Green Taxation In Emerging Markets: Does Nigeria's 2025 Tax Reform Advance Climate-Aligned Fiscal Policy

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Abstract

This study assesses whether Nigeria's Tax Act (2025) represents a substantive step toward climate-aligned fiscal policy or remains predominantly revenue-driven. Drawing on Institutional Theory and Environmental Fiscal Reform (EFR) Theory, the study develops a nine-dimensional Green Taxation Policy-Scoring Index (GTPSI) to evaluate all green tax dimensions. Using a structured qualitative content analysis, Nigeria's 2025 Tax Act is comparatively assessed against South Africa, India, and Brazil, which represent explicit, implicit, and hybrid carbon pricing models. Nigeria achieves a moderate climate alignment score (14/27), reflecting the introduction of a 5% fossil-fuel surcharge and renewable energy tax protections. However, the absence of revenue earmarking, emission-escalation mechanisms, and institutional integration with the act limits the transformative fiscal impact. Compared to South Africa's explicit carbon tax framework (22/27), Nigeria's reform reflects an incremental, implicit carbon pricing model shaped by political and economic constraints. The study contributes theoretically by conceptualising implicit carbon pricing as a transitional fiscal pathway for emerging markets and methodologically by introducing a replicable policy-scoring framework for climate-fiscal evaluation. Notably, policy implications suggest that progressive revenue recycling, escalation mechanisms, and institutional quality are necessary to transform revenue-based tax models into effective climate fiscal systems for emerging economies.

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1. Introduction

Globally, climate change has shaped economies, motivating countries to seek adaptation mechanisms and frameworks that are sustainable and contextual (Daoust and Selby, 2024; Schoenefeld et al., 2022). Likewise, the accelerating climate crisis has elevated carbon pricing and environmental fiscal reform to the forefront of global policy debates and deliberations on which system best fits (Zhao, 2025; Clift, 2025; Dominioni, 2022).

Specifically, green taxation has emerged as a key mechanism for addressing the dual challenge of environmental degradation and environmental sustainability (Saqib et al., 2025; Halim and Rahman, 2022). In developed economies, an explicit carbon tax framework, carbon pricing and emission trading systems dominate the green fiscal landscape (Maqsoom et al., 2025; Law and Fong, 2025; Okedele et al., 2024). For instance, the United Kingdom, Sweden, and Canada have proven that carbon pricing can reduce carbon dioxide emissions while preserving macroeconomic stability and long-term sustainability (Abdelhamid et al., 2025; Samuel, 2025).

Nevertheless, the adoption of explicit carbon pricing taxes remains limited in emerging economies, where political instability, energy poverty, economic informality, and poor institutional quality weaken implementation capacity (Manu, 2026). Furthermore, many emerging economies depend on indirect or implicit environmental taxation embedded within broader fiscal models (Doan et al., 2026; Savranlar et al., 2024; Mpofu, 2022), despite over 70 carbon pricing instruments currently implemented worldwide (Van den Bergh and Drews, 2025; Dobbeling-Hildebrandt et al., 2024). Despite these broad instruments, the global distribution of these tax systems remains uneven and not properly structured. This challenge raises an important question for climate governance: can emerging economies significantly align fiscal policy with climate objectives without adopting a formal carbon tax framework?

Furthermore, this transformation has extended to the fiscal policy agenda, placing taxation at the centre of actions on sustainable development, environmental governance and climate change adaptation (Zhang et al., 2025; Bashir et al., 2024). Over the years, governments and policymakers have been mounting pressure to design tax systems that are not just revenue-driven but are aligned with environmental actions, redirect investments to low-carbon activities, and uphold

national climate goals (Godase et al., 2025; Sing et al., 2025). To achieve this, green taxation (taxes that influence environmentally relevant behaviour through penalties and fines) has emerged as a critical policy instrument to integrate tax revenue goals and climate goals in one robust framework (Ljubicic, 2025; Hakam et al., 2024; Yan et al., 2023).

Consequently, Environmental Fiscal Reform (EFR) theory highlights that climate-aligned taxation requires more than revenue generation, but demands coherent price signals, revenue recycling, subsidy reform, and integration with environmental legislation (Mehta and Derbeneva, 2024). However, institutional and political-economic limitations often shape fiscal instrument choices in developing economies (Malla and Pathranarakul, 2022). Furthermore, institutional theory suggests that regulatory capacity, stakeholder resistance, energy dependence, and social vulnerability influence the design and implementation of green taxation (Yang and Zailani, 2025).

