THE GEOPOLITICS OF CARBON NEUTRALITY AND STRUCTURAL CLIMATE INEQUALITY IN SOUTHEAST ASIA

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Abstract
This paper analyzes Southeast Asia's carbon neutrality agenda within the context of structural inequality and global power asymmetry. While carbon neutrality is framed as a universal scientific goal, it operates through governance frameworks largely shaped by the interests of powerful states and institutions. Southeast Asian countries, despite their relatively low historical emissions, are expected to adopt externally defined timelines, technologies, and policy standards that often do not reflect their domestic realities. Using a political economy approach, this paper examines how instruments such as climate finance, carbon markets, and international transition partnerships function not as neutral tools, but as mechanisms that entrench dependency and limit sovereign climate planning. Through case studies of Indonesia and Vietnam, and an assessment of regional climate diplomacy, the paper reveals how foreign funding often comes with conditionalities tied to policy reforms, market restructuring, and external oversight. Rather than empowering national institutions, climate cooperation frequently bypasses local actors and inserts international frameworks into domestic governance. The analysis also interrogates how Southeast Asia's geopolitical position intensifies these constraints, as governments are caught between the strategic agendas of major powers while lacking collective bargaining strength. Ultimately, the paper calls for a redefinition of climate justice from the Global South—one that emphasizes historical responsibility, political autonomy, and context driven transition pathways. Carbon neutrality, if it is to be just, must not reproduce global hierarchies in new forms. By situating Southeast Asia's climate policy within a postcolonial critique, this paper offers an alternative lens for understanding and reshaping global climate governance.

Keyword
carbon neutrality, Southeast Asia, climate finance, geopolitical inequality, postcolonial climate justice

A. Introduction
Carbon neutrality has emerged as a central pillar in global climate policy. It is widely embraced as a universal objective, presented as both urgent and non-negotiable. However, beneath its scientific and moral language lies a complex network of political interests, historical responsibility, and structural inequalities. For Southeast Asia, the call for carbon neutrality is not only an

environmental imperative. It is also a geopolitical burden imposed within a system shaped by the priorities and leverage of powerful states (Ramachandran et al., 2022).

Recent assessments from the Intergovernmental Panel on Climate Change and Climate Action Tracker show that Southeast Asian countries are under growing international pressure to declare ambitious carbon neutrality commitments. While these targets reflect a global urgency, they often fail to account for the region's specific challenges. Despite contributing less than ten percent of global emissions, Southeast Asia remains highly vulnerable to climate impacts while still grappling with poverty, energy insecurity, and postcolonial development gaps (Yang et al., 2022). Countries like Indonesia, Vietnam, and the Philippines must balance environmental goals with industrial and social needs that are far from resolved. Dominant approaches to climate mitigation often rely on technical tools such as emissions modelling, carbon pricing frameworks, and transition scenarios. Yet these models tend to abstract from historical and geopolitical realities (Ramachandran et al., 2022). They rarely address the colonial legacies, economic dependencies, and financial constraints that shape the capacity of Global South countries to implement meaningful climate action. In this way, Southeast Asia is judged by metrics that ignore the unequal foundations of the global climate order, reinforcing expectations that may be structurally unjust (Couwenberg et al., 2010).

This paper intervenes in a significant gap within the climate governance literature. While extensive attention has been paid to climate finance, adaptation policies, and renewable energy transitions, there is little engagement with how geopolitical power and structural inequality shape carbon neutrality trajectories in the Global South. Most discussions treat climate action as a matter of capacity and technology, rather than one of international hierarchy and political subordination. Furthermore, international mechanisms such as the Paris Agreement, REDD schemes, and energy transition financing often operate under the rhetoric of global solidarity, yet embed asymmetrical relations beneath the surface. These arrangements require developing countries to adhere to externally defined targets and procedures in exchange for access to funding or technology. As a result, Southeast Asian states are locked into systems where their policy autonomy is constrained by the political and economic interests of donor nations and global financial institutions (Topalidis et al., 2024).

Empirical examples reinforce these concerns. Indonesia's Just Energy Transition Partnership involves multi-billion dollar pledges, but those funds are conditional on a series of governance reforms, market restructuring, and policy transparency that reflect donor priorities. Similarly, Vietnam's energy transition framework is shaped by foreign investment criteria that often do not align with local realities. These deals may accelerate green transitions on

paper, but they risk deepening dependency and diluting national sovereignty over long-term planning (Alam et al., 2023).

This study argues that carbon neutrality in Southeast Asia cannot be understood without examining the broader geopolitical context. Net-zero targets are not only technical challenges; they are political decisions negotiated within a global system where rules are set unequally. By reframing the debate, this paper positions Southeast Asian climate strategy not as lagging behind, but as operating within a structurally limited playing field defined by global power asymmetries. This analysis is especially urgent as international norms around climate responsibility continue to harden. With climate finance, trade policies, and global investment now tied to green performance, the pressure to comply is growing. Southeast Asian countries face not only environmental risks, but also the political consequences of non-alignment with global climate agendas that may conflict with local priorities.

The objective of this paper is to explore how Southeast Asia's pursuit of carbon neutrality is shaped by global power relations, conditional finance, and institutional asymmetries. By analyzing how these factors influence national climate choices, it challenges the notion that neutrality is a universal pathway. Instead, it shows that climate policy is deeply embedded in structures of geopolitical control and historical inequity. This paper aims to offer a critical rethinking of climate justice from the perspective of Southeast Asia. Rather than treating carbon neutrality as a technical finish line, it argues for a more context-sensitive and politically aware approach. Southeast Asia's climate future must be shaped not by compliance with global scripts, but by strategic autonomy grounded in regional realities, ecological responsibility, and equitable participation in global climate governance.

B. Carbon Neutrality and the Global Climate Governance Regime

Carbon neutrality has become a dominant narrative in global climate governance. It is promoted as a universal solution, applying the same framework of emission reduction to all countries regardless of their history or capacity (Boyce et al., 2020). Behind this technical language, however, lies a complex network of global power and institutional control. The principle is not simply about balancing emissions. It reflects how knowledge, authority, and responsibility are distributed unevenly across the international system. In this regard, carbon neutrality operates less as a neutral framework and more as a structure of discipline (Eicke & De Blasio, 2022).

The rise of carbon neutrality is tied closely to the institutional evolution of the climate regime. Since the Kyoto Protocol and especially under the Paris Agreement, neutrality has shifted from an aspirational vision to a political obligation. Through national contributions and long-term pledges, countries are now evaluated based on their alignment with this target. But the frameworks through which these contributions are assessed are built around the interests and technologies of developed nations. Countries in Southeast

Asia are often pushed to adopt externally defined standards, regardless of their internal constraints or national contexts (Oberthür, 2016).

One of the core problems is the erasure of historical emissions and unequal responsibility. Countries that contributed the most to climate change now call for shared commitments, treating all nations as if they began from the same starting point. This ahistorical approach ignores colonial extraction, industrial monopolies, and decades of environmental degradation driven by the Global North. Southeast Asian countries are then expected to meet reduction targets using limited resources, while also trying to grow their economies and address urgent development needs. The neutrality standard, in this sense, becomes a burden rather than a fair target (Hancock & Wollersheim, 2021).

Global institutions define and enforce what counts as legitimate climate action. Organizations such as the United Nations climate convention and the Intergovernmental Panel on Climate Change play a central role in producing data, setting benchmarks, and assessing progress. Their technical authority masks the fact that these institutions are shaped by political interests (Yang, Xia, & Jin, 2023). The standards they promote are based on the capabilities of powerful countries. As a result, Southeast Asian countries are often placed under evaluation systems that do not match their development trajectories or structural realities. The dominant tools used to pursue carbon neutrality reflect this imbalance. Carbon markets, offset mechanisms, and emissions trading schemes allow countries and corporations to shift their responsibilities elsewhere. Rather than reducing emissions at the source, they invest in projects in other parts of the world, including Southeast Asia. These tools create an illusion of progress while maintaining existing systems of extraction and inequality. They turn climate action into a marketplace where accountability can be transferred rather than fulfilled (Boa Morte et al., 2023).

