); Ministry of Finance (2024); SEDA (2021).

2. ASEAN Case Studies: Indonesia, Thailand, and Malaysia

2.1. Indonesia

Indonesia remains heavily reliant on coal, which accounts for more than 40% of its energy supply. To address this dependence, the government has prioritised the early retirement of coal-fired power plants (CFPPs), supported by blended finance mechanisms such as the Just Energy Transition Partnership (JETP) and the Energy Transition Mechanism (ETM). These initiatives are complemented by tax incentives aimed at accelerating renewable energy deployment.

Despite these efforts, three key barriers persist. First, coal remains relatively cheap and abundant due to long-standing subsidies and established infrastructure. Second, limited fiscal space constrains the government's ability to finance large-scale transition projects. Third, slow progress in implementing carbon taxation weakens long-term market signals for investors. Continued reliance on coal exposes Indonesia to commodity price volatility, sustains fiscal burdens, and constrains long-term growth prospects (Zen, Kimura, & Purwanto, 2025).

2.2. Thailand

Thailand's 30@30 policy targets electric vehicles (EVs) accounting for at least 30% of total vehicle production by 2030. Fiscal incentives, including excise tax reductions and consumer subsidies, have supported EV adoption and domestic manufacturing. However, two challenges threaten progress. First, EV uptake reduces revenues from fuel and vehicle taxes, raising concerns over long-term fiscal sustainability. Second, governance and administrative constraints hinder the effective implementation of renewable energy incentives, including licensing processes and feed-in tariffs. Without stronger institutional capacity and stable fiscal commitments, Thailand risks falling short of its EV and renewable energy ambitions.

2.3. Malaysia

Malaysia's Renewable Energy Roadmap (MyRER) targets renewable energy shares of 31% by 2025 and 40% by 2035, with a focus on solar, bioenergy, and hydropower. Policy instruments such as feed-in tariffs, large-scale solar auctions, and Net Energy Metering are supported by financial incentives including the Green Technology Financing Scheme (GTFS), Green Investment Tax Allowance (GITA), and Green Income Tax Exemption (GITE) (Zen, Kimura, & Purwanto, 2025).

Despite this comprehensive framework, structural challenges remain. Fossil-fuel and nuclear-related subsidies continue to distort the energy market, while overlapping incentive schemes often favour conventional generation over renewables. Stronger alignment of fiscal incentives is needed to sustain private investment and accelerate Malaysia's energy transition.

3. Financing the Transition: Are Current Policies Enough?

Across Indonesia, Thailand, and Malaysia, realised investment in the green transition remains well below estimated financing needs (Table 2). This gap reflects not only limited fiscal capacity, but also regulatory uncertainty, weak project bankability, and insufficient political buy-in.

Slow progress in carbon pricing weakens long-term market signals, while underdeveloped green finance ecosystems constrain capital mobilisation. Bankability challenges – linked to infrastructure readiness and high development costs – continue to deter private investment and delay the disbursement of international climate finance, including JETP resources. Without deeper fiscal and financial reforms, the investment gap is likely to widen as energy demand grows and transition timelines tighten.

Table 2. Investment Gaps for Selected Green Transition Targets

Country	Target	Investment Needs	Investment Realised
Indonesia	Net zero emissions by 2060	~US$21.6 bn per year (2018–2030)	~US$5.4 bn per year (2016–2022)
Thailand	30% emission reduction by 2030	~US$145 bn (2022–2030)	~US$30 bn (2019–mid-2024)
Malaysia	Net zero emissions by 2050	~US$70 bn (2025–2030)	~US$9.6 bn (2017–2023)

Source: Authors' adaptation from NDC documents; Ministry of Finance (2024); DCCE (2024); Nation Thailand (2024); MIDA (2024).

4. Policy Recommendations

Indonesia, Malaysia, and Thailand have made meaningful progress toward greener energy systems, yet fiscal structures continue to favour fossil fuels. Three priority reform areas are critical to unlocking ASEAN's clean energy potential.

(1) Phase out fossil-fuel subsidies and redirect savings to renewables

Fossil-fuel subsidies strain public budgets and discourage renewable investment. Comprehensive price reform could generate savings equivalent to up to 3.6% of global GDP (Black et al., 2023), creating fiscal space for green incentives. Key actions include freezing new fossil-fuel subsidies, reallocating a portion of existing subsidies to renewable support schemes, and introducing targeted cash transfers to protect low-income households.

(2) Scale up green and blended finance

Public resources alone are insufficient to meet transition financing needs. Strengthening capital markets, expanding blended finance instruments, and improving access to carbon markets can help crowd in private investment. Priority measures include harmonised sustainable finance taxonomies, partial credit guarantees, faster disbursement of climate funds, and support for mid-scale renewable projects.

(3) Manage stranded assets to reduce fiscal risk

Coal-dependent economies face rising stranded-asset risks, with unrecovered capital from coal-fired power plants in Southeast Asia potentially exceeding US$130 billion by 2025 (IEA, 2025). Governments should repurpose retired sites, use concessional finance to enable early retirement, and establish fiscal buffers to manage write-down risks, while avoiding new fossil-fuel investments that increase future liabilities.

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