Furthermore, as Africa's largest economy and a major fossil-fuel producer, Nigeria represents a significant case study in this tax debate. Its case is unique in that it faces a dual challenge: maintaining fiscal sustainability despite unstable oil revenues and transitioning to a low-carbon economy (Okafor et al., 2025; Noah, 2025). Besides, the enactment of the Nigerian Tax Act, 2025, marks a significant reform, integrating multiple tax laws into a single framework (Makar et al., 2025).

Moreover, while these developments signal a potential shift toward a climate fiscal policy, the examination of Nigeria's 2025 tax reform remains limited (social media discussions and news deliberations), lacking a structured evaluation of its carbon fiscal elements (Adebiyi, 2025). Additionally, existing research on green taxation in Africa primarily focuses on South Africa (Yiadom et al., 2024; Qu et al., 2023) and India's carbon tax system (Sen and Sahoo, 2024). Therefore, these issues create a significant research gap, leading to three key research questions:

i. To what extent does Nigeria's Tax Act (2025) incorporate the core principles of climate-aligned fiscal policy as articulated by Environmental Fiscal Reform theory?

ii. Does the 2025 reform represent a significant shift toward carbon pricing, or does it remain primarily revenue-driven with limited environmental integration?

iii. How does Nigeria's approach compare with explicit, implicit and hybrid green taxation models observed in South Africa, India and Brazil?

To answer these questions, the study develops a nine-dimensional Green Taxation Policy-Scoring Index (GTPSI) grounded in Institutional Theory and Environmental

Fiscal Reform principles. Adopting a structured qualitative content analysis, Nigeria's 2025 Tax Act is evaluated and benchmarked against selected emerging markets that represent different carbon pricing models. Finally, by operationalising climate-fiscal alignment into measurable policy dimensions, the study moves beyond descriptive legal analysis but toward a systematic comparative assessment.

This study makes four key contributions to the literature. First, it extends the carbon taxation literature by introducing a replicable policy-scoring model suitable for emerging economies without formal carbon taxes and pricing models. Second, it extends institutional and environmental fiscal reform theories by conceptualising implicit carbon pricing as a transitional pathway shaped by economic realities in emerging markets. Third, it provides one of the first comprehensive climate-fiscal assessments of Nigeria's Tax Act of 2025. Third, it offers policy-relevant insights into how Africans and other emerging countries can progressively integrate tax systems with climate change commitments while managing political and social challenges.

The remainder of the paper is arranged as follows. Section 2 reviews the theoretical and empirical literature on green taxation and environmental fiscal reform in emerging economies. Section 3 outlines the methodological framework and construction of the GTPSI. Section 4 presents the comparative results, discusses theoretical and policy implications. Section 5 concludes with recommendations and avenues for future research.

2. Literature Review

2.1 Green taxation and Environmental Fiscal Reform (EFR)

The Environmental Fiscal Reform (EFR) is a systematic redesign of tax and expenditure policies to achieve environmental goals while maintaining fiscal sustainability, and is regarded as more than the correction of polluting prices (Steenkamp, et al., 2025). EFR encompasses the entire reform of fiscal systems to support climate adaptation and mitigation and to create just transition pathways (Steenkamp, et al., 2025). On the other hand, green taxation is a key tool of EFR that creates price signals via the introduction of explicit taxes, levies or the elimination of harmful subsidies to correct market failures and induce environmentally friendly behaviours (Lamentillo 2024). More recent studies have shown a shift from discussing the feasibility of green taxation, to assessing the design and performance of green taxation, especially regarding the double dividend effect (Linden et al., 2024; Lamentillo, 2024).

Nevertheless, studies indicate that policymakers should avoid employing a "one-size-fits-all" model of green taxation, citing the importance of context (for example, administrative capabilities, public acceptability, presence of supportive regulatory frameworks) in determining the success of green tax policies (Linden et al., 2024; Abbas et al. 2023; Black et al., 2022). The literature suggests that for many governments, especially those in resource-dependent economies, green taxation is increasingly viewed as an essential component of larger fiscal consolidation and sustainable development plans (Yang et al., 2024; UNECA, 2024).

Furthermore, in emerging economies, EFR faces structural issues (including limited administrative capacity, high informal economy participation, energy poverty challenges, and political resistance from fossil-fuel-dependent stakeholders), which shape green fiscal reforms toward incremental or hybrid designs.

2.2 Institutional Theory and the Political Economy of Carbon Taxation

The institutional theory offers a complementary perspective by emphasising how formal rules and informal constraints shape policy design and implementation (Hodgson, 2025). Also, green taxation does not operate solely in the political space, but its design reflects domestic institutional capacity, stakeholder power structures, regulatory credibility and socio-economic conditions (Ljubicic, 2025; Kusyeni et al., 2025). In resource-dependent economies (like Nigeria), fossil fuel revenues often account for a significant portion of government revenue. This creates structural resistance to carbon pricing, along with concerns about energy accessibility and social unrest (Mengesha and Roy, 2025; Falcone, 2023; Ewald et al., 2022).

Therefore, researchers argue that under such limitations, governments are more likely to adopt incremental, indirect or hybrid environmental taxation models rather than an explicit carbon tax model (Köppl and Schratzenstaller, 2023). Moreover, the political economy dynamics explain why implicit carbon pricing may function as a transitional pathway in emerging economies, where policymakers embed climate-relevant price signals within broader tax reforms (Sen and Sahoo, 2024; Dominioni, 2022). Nevertheless, without strong institutional coordination and enforcement mechanisms, such reforms may remain symbolic.

2.3 Models of Green Taxation in Emerging Market Countries: Nigeria, South Africa, India, and Brazil

Green taxation in emerging markets demonstrates the variety of different models available to governments, which depend on their domestic political economy,

energy profile and development priorities. South Africa is often cited as the first African country to enact an explicit carbon tax, which became law in June 2019 and underwent several iterations before enactment (South African Reserve Bank (SARB) 2024; Milanzi, 2022). Evaluations of the hybrid design of the carbon tax demonstrate that the green tax is a relatively successful example of achieving the balance between climate ambition and competitiveness concerns despite the continued dispute over the environmental effectiveness of the tax due to the numerous exemptions contained within its design (Gafsi et al., 2025; SARB 2024; Abel et al., 2023).

Brazil employs a hybrid model of incentives to promote the use of renewable energy and biofuels and to encourage the use of other forms of low-carbon energy; rather than to discourage the emission of greenhouse gases (Abdulraqeb et al., 2025; Fendrich et al., 2022). Brazil's model is characterised by a variety of subnational initiatives and sector-specific tax incentives to encourage the development of low-carbon technologies consistent with Brazil's Nationally Determined Contributions (NDCs) (Jain et al., 2025). Recent studies have characterised Brazil's approach to green taxation as "green industrial policy through taxation", to stimulate the supply-side transition (Severo and Dorion, 2025).

On the other hand, India relies almost exclusively on implicit carbon pricing, primarily through high fuel excise duties and coal cesses, with some portion of the revenue generated by these measures being earmarked to fund clean energy funds (Desai et al., 2025). Studies have demonstrated that this model generates significant de facto carbon pricing; although the primary purpose of this model is to generate revenue and ensure energy security with climate-related co-benefits (Priyadarsini, 2025; Kumar et al., 2025). Researchers have noted that India's gradual increase in fuel taxes is a clever way to deal with the public backlash to carbon pricing while gradually increasing price signals (Gogoi 2025; Gupta and Pathak 2025).

Whilst, Nigeria has traditionally been described in the literature as not having a clearly defined carbon pricing strategy, with its tax system focused on generating revenue from hydrocarbons (Adebiyi 2025; Efuntade et al., 2023). However, the Nigeria's Tax Act 2025 has altered this perception (Nwankwo and Nwankwo 2026; Oladipo et al., 2024). Initial assessments of the new legislation demonstrate the introduction of a fossil-fuel surcharge and of tax incentives for renewable energy as initial steps toward the establishment of implicit carbon pricing –marking a divergence from a purely revenue-based model (Emmanuel, et al., 2026; Olujobi and Abangu 2026; Atedhor 2025). Nevertheless, as stated in emerging analyses, the framework is missing explicit targets for reducing emissions, does not dedicate any

portion of the revenues from carbon pricing to climate action, and does not have sufficient institutional ties with the Climate Change Act therefore, the climate alignment of the framework is largely implicit and indirect (Nwankwo and Nwankwo 2026; Efuntade et al., 2023).

2.4 Institutional Theory and Environmental Fiscal Reform Theory

Both Institutional Theory and Environmental Fiscal Reform Theory serve as theoretical lenses used to guide this analysis. Institutional Theory is the lens through which to assess how a country's formal rules (policies/laws) and informal constraints (norms/interests) influence the design and implementation of green taxation (Galleli and Amaral, 2026; Afrogha et al., 2026). The level of institutional quality (including the level of regulatory capacity, transparency, and political commitment) is one of the most important determinants of whether the fundamental principles of green taxation are embedded in a developing country's fiscal legislation, such as Nigeria or whether the principles of green taxation remain symbolic (Fadipe et al., 2025).

Therefore, Institutional Theory in this study explains why developing countries prefer implicit, revenue-generating green tax instruments instead of explicit carbon taxes, as the latter will receive more opposition from stakeholders and will necessitate greater administrative capacity (Eitrem et al., 2024). Additionally, complementing Institutional Theory, Environmental Fiscal Reform Theory asserts that effective green taxation necessitates a total and coherent transformation of the overall fiscal system rather than the creation of individual levies (Abbo 2025; World Bank 2025). EFR Theory stresses three components of effective green taxation policy coherence (alignment of tax policy with other climate and environmental laws); revenue recycling (use of revenue generated from green taxation to fund green investment programs or to mitigate the regressive impact of the tax); and the phasing out of environmentally harmful subsidies (Nwankwo and Nwankwo 2026; Yan et al., 2023).

Finally, the EFR framework is particularly useful for assessing the effectiveness of reforms such as Nigeria's Tax Act 2025, and determining whether these reforms represent a deliberate step toward integrating climate policy and fiscal policy (Nwankwo and Nwankwo 2026; Foye 2025; African Development Bank, 2025; World Bank, 2025).

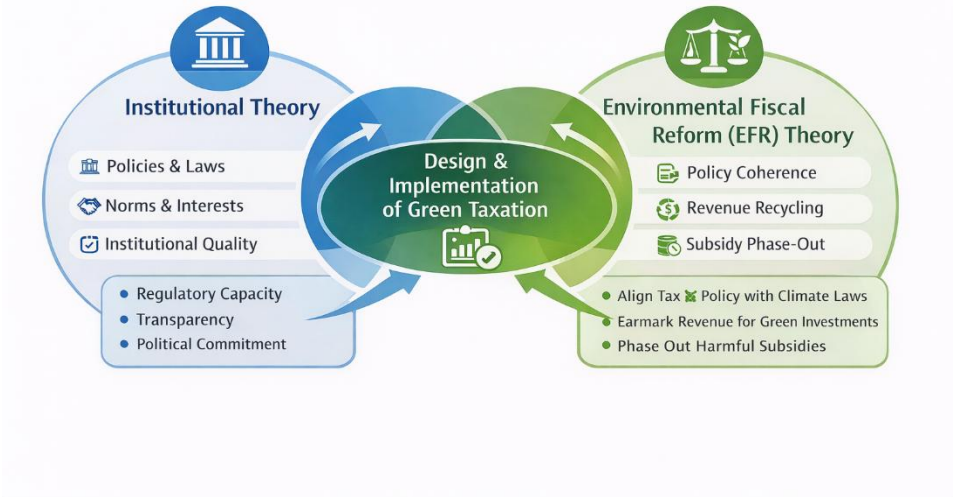

Figure 1. A conceptual framework showing the synergic influence of institutional and EFR theories

3. Methodology

The study adopts a structured qualitative-comparative policy design to evaluate the climate alignment of Nigeria's Tax Act (2025). To test the research objectives, the research design combines (i)doctrinal statutory analysis, (ii) directed qualitative content analysis, and (iii) comparative policy benchmarking across selected emerging economies. The goal is to evaluate the structural integrity and climate alignment of fiscal provisions embedded in the legislation. In line with Environmental Fiscal Reform (EFR) theory and Institutional Theory, the study operationalises climate-fiscal alignment into measurable policy dimensions by constructing of a Green Taxation Policy-Scoring Index (GTPSI).

3.1 Development of the Green Taxation Policy-Scoring Index (GTPSI)

The GTPSI is grounded in two theoretical pillars, the ERF theory (which emphasises price signalling, revenue redistribution, subsidy reform, and policy coherence) and the institutional theory, which highlights regulatory capacity, legal enforceability, political feasibility, and structural integration. Drawing on these frameworks and carbon-pricing literature, nine evaluative dimensions were identified to create an index. Importantly, each dimension reflects a necessary structural component of

climate-aligned fiscal policy and the Nigerian Tax Reforms Act was evaluated based on these dimensions.

3.1.1 GTPSI Dimensions

Table 1. GTPSI Dimensions and Definition

Dimension	Definition
Explicit carbon pricing mechanism	Presence of a direct carbon tax or emission-based pricing
Implicit carbon pricing instruments	Fuel surcharges, excise duties, and fossil-fuel levies creating de facto carbon pricing
Coverage breadth	Sectoral scope and emissions coverage
Rate strength and escalation design	Pricing strength and built-in mechanism
Revenue recycling mechanism	Earmarking for climate mitigation, adaptation, or equity compensation
Green incentives and renewable support	Tax incentives for low-carbon technologies
Subsidy reform	Phasing out environmentally harmful subsidies
Policy coherence	Alignment with national climate legislation
Institutional enforcement and monitoring	Administrative clarity, reporting requirements, transparency mechanisms

Source: Authors' Computation (2026)

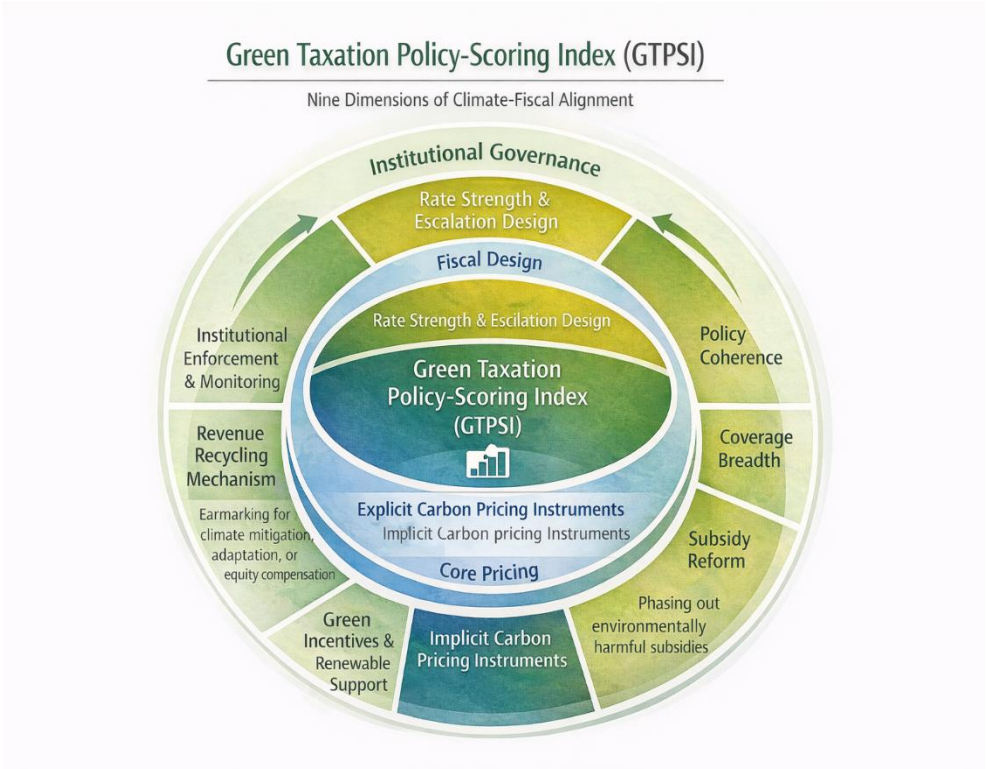

Figure 2. GTPSI Index

3.1.2 Scoring Framework

Each dimension is scored on a 0-3 ordinal scale: 0 = absent, 1 = minimal/symbolic, 2 = partial/moderate, and 3 = strong/comprehensive. Also, the maximum total score is 27, generated from all dimensions of the GTPSI. Additionally, the interpretation scale is 0-9 = weak climate alignment, 10-18 = moderate/implicit alignment, and 19-27 = strong/explicit alignment.

3.2 Data Collection and Coding Procedure

3.2.1 Primary Data Sources

i. Nigeria's Tax Act (2025)- official statutory text

ii. South Africa's Carbon Tax Act (2019) and amendments

iii. India's relevant Finance Acts and Coal cess provisions

iv. Brazil's environmental taxation statutes and incentive frameworks

3.2.2 Coding Strategy

Building the coding process, a directed content analysis approach was employed. The coding categories were derived deductively from the GTPSI dimensions developed. Also, the categories were coded based on explicit statutory elements and fiscal design characteristics rather than general environmental drivers. Furthermore, two independent coders with expertise in environmental fiscal policy conducted the coding process to ensure the quality and integrity of the findings.

3.3 Inter-Coder Reliability

To ensure methodological rigour, inter-coder reliability was assessed using Cohen's Kappa coefficient. The analysis yielded a Kappa value of 0.84, indicating strong agreement consistent with established benchmarks and metrics. Furthermore, all disagreements were resolved through a structured discussion and re-examination of the different Tax reforms for the examined countries. This procedure was carried out to enhance internal validity and reduce the risk of subjectivity and bias, commonly associated with content analysis.

3.4 Comparative Case Selection Justification

To ensure quality analysis, three countries were selected based on theoretical relevance rather than geographical proximity:

i. South Africa: Explicit carbon tax model with partial revenue recycling.

ii. India: implicit carbon pricing model through fuel excise and coal cess.

iii. Brazil: Hybrid incentive-based green taxation model.

3.5 Analytical Strategy

The analysis is estimated in three stages:

i. GTPSI scoring of Nigeria's Tax Act (2025)

ii. Parallel scoring of comparator jurisdictions using identical criteria.

iii. Cross-case comparative analysis to identify alignment gaps and transitional pathways.

4. Results

4.1 GTPSI Assessment of Nigeria's Tax Act (2025)

Table 2 below presents the dimensions-by-dimension scoring.

Table 2. GTPSI Dimension Scores: Nigeria (2025)

Dimension	Score (0-3)	Interpretation
Explicit Carbon Pricing Mechanism	0	No formal carbon tax or emission-based pricing framework
Implicit Carbon Pricing	2	Fossil-fuel surcharge introduced, creating de facto carbon pricing
Coverage Breadth	2	Applies to key fossil fuels, but limited sectoral reach
Rate Strength and Escalation Design	1	No automatic rate adjustment mechanism. That is, no emission-based escalation mechanism
Revenue Recycling Mechanism	0	No statutory earmark climate fund for climate mitigation or adaptation
Green Incentives and Renewable Support	3	Comprehensive renewable tax exemptions and incentives for renewable energy investments
Subsidy Reform	2	Partial rationalisation of fuel subsidies
Policy coherence	2	Moderate integration with climate legislation
Institutional enforcement and monitoring	2	Administrative clarity is present, but limited climate-specific monitoring

Source: Authors' Computation (2026)

The content analysis in Table 2 shows that Nigeria scores 14 out of 27, indicating a moderate climate alignment through implicit pricing mechanisms. The absence of an explicit carbon tax (score = 0) significantly weakens structural price signalling. However, the introduction of a 5% fossil-fuel surcharge represents a critical shift towards environmental carbon pricing and policy recognition of the green energy transition. Nevertheless, the absence of revenue earmarking and a weak pricing model limits the impact on climate adaptation. Additionally, the weakest dimension is revenue recycling (score = 0), suggesting limited ERF depth. Importantly, the strong renewable incentives (score = 3) highlight supply-side support rather than demand-side carbon pricing strength.

4.2 Comparative Benchmarking

To contextualise Nigeria's performance, parallel GTPSI scores were calculated for South Africa, India, and Brazil using identical criteria.

Table 3. Comparative GTPSI Scores Across Emerging Economies

Dimension	Nigeria	South Africa	India	Brazil
Explicit Carbon Pricing Mechanism	0	3	0	0
Implicit Carbon Pricing	2	1	3	2
Coverage Breadth	2	3	2	2
Rate Strength and Escalation Design	1	3	2	1
Revenue Recycling Mechanism	0	2	2	1
Green Incentives and Renewable Support	3	2	1	3
Subsidy Reform	2	2	2	1
Policy coherence	2	3	2	2
Institutional enforcement and monitoring	2	3	2	2
Total score	14	22	16	14

Source: Authors' Computation (2026)

South Africa's score reflects strong structural alignment through explicit carbon pricing, built-in escalation, and partial revenue recycling. Although exemptions dilute environmental quality, institutional integration is significant. Furthermore, compared to South Africa's explicit carbon tax score (22/27), Nigeria falls behind in environmental and climate integration. Additionally, India demonstrates strong implicit carbon pricing through fuel excise duties and coal cesses. Also, revenue recycling is achieved through clean energy funds, which enhance EFR coherence and postulations. Despite lacking an explicit carbon tax framework, escalation and earmarking mechanisms increase climate effectiveness relative to Nigeria. Furthermore, Brazil exhibit similar integration scores and reliance on implicit pricing, but complements its framework with stronger green incentives and policy coherence. Although renewable incentives are strong, weak pricing mechanisms and limited revenue recycling undermine structural climate alignment.

From the findings, it is evident that Nigeria aligns most closely with the implicit carbon pricing pathway, but lacks escalation and recycling mechanisms necessary for deeper EFR transformation. From an institutional theory perspective, Nigeria's moderate score reflects political economy constraints such as fossil-fuel dependence, revenue stabilisation priorities and energy accessibility concerns. Therefore, rather than introducing a politically visible carbon tax system, policymakers embedded climate-relevant pricing within broader fiscal reform. However, the absence of earmarked climate finance and rate-escalation mechanisms limits behavioural transformation potential. In essence, Nigeria's Tax Act (2025) represents an

incremental, institutionally constrained, revenue-first carbon pricing pathway with emerging but incomplete Environmental Fiscal Reform characteristics.

4.3 Discussion of Findings

4.3.1 Implicit Carbon Pricing as Transitional Climate-Fiscal Pathway

The findings of this study suggest the emergence of a transitional implicit carbon pricing pathway and a pragmatic strategy for carbon reduction. This pathway is characterised by the introduction of de facto pricing instruments (such as fossil-fuel surcharges) without a formal carbon tax framework. This pattern aligns with broader trends in emerging economies where political economy constraints limit the feasibility of explicit carbon taxes (Muth, 2023).

Also, institutional theory helps explain this design choice. In resource-dependent economies like Nigeria, where hydrocarbons play a key role in fiscal revenue and employment outcomes, a fully defined carbon tax system may trigger significant political resistance, particularly in nations characterised by high poverty and high informal economic participation. Consequently, policymakers may employ incremental reforms that embed climate-relevant price signals within broader fiscal restructuring processes.

Furthermore, while Nigeria's reform represents a move toward climate alignment, it remains structurally limited by institutional and political factors typical of emerging economies. The results also demonstrate that implicit carbon pricing alone is insufficient to achieve transformative EFR. Therefore, the absence of revenue-recycling mechanisms and a model for emission-based escalation limits the behavioural and redistributive impact of Nigeria's fossil-fuel surcharge. Nevertheless, this study suggests that in emerging markets, the diffusion process may follow a sequenced trajectory: from revenue-centric fuel taxation, to implicit carbon pricing, and eventually toward formalised climate-fiscal integration

These outcomes for Nigeria illustrate that implicit carbon taxation can serve as an entry point in climate-fiscal reform. However, without complementary measures (such as revenue recycling, emission-based escalation, and institutional coordination and monitoring), environmental effectiveness and policy actions remain limited and dormant. In the Nigerian context, the fossil-fuel surcharge offers a foundation for future and probable carbon tax reforms. Nevertheless, its success and effectiveness will depend on strengthening institutional capacity, improving transparency and aligning fiscal policy tools with national climate action strategies.

4.3.2 Comparative Pathways: Explicit, Implicit, and Hybrid Models

The comparative results highlight three distinct pathways in emerging-market green taxation:

i. Explicit Carbon Tax Model (South Africa): characterised by formalised carbon pricing, phasing escalation, and partial revenue recycling.

ii. Implicit Escalation Model (India): Strong indirect pricing combines with selective earmarking.

iii. Hybrid Incentive Model (Brazil): supply-side renewable incentives without strong carbon penalties.

Furthermore, the Nigerian tax reform closely aligns with the implicit pathway but remains less structurally integrated than India due to the absence of revenue recycling. Additionally, this highlights that climate-fiscal alignment depends not only on the carbon taxation system but on the integration of multiple economic drivers (Lilliestam et al., 2025).

5. Conclusion

By developing and applying a nine-dimensional GTPSI grounded in EFR and institutional theory, the findings demonstrate that Nigeria's reform achieves a moderate climate-alignment score, placing it within an implicit carbon-pricing category rather than a fully integrated carbon tax framework. The introduction of a fossil-fuel surcharge and strong renewable energy tax incentive signals an important deviation from a purely revenue-centric taxation system. Nevertheless, the absence of revenue earmarking, weak escalation mechanisms, and limited institutional integration with climate legislation constrain the reform's capacity for transformation and development into a full carbon tax model.

Importantly, these results reveal that Nigeria's Tax Act (2025) is neither environmentally symbolic nor structurally comprehensive compared to South Africa's carbon tax system. Rather, it reflects an incremental and politically inclined fiscal reform shaped by institutional capacity, fossil-fuel dependence, and socio-economic factors, as is typical in emerging nations. In this regard, Nigeria's approach is in tandem with broader patterns observed in emerging markets, where climate-fiscal reform often developed through implicit and hybrid mechanisms rather than the immediate adoption of explicit carbon taxation. This approach ensures a smooth transition for emerging markets.

Likewise, this study demonstrates that Nigeria's Tax Act, 2025, represents a significant but partial step towards climate-aligned fiscal policy. To improve its climate actions and reform its tax system into an effective climate policy framework, it is necessary to adopt international carbon tax models and strengthen institutional integration.

In conclusion, Nigeria's Tax Act (2025) represents a meaningful but incomplete step toward climate-aligned fiscal policy. It signals recognition of environmental externalities and introduces implicit carbon-pricing mechanisms, yet remains structurally limited by recycling and escalation design. By conceptualising implicit carbon pricing as transitional fiscal sequencing, this study contributes a critical framework for understanding climate-fiscal reform in emerging economies. The future direction of Nigeria's reform will depend not only on maintaining environmental sustainability but also on deepening institutional coherence and embedding climate objectives at the core of fiscal policy design.

Finally, the findings offer broader lessons for emerging countries seeking to balance fiscal sustainability with environmental responsibility in line with sustainable development goals. Based on the research findings, the study recommends the following policy actions:

i. Nigeria should earmark a portion of fossil-fuel surcharge revenue for green energy, public transportation infrastructure and climate change adaptation, following South Africa's partial recycling model.

ii. Adopting and contextualising India's incremental fuel-tax adjustments can improve price signals while reducing social resistance to its application, therefore bringing Nigeria closer to a more structured carbon tax system.

iii. Nigeria's tax reforms can strengthen green investments without broad tax increases. Thus, Brazil's targeted tax incentives for low-carbon emission technologies can serve as a model for adaptation, creating a motivating, implicit tax system.

iv. Integrating the Nigerian tax act with other significant regulations (such as the Nigerian Climate Change Act and the Nationally Determined Contributions (NDC)) will improve policy coherence, credibility and public confidence.

Limitations and Future Research

Despite the significant coverage of this study, it has some limitations. The study focuses on statutory analysis rather than behavioural outcomes and measurement in emerging economies. Likewise, it does not estimate carbon emission reductions, price elasticities, or distributional impacts. Therefore, future research could empirically evaluate carbon emissions and consumption responses (by individuals and firms) to a fossil-fuel surcharge adopted in an implicit pricing system. Additionally, extending the GT-PSI framework to other African nations would enable broader regional comparison and improvements of the index. This broad application promotes a more sustainable green tax index. Furthermore, adopting a mixed-method research design, such as stakeholder interviews and fiscal incidence modelling, could further enhance understanding of political and social implications.

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AI Declaration: Grammarly and Quillbot were used for language editing and grammar improvement.

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