Education

Are fiscal incentives enough? Evaluating the effectiveness of Indonesia's electric vehicle policy

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Abstract

Indonesia is at a critical juncture in its transition to Electric Vehicles. Despite a comprehensive fiscal incentive framework enacted through Indonesian Presidential Regulation No. 55 of 2019 and its 2023 amendment, penetration of electric vehicles remains marginal compared to its regional peers, such as Thailand, which is the second largest car market in Southeast Asia. This paper critically evaluates Indonesia's fiscal incentive policies' effectiveness for the Electric Vehicles industry through a policy network lens. Drawing on qualitative analysis of primary regulatory instruments, secondary industry data from the Automotive Federation, and prior academic literature, this study maps the multi-actor ecosystem surrounding the fiscal policy on electric vehicles and identifies structural gaps that limit the policy's impact. Findings reveal that while incentives address both supply (producers) and demand (consumers) sides, their effectiveness is constrained by mass-market price inelasticity, inadequate charging infrastructure, fragmented inter-ministerial coordination, and weak industrial linkages. This study proposes a refined policy network model that integrates stronger actor coordination, targeted demand stimulation, and infrastructure co-investment as prerequisites for a national electric vehicle industry that is commercially viable.

Keywords: Public policy, Fiscal incentives, Policy network, Tax policy, Electric vehicle, Indonesia

1. Introduction

The global transition toward Electric Vehicles (EVs) has emerged as a central pillar of global decarbonization strategies. In 2024, global EV sales reached approximately 17.1 million units in 2024, nearly three times the 5.1 million units recorded in 2018, with China, Europe, and North America leading the adoption [1]. Within Southeast Asia, Thailand has become the region's EV frontrunner, recording 80,000 EV sales in 2024, while Indonesia the region's largest automotive market by both production and total sales recorded only 43,188 units in the same period [2, 3]. This disparity is analytically significant and warrants rigorous examination.

Indonesia's priority in developing a domestic EV industry rest on three converging drivers. First, air quality. In 2022, Indonesia ranked sixth globally for poor air quality, with Jakarta rated the most polluted city in the world in August 2024 [4, 5]. The transport sector contributes more than 20% of global greenhouse gas (GHG) emissions, with road transport accounting for 85% [6]. Second, fiscal sustainability. Indonesia's annual fuel subsidies alone reached IDR 169.5 trillion in 2024 [7], a recurring burden that could be progressively mitigated by reducing fossil fuel dependency. Third, industrial strategy. As the world's largest nickel producer holding 42.3% of global reserves Indonesia is uniquely positioned to anchor a domestic and global EV battery value chain [8].

The Indonesian government responded to these strategies through a multi-layered fiscal incentive architecture, which was initiated in Presidential Regulation No. 55 of 2019 on the Acceleration of Battery-Based Electric Motor Vehicles for Road Transportation and further expanded by Presidential Regulation No. 79 of 2023. These instruments include tax holidays, exemptions from luxury sales tax, import duty waivers for completely knocked-down (CKD) vehicles, value-added tax (VAT) relief, and Research & Development super deductions. However, empirical evidence recommends that this apparatus has not generated the intended transformative industrial and market outcomes.

This paper addresses the following central question: Are fiscal incentives sufficient to drive the development of Indonesia's EV industry, or do structural, institutional, and coordination failures fundamentally limit their effectiveness? The analysis adopts a policy network framework, recognizing that EV policy outcomes emerge from the interaction of multiple governmental and non-governmental actors each bringing distinct interests, resources, and constraints rather than from any single policy instrument. This approach responds to calls in the literature to move beyond mechanism-centric analysis toward understanding the actor configurations within which policies operate [9-11].

The paper proceeds as follows: Section 2 reviews prior literature on fiscal incentives and EV policy. Section 3 describes the research methodology used in this study. Section 4 presents the current fiscal incentive landscape and its actor network. Section 5 analyses policy effectiveness and identifies structural gaps. Section 6 proposes a refined proposed Policy Network Model (PNM). Section 7 concludes with implications for policy and research.

2. Literature review

2.1 Fiscal incentives in developing economies

Fiscal incentives as industrial policy instruments have a long scholarly history. Bird and Zolt [12] argued that when properly designed, transparent, and aligned with specific development objectives, tax incentives can stimulate private investment. However, Klemm [13] cautioned that tax incentives frequently arise from inter-country tax competition rather than from genuine market failures, often distorting allocation without corresponding welfare gains. Easson [14] and James [15] emphasized that the effectiveness of fiscal incentives critically depends on program design clarity, monitoring, and the minimization of discretion and rent-seeking opportunities.