Technological solutions are also central to the neutrality agenda. Renewable energy infrastructure, carbon capture, and digital monitoring systems are promoted as necessary steps toward decarbonization. But access to these technologies is concentrated in developed countries. Patents, supply chains, and financial capital remain locked in global centers of power. Southeast Asia is left dependent on foreign investment and expertise, limiting its ability to shape autonomous and context-specific climate strategies. The technological path to neutrality is not only expensive, but structurally exclusionary(Zhang & Ponomarenko, 2023). The timeline imposed by carbon neutrality targets further illustrates its detachment from climate realities. Goals like net-zero by 2050 or 2060 shift attention to distant futures, while neglecting the current crises faced by vulnerable regions. In Southeast Asia, rising sea levels, extreme weather, and ecological collapse are already happening. The focus on long-term promises creates a form of delay that benefits those least affected. It postpones responsibility and removes urgency from institutions that have the most capacity to act now.

Climate governance operates through managerial logic. Emissions are quantified, monitored, and reported through standard indicators. While this creates comparability, it also reduces complex political and social realities into numbers. The historical and structural causes of climate vulnerability are not measured, and therefore not addressed. Southeast Asia is often seen as lagging or underperforming, not because of lack of will, but because the metrics themselves are based on unequal foundations. The regime demands results without acknowledging the barriers it creates (Boa Morte et al., 2023).

Climate finance is often presented as a solution to these challenges, but it too reflects structural inequality. Funding from donor countries is frequently delayed, redirected, or delivered with strings attached. Loans are labeled as climate aid, yet they come with interest, conditional reforms, and external oversight (Yuan et al., 2022). These funds benefit consulting firms and international agencies more than they empower local institutions. Southeast Asian governments are then placed in the position of having to satisfy external expectations just to access basic support.

The Paris Agreement's nationally determined contributions appear to offer flexibility. But the global monitoring process evaluates these plans based on benchmarks developed outside the region(Dalby, 2013). Countries are pressured to signal ambition, sometimes beyond their actual capacity. This creates policy distortion, where governments design climate strategies to attract legitimacy or finance, rather than based on domestic priorities. The neutrality agenda, instead of supporting sovereignty, often narrows it through external surveillance and soft coercion. Carbon neutrality has also changed the way development is framed. Every infrastructure project, energy plan, and industrial policy is now seen through the lens of emissions. This integration could have been an opportunity. But in practice, it creates tensions between growth and compliance. Projects that serve public needs may be abandoned if they do not fit emissions targets. In many cases, global climate norms override local planning, making emission scores more powerful than social impact (IRENA, 2023).

Perhaps the most invisible aspect of this regime is the exclusion of alternative environmental perspectives. Indigenous knowledge, rural resilience strategies, and informal adaptation practices are rarely counted in emissions frameworks. They are dismissed as anecdotal or unscientific, despite their proven relevance. In Southeast Asia, these systems are deeply embedded in local societies. Yet the global climate model makes little space for them because they are not easily translated into data. This epistemic bias reinforces a narrow vision of what counts as valid action. The global pursuit of carbon neutrality has become more than an environmental goal. It is a geopolitical structure that reflects and reproduces inequality. It allows powerful actors to set the terms, measure progress, and distribute responsibility on their own terms. For Southeast Asia, this is not simply a technical challenge. It is a structural bind where the path to compliance is

paved with trade-offs that compromise sovereignty, justice, and long-term development.

C. The Political Economy of Climate Finance and Carbon Markets

Climate finance has become one of the most contested terrains in the global response to climate change. Official narratives present it as a tool to support vulnerable countries in their transition toward low emission development. In practice, however, it operates as a system of control shaped by power, conditionality, and external interest. For Southeast Asia, climate finance often comes with strict requirements tied to policy reform and compliance with foreign frameworks, reinforcing long standing global inequalities rather than correcting them (Ulloa, 2017).

Institutions such as multilateral banks, bilateral donors, and international development agencies operate within a logic of risk management and return. Funding is rarely unconditional. Loans are preferred over grants, and disbursement is closely monitored through performance indicators designed outside the recipient context. Southeast Asian governments are not only restricted in how they spend climate funds but also in how they define national priorities. The result is external influence embedded deep within domestic climate policy(Stoddard et al., 2021).

Carbon markets and offset programs are promoted as flexible solutions for emissions reduction. These mechanisms allow high emitting actors to finance projects in developing countries while maintaining their own carbon intensive activities. While this may seem cooperative, it enables powerful actors to delay meaningful change while converting environmental vulnerability into credit. Southeast Asia becomes a carbon sink for global consumption, not because of climate justice, but because it is structurally easier to extract value from the region.

The REDD program, introduced to prevent deforestation, illustrates this imbalance clearly. Designed to reward countries for protecting forests, REDD has often displaced indigenous communities and undermined local land rights. In Indonesia, several REDD initiatives prioritized carbon quantification over community input or biodiversity (McLaughlin et al., 2023). Decision making is frequently led by external consultants and technical agencies, marginalizing local actors and reducing forests to carbon metrics rather than living systems. Another case is the Just Energy Transition Partnership with Vietnam, publicly valued at fifteen billion dollars. While this initiative was praised globally, the financial structure largely consists of loans, not grants, and includes specific demands for transparency, regulatory reform, and compliance with investor expectations. Instead of building national ownership, such arrangements transfer authority to external actors who control both funding and oversight mechanisms (Yang, Xia, & Jin, 2023).

The rise of private capital in climate finance intensifies these challenges. Bonds, pooled funds, and public private partnerships introduce corporate

interests into climate policy. With profit expectations and legal protections, private investors shift risk onto host countries while retaining exit options. Climate mitigation becomes an investment vehicle rather than a public good. For Southeast Asia, this means fewer opportunities for state driven or community led strategies rooted in long term development goals. Participation in carbon markets also requires complex certification and verification processes, typically governed by international standards. The design, implementation, and measurement of climate projects are often conducted by foreign organizations(Srivastava & Kumar, 2022). Local communities become objects of monitoring rather than subjects of planning. Projects are judged by their compliance with data frameworks rather than their social or ecological relevance within the local context (Stoddard et al., 2021).

Behind the rhetoric of cooperation, climate finance frequently serves geopolitical aims. Aid and investment flows are guided not only by vulnerability but by alignment with the political and economic preferences of donor states. Countries that resist structural adjustment or reject market liberalization may find themselves excluded from funding opportunities. For Southeast Asia, this dynamic introduces a layer of diplomatic caution, where climate ambition must also navigate strategic loyalty. The practice of carbon pricing reflects these structural inequalities. Emissions are assigned monetary value, creating markets where pollution can be traded. While this appears efficient, it advantages those with existing capital and access to financial instruments. Countries in the Global North profit from carbon trade mechanisms, while Southeast Asian states supply credits at low cost. This perpetuates an extractive dynamic under a new label, where green markets replicate older patterns of imbalance (Ehrenstein, 2018).

Climate finance also distorts what counts as effective action. Projects are often selected based on short term emission reductions rather than structural transformation. Donors prefer measurable outcomes that align with annual reviews, prioritizing solar projects over grid reform or clean cookstoves over energy sovereignty. In Southeast Asia, this means programs that meet external expectations but often fall short in addressing deep systemic needs. Accountability within these systems flows upward to donors and technical agencies, not downward to affected populations. Reporting is structured for international audiences, and grievance mechanisms are either weak or absent. Communities involved in climate projects have limited voice in design, monitoring, or evaluation. This creates a democratic vacuum, where the recipients of aid are required to perform but not empowered to decide (Blondeel et al., 2021).

Dependence on external finance also fragments national institutions. Rather than strengthening public planning bodies, climate funding is often routed through project based units staffed by external experts. These arrangements deliver short term outputs but erode long term governance.

Ministries are bypassed, strategies are donor driven, and national capacity remains underdeveloped. In the name of speed and transparency, institutional autonomy is compromised. Southeast Asia's engagement with climate finance and carbon markets illustrates a wider structural pattern. The region is positioned as an implementing ground rather than a negotiating power. Its forests, emissions, and energy transitions are monetized according to rules it does not set. Without confronting these foundations, climate finance will continue to reinforce asymmetries of power, delivering compliance but not justice.

D. Strategic Pressures from Major Powers

Southeast Asia's climate strategy cannot be separated from the influence of external powers. As a region situated at the crossroads of geopolitical competition, it faces overlapping pressures from the United States, China, and the European Union. Each actor promotes its own version of climate cooperation, often tied to broader economic, strategic, and security objectives. This makes regional climate policy not only a matter of emissions reduction, but also of strategic alignment and political risk management (Yang, Xia, & Qian, 2023).

The United States has returned to climate diplomacy with renewed intensity, positioning itself as a global leader in clean energy and environmental governance. Through multilateral forums, private investment, and diplomatic engagement, Washington seeks to shape climate norms that reflect liberal market principles. Southeast Asian states are encouraged to adopt regulatory frameworks, transparency measures, and project designs compatible with American finance and corporate interests. This creates a soft conditionality where access to funding is linked to structural preferences. China approaches climate influence through infrastructure, finance, and technology. Its Belt and Road Initiative has expanded to include green projects, energy connectivity, and low carbon zones. Chinese firms offer solar panels, electric transport systems, and digital platforms to Southeast Asian partners, often with fewer political strings attached. However, this engagement also comes with dependency on Chinese supply chains, state banks, and governance models. The result is an alternative climate pathway that nonetheless consolidates external influence (Pflugmann & De Blasio, 2020).

The European Union exerts pressure through regulatory standards and market access. Its carbon border adjustment mechanism threatens to penalize exports from countries with high emissions intensity. At the same time, the EU offers climate funding, capacity building, and partnership agreements aimed at aligning external actors with European environmental rules. For Southeast Asian economies reliant on trade, this creates an imperative to conform to external standards or risk economic exclusion (Paltsev, 2016).

These strategic pressures are not applied equally across the region. Countries with greater economic weight or diplomatic flexibility may negotiate better terms. Others find themselves pulled between competing agendas. The lack of a unified regional climate position weakens collective bargaining power (Theiventhran, 2024). While ASEAN offers a platform for cooperation, it has yet to produce a coherent climate diplomacy strategy that can withstand external pressure. As a result, national policies remain vulnerable to fragmentation and opportunism. Foreign influence often enters through technical assistance and policy advice. Donor countries and international organizations fund feasibility studies, draft laws, and provide consultants to support climate planning. While this may increase efficiency, it also inserts external logic into national processes. Southeast Asian governments may adopt templates that prioritize donor preferences over local needs. This reduces space for political debate, public participation, and contextual adaptation (Sovacool et al., 2023).

Energy transition is a key arena where strategic influence is visible. Western actors push for rapid coal retirement, renewables integration, and market liberalization. China promotes grid expansion, hybrid financing, and state led planning. Southeast Asian countries must choose between models that carry different institutional implications. These decisions are rarely made on purely technical grounds (Paltsev, 2016). They reflect geopolitical calculations, investor expectations, and the balancing of external relationships. Security agendas are increasingly linked to climate action. The framing of climate as a risk multiplier allows external powers to justify deeper involvement in domestic affairs. Military assistance, surveillance technology, and data systems are embedded in climate resilience programs. This securitization blurs the line between environmental cooperation and strategic penetration. In some cases, it provides cover for interventions that serve interests beyond climate stability.

Public diplomacy also shapes perceptions and expectations. High level visits, green summits, and flagship announcements are used to signal commitment and shape narratives. Southeast Asian leaders are invited to endorse global frameworks, align with net zero pledges, and join investment coalitions(Huang, 2024). Failure to participate may be interpreted as a lack of ambition. This symbolic diplomacy adds pressure to conform, even when domestic conditions are not ready for full implementation (Chandra Voumik & Sultana, 2022). Technology standards present another form of influence. Renewable energy equipment, smart grids, and emissions tracking systems are produced by firms based in the Global North or China. Deployment requires compliance with technical protocols, software systems, and licensing agreements. This creates lock in effects where countries become dependent on particular suppliers and architectures. Strategic autonomy in climate planning is constrained by technological dependency (Tahir & Burki, 2023).

Environmental discourse itself can serve as a tool of power. Concepts such as climate responsibility, green growth, and just transition are mobilized to justify intervention. When promoted without attention to local context, these terms become vehicles for normative pressure. Southeast Asian states are expected to internalize global discourses even when they conflict with historical experience or economic reality. The authority to define climate legitimacy remains concentrated in powerful institutions and states (Asongu et al., 2018).

Financial leverage remains central. Access to grants, concessional loans, and private capital is conditioned by credit ratings, transparency scores, and policy alignment. Governments that resist reforms or assert policy independence may face reputational costs or capital flight. This creates a system where climate ambition must be performed to secure financing. The performance is judged not by local constituencies but by external evaluators who control the flow of resources. Despite these pressures, Southeast Asian states are not passive. They navigate external demands through selective compliance, diplomatic hedging, and policy layering. Governments often accept external support while maintaining domestic discretion. However, the structural asymmetry remains. Without stronger regional coordination, investment in independent institutions, and articulation of local priorities, Southeast Asia will continue to adapt to global expectations rather than shape them.

E. Conclusion

This paper has examined the pursuit of carbon neutrality in Southeast Asia as a deeply political process shaped by global power structures, historical inequalities, and strategic pressures. Rather than viewing climate action as a technical challenge, the analysis has located it within broader systems of financial control, geopolitical competition, and institutional dependence. The current global climate regime demands participation without offering structural fairness, creating a gap between ambition and autonomy for countries in the Global South.

By unpacking the architecture of climate finance, carbon markets, and foreign policy interventions, the paper has demonstrated how Southeast Asia is positioned as both a site of implementation and extraction. The region supplies environmental value through carbon credits, natural resources, and policy alignment, yet has little influence over the rules that govern these transactions. Far from being empowered by climate cooperation, many Southeast Asian states remain constrained by external expectations, fragmented institutions, and limited bargaining power.

The dominant frameworks of climate governance continue to prioritize standardization over justice, metrics over meaning, and market logic over historical accountability. Southeast Asia's vulnerability is treated as a technical risk to be managed, rather than a consequence of systemic exclusion. Efforts

to secure financing, attract technology, or gain recognition often come at the cost of policy independence and long term development priorities. These trade offs reflect deeper imbalances in how climate responsibility and legitimacy are distributed globally.

Despite these challenges, Southeast Asia is not without leverage. The region can assert a more active role by rejecting externally defined paths, investing in regional solidarity, and building political narratives rooted in justice rather than performance. Rethinking climate diplomacy from the Global South requires courage to question dominant norms and imagination to propose alternatives. It is not enough to comply with targets; Southeast Asia must demand a system that recognizes its history, respects its sovereignty, and supports its vision of sustainable development.

A just climate future cannot emerge from structures built on unequal terms. It must be forged through resistance, negotiation, and the construction of new political space. For Southeast Asia, this means reframing carbon neutrality not as an end goal imposed from above, but as a process of collective self determination. Only by confronting the asymmetries embedded in global climate governance can the region move from adaptation to transformation, from compliance to justice.

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