Brodzka [16] found that while tax incentives attract foreign direct investment in developing countries, factors such as legal stability, administrative simplicity, and regulatory transparency often weigh more heavily in investor decisions. Trepelkov and Verdi [17] noted that developing economies frequently rely on a trial-and-error approach to incentive design, resulting in misalignment between instrument type and policy objective a pattern observable in Indonesia's EV incentive evolution.

2.2 Fiscal incentives and EV industry development

A growing body of literature specifically examines fiscal incentives in the EV context. Zhang *et al*. [18] identified three policy pillars driving EV adoption across countries: fiscal incentives, technology support, and infrastructure development. Their comparative analysis across 11 countries underscores that no single pillar is sufficient for isolation. Lévay, Drossinos, and Thiel [19] demonstrate through total cost of ownership (TCO) modelling across European countries that fiscal incentives substantially reduce the price gap between EVs and internal combustion engine (ICE) vehicles, thereby accelerating market penetration.

The Norwegian case often cited as the global benchmark illustrates that an integrated package combining deep fiscal relief (VAT exemption, reduced road tax, and toll exemptions) with dense charging infrastructure and behavioural incentives, such as special bus-lane access, created a self-reinforcing adoption cycle [20, 21]. Lieven [22] cautions that incentive structures must be calibrated to local market conditions: the monetary magnitude and form of incentives required to shift consumer behaviour vary significantly across economic contexts.

Malmgren [23] quantified the societal benefits of EVs using a social cost framework and found that government incentives are critical in bridging the gap between private and social returns during the early market formation phase. Jones *et al*. [24] studied Vietnam's EV market and confirmed that sales tax removal combined with differential taxation on conventional fuel vehicles can significantly accelerate EV market share. These findings inform the Indonesian case, where government intervention remains essential but may be inadequately calibrated in promoting EV market share.

2.3 Policy network theory

Policy network theory provides analytical scaffolding for understanding why EV outcomes diverge from incentive intentions. Rhodes [9] conceptualizes policy networks as structured patterns of relationships between government and actors who share resources and negotiate policies within institutional parameters. Klijn and Koppenjan [10], emphasizing that outcomes in complex policy domains depend on how heterogeneous actors each with distinct goals, resources, and institutional logics interacted over time.

Sandström and Carlsson [11] empirically demonstrated that innovative, high-performing policy networks are characterized by actor heterogeneity and mutual integration, enabling greater resource mobilization for policy goals. Van Waarden [25] proposed a multi-dimensional typology of policy networks along axes including actor composition, function, structure, institutionalization, rules of conduct, and power relations–a framework partially adapted in this study. Yu *et al*. [26] applied policy network analysis to China's ocean ranching policy and found that actor interaction structures significantly shape policy outcomes, a methodology relevant to Indonesia's multi-ministerial EV governance.

In the Indonesian context, Siregar [27] affirms that Policy Network Theory (PNT) is effective for analysing government policy, finding that actor influence and coordination positively correlate with policy quality. Tajik [28] similarly argues that networks, including non-governmental actors, produce policies that are better aligned with diverse stakeholder interests. These domestic applications validate the framework's applicability to the EV case.

3. Research methodology

This study employs a qualitative research design within a Post Positive Paradigm (PPP). Data triangulation is achieved through three sources: (1) systematic analysis of primary regulatory instruments, including Presidential Regulation 55/2019, Presidential Regulation 79/2023, Government Regulation 73/2019, Government Regulation 74/2021, and associated Ministerial Regulations (Minister of Finance Regulation 130/2020, Minister of Finance Regulation 153/2020, Minister of Finance Regulation 8/2024, Minister of Finance Regulation 9/2024, and Minister of Finance Regulation 10/2024); (2) secondary quantitative data from Association of Indonesian Automotive Industries (GAIKINDO), the ASEAN Automotive Federation, EV-Volumes, and official government publications; and (3) systematic literature review using Scopus-indexed sources identified.

The policy network mapping follows the dimensions outlined by Van Waarden (1992) and Klijn and Koppenjan [10]: actor identification, structural relationships, interaction processes, strategic orientations, and environmental conditioning factors. This enables a holistic assessment of why fiscal incentives may translate into intended EV industry outcomes. The analytical approach is deductive, testing propositions derived from the literature against empirical data from Indonesia. The policy model construction in Section 6 adopts a constructivist orientation to generate results.

4. Result: Indonesia's EV fiscal incentive landscape

4.1 Market context

Indonesia's automotive sector is the largest in Southeast Asia by production volume (1.18 million units in 2023) and among the largest by sales (718,097 units in 2024); nevertheless, EV penetration remains disproportionately low at approximately 6% of total sales [3, 29]. The contrast with Thailand which recorded 80,000 EV sales in 2024 against Indonesia's 43,188 despite producing fewer total vehicles reflects both differential policy environments and purchasing power differentials. Thailand's GDP per capita of approximately USD 8,000 is nearly double that of Indonesia's USD 5,000 [30].

A structural price barrier is evident in the market composition. The five best-selling conventional vehicles in Indonesia are priced between IDR 126 million and IDR 424 million, with the highest-volume models (Toyota Innova and Daihatsu Sigra) priced below IDR 250 million [31]. In contrast, the five best-selling EVs in 2024 BYD M6 (IDR 379 million) and Wuling Binguo (IDR 348 million) are priced at the upper boundary of what conventional vehicle buyers consider affordable. This structural gap persists despite significant fiscal relief, signifying that incentives have successfully compressed but not eliminated the price disadvantage of EVs.

Table 1: Comparative EV sales: Indonesia vs. Thailand (2019–2024)

Year	ID Units	TH Units	ID Growth	TH Growth
2019	272	1,731	-	-
2020	192	2,091	-29.4%	+20.8%
2021	685	1,995	+256.8%	-4.6%
2022	8,562	32,081	+1,150%	+1,508%
2023	12,000	76,000	+40.2%	+136.9%
2024	43,188	80,000	+259.9%	+5.3%

Sources: GAIKINDO (2025) and EVAT (2025)

4.2 Supply-side fiscal incentives

Indonesia's supply-side fiscal architecture targets producers and investors across the EV value chain. Under the pioneer industry tax holiday framework (Minister of Finance Regulation 130 and Minister of Finance 10/2020), EV manufacturers and battery producers are eligible for 50%–100% corporate income tax reductions for 5–20 years, contingent on investment scale. This position positions Indonesia's tax holiday as competitive with comparable incentives in China and Vietnam, yet uptake has been selective: as of 2024, only PT HLI Green Power (an LG–Hyundai joint venture in Karawang) has established battery manufacturing capacity, while interest from CATL, British Volt, BASF, and Foxconn have not yet materialized into operating plants.

Import duty exemptions under Minister of Finance Regulation 176/Minister of Finance Regulation 11/2009 and its amendments eliminate tariffs on production machinery and raw materials when domestically produced equivalents are unavailable or insufficient. Complete Knocked Down (CKD) import duties under the most favoured nation status stand at 10% but are reduced to 0% under the ASEAN, Regional Comprehensive Economic Partnership (RCEP), and bilateral Comprehensive Economic Partnership Agreement (CEPA) arrangements. Most significantly, Minister of Finance Regulation 9/2024 and Minister of Finance Regulation 10/2024 introduce a zero-duty, zero luxury tax sales for CBU EV import incentive for market-testing purposes, subject to a bank guarantee commitment to produce domestically at a 1:1 ratio – a mechanism designed to convert import pathways into investment anchors.

Research and development (R&D) and vocational incentives round out the supply-side architecture. Minister of Finance Regulation 153/Ministry of Finance Regulation 10/2020 permits a gross income deduction of up to 300% for R&D expenditure on automotive and battery technologies conducted in Indonesia. Furthermore, Minister of Finance Regulation 128/Ministry of Finance Regulation 10/2019 extends a 200% deduction for vocational training in automotive competencies. Nevertheless, these instruments aim to accelerate indigenous technological capability; however, their utilization rates remain poorly documented.

4.3 Demand-side fiscal incentives

The luxury sales tax regime anchors the demand-side incentive framework, which applies a zero percent - 0% rate to battery electric vehicles (BEV meeting domestic content requirements under Government Regulation 73/2019 as amended by Government Regulation 74/2021. A critical revision in PP 74/2021 widened the Luxury Sales tax rate differential between BEVs and plug-in hybrid electric vehicles (PHEVs), both of which had previously qualified for the 0% rate creating a substitution risk that potentially undermined BEV-specific incentives. Under the amended regime, PHEVs attract a Luxury Sales Tax rate around 5%–8% (rising with investment milestones), whereas BEVs maintain a 0% rate.

VAT relief is provided through the VAT borne by the government mechanism, which was introduced in Minister of Finance Regulation 38/2023 and continued in Minister of Finance Regulation 8/2024. Under this arrangement, the government absorbs 10% of the standard 11% VAT on eligible BEV purchases (those with domestic content requirements ≥ 40%), leaving consumers to pay only 1% VAT. At the local level, Minister of Home Affairs Regulation 6/2023 establishes a 0% vehicle registration tax (BBNKB and an annual vehicle tax (PKB) for all BEV categories, removing provincial fiscal barriers to EV ownership. In addition, Jakarta's Governor Regulation 88/2019 exempts EVs from the odd-even traffic restriction policy–a disproportionately valuable behavioural incentive in one of the world's most congested cities.

Table 2: Indonesia's EV fiscal incentive matrix (as of 2024)

Incentive type	Supply side (producers)	Demand side (consumers)
Tax holiday/Tax allowance	50%–100% income tax reduction for 5–20 years (Pioneer Industry)	—
Luxury Sales Tax	0% rate for BEV with ≥40% LCDC	0% rate reduces retail price
Import Duty	0% on CKD components; 0% CBU for market testing commitment	Reduced purchase price by consumers
Value Added Tax (VAT)	Exemption on production machinery	10% VAT borne by the government (1% effective for ≥40% domestic content requirements)
R&D Super Deduction	Up to 300% gross income deduction for R&D; 200% for vocational training	—
Vehicle Tax	—	0% registration and annual tax

Source: Compiled by the author from Indonesian President Regulation 55/2019, Indonesian Government Regulation 73/2019, Indonesian Government Regulation 74/2021, Minister of Finance Regulation 8/2024, Minister of Finance Regulation 9/2024, Minister of Finance Regulation 10/2024, and Minister of Home Affairs Regulation 6/2023.

5. Discussion: analysis of policy networks and evaluation of effectiveness

5.1 Actor mapping

Indonesia's EV fiscal policy is governed by a dense, multi-actor network spanning at least seven major ministerial actors coordinated nominally under the Coordinating Ministry for Economic Affairs alongside strategic SOEs, private producers, and end consumers. Presidential Regulation 55/2019 formally designated the Ministries of Finance, Industry, Energy and Mineral Resources, Trade, Transportation, and Investment or Investment Coordination Board (BKPM) as primary network members. However, in practice, the boundaries of this network extend further, encompassing Perusahaan Listrik Negara (State Electricity Company), IBC, automotive manufacturers (both incumbent ICE producers and new EV entrants), and civil society.

Table 3: Key actors in Indonesia's EV policy network

Actor	Role of the EV policy network	Key fiscal instruments
Ministry of Finance (MoF)	Design and administration of fiscal incentives, Luxury Sales Tax, VAT borne by the government, and import duty policy	Luxury sales tax, VAT borne by the government, import duty policy, and tax vacation
Ministry of Industry, Japan	Domestic content requirement roadmap, production standards, and Low-Cost Green Car (LCGC) framework	Domestic content requirements thresholds for eligibility
Ministry of Investment	Investment Facilitation, Integrated Business Licensing System (OSS Permits), Market-Test CBU Approval	vacation gateway tax, CBU 0% Import Duty approval
Ministry of Energy (ESDM)	Electric Vehicle Charging Station Standards and Charging Infrastructure Policy	Non-fiscal; enables EV ecosystem viability
EV manufacturers (e.g., BYD, Hyundai, and Wuling)	Compliance with production, investment commitment, and domestic content requirements	Beneficiaries of supply-side incentives
PLN (State Electricity Enterprise/Corporate)	Provision of electric vehicle charging station and electricity grid readiness	Non-fiscal infrastructure enabler
Consumers and households	Final adopters: price-sensitive and range-anxious	Beneficiaries of Demand-side Incentives

Source: Author's mapping based on Presidential Regulations 55/2019 and 79/2023 and industry data

5.2 Dimensions of the structure and process

The structural dimension of Indonesia's EV policy network reveals a hub-and-spoke architecture with the Ministry of Finance (MoF) at the centre of the fiscal incentive sub-network and BKPM as the gateway for investment facilitation. However, the absence of integrating the secretariat with GMCA functions creates a risk of coordination. James [15] and Trepelkov and Verdi [17] emphasized that fragmented institutional structures produce overlapping incentives, administrative confusion, and inconsistent investor policy signals. The IDXChannel [32] reported that industry actors perceived Presidential Regulation 55/2019 as insufficiently attractive precisely because of the complex, multi-gateway compliance burden rather than the monetary value of incentives per se.

Process coordination occurs primarily through formal inter-ministerial meetings rather than through institutionalized NM structures. This reactive mode of coordination has produced sequential rather than simultaneous policy responses: the domestic content requirements roadmap (The Ministry of Industry), charging infrastructure standards (The Ministry of Energy - ESDM), and fiscal mechanics (The Ministry of Finance) were developed within separate institutional timelines, creating policy lags. For instance, incentives for consumer purchases borne by the government for VAT were introduced in 2023, four years after the presidential regulation, meaning that consumers faced full taxation during the critical early market formation period.

5.3 Effectiveness assessment: where do incentives fall short?

An evaluation of Indonesia's EV fiscal incentives reveals significant successes within structural limitations. The incentive package has contributed to a 530% increase in annual EV sales between 2022 and 2024 (from 8,562 to 43,188 units) and has attracted the region's most significant battery

manufacturing investment in the LG–Hyundai partnership at Karawang. The 0% 0% Import Duty for the Completely Built Up (CBU) EV scheme has enabled rapid market entry by Chinese EV manufacturers (BYD, Wuling, Chery) that now dominate Indonesia's EV sales landscape.

However, several structural gaps limit the transformative potential of fiscal incentives. First, we discuss the price floor problem. The cheapest high-volume EV (Wuling Air, IDR 243 million) remains above the price band where Indonesia's mass-market vehicle demand is concentrated (below IDR 200 million for the highest-volume ICE models). Fiscal incentives have not yet bridged this gap for genuinely mass-market products. Second, infrastructure inadequacy. As of late 2024, Indonesia had only 2,490 electric vehicles charging stations, compared to 10,000+ in Thailand–a ratio of roughly 1:17 units per EV sold versus approximately 1:8 in Thailand [5, 2]. Without charging confidence, rational consumers resist EV adoption regardless of the incentive to purchase.

Third, rapid depreciation risk. Studies have indicated that EVs lose 50%–60% of their value within 1–3 years due to battery technology cycles [33, 34]. This secondary market risk not addressed by any current Indonesian fiscal instrument creates total cost of ownership uncertainty that undermines demand. Fourth, the domestic content requirements, while industrially rational, create a dilemma: high domestic content requirement thresholds protect domestic manufacturing development but limit the range of incentive-eligible models, particularly at lower price points where global supply chains dominate Chinese manufacturers. Fifth, equity concerns. The principal beneficiaries of Indonesia's EV incentives are upper-income households capable of purchasing EVs priced at IDR 300 million or more, while lower-income groups simultaneously bear the cost of conventional fuel subsidy reductions – a politically contested distributional asymmetry [35].

These findings echo Lieven's [22] global observation that monetary incentives alone are insufficient without complementary infrastructure investments and Zhang *et al.*'s [18] three-pillar model in which fiscal measures, technology support, and infrastructure must be simultaneously developed. Indonesia's fiscal measures are prioritized, whereas infrastructure and technology support have lagged.

6. Proposed refined EV policy network model

6.1 Identification of gaps and recommended actions

Based on the network analysis and effectiveness evaluation, this study identifies five primary policy gaps and corresponding recommendations:

Table 4: Policy gaps, root causes, and recommended actions

Identifying the policy gap	Root cause	Recommended action
Incentives insufficient to drive mass-market EV adoption	The incentives are insufficient, and the price of EVs is still considered high. BYD M6 (IDR 379M) vs. Toyota Innova (IDR 377M)	Targeted purchase subsidy for EVs priced below 300 million IDR
Inadequate electric vehicle charging station (SPKLU) coverage (2,490 vs. 10,000+ in Thailand)	High SPKLU build cost (IDR 50B/40 units) and low usage	Joint PLN–private investment model with viability gap funding
Fragmented coordination of the multi-ministry	Mandates overlapping across the Ministry of Finance, Ministry of Trade, Ministry of Investment (BKPM), and Ministry of Energy (ESDM)	Establishment of a single EV policy secretariat under the Coordinating Ministry for Economic Affairs
Domestic content requirements threshold limits BEV vs. PHEV competitiveness	Equal 0% luxury sales tax for BEV and PHEV (pre-government regulation 74/2021) created substitution risk	Progressive widening of the luxury sales tax link to CO2 intensity
Rapid EV depreciation undermines consumer confidence	BEV loses 50%–60% value in 1–3 years (technology cycle)	Introduce a government-backed residual value guarantee or battery buy-back scheme

Source: Analysis based on dissertation data and literature review

6.2 Proposed network policy model

Drawing on the policy network theory dimensions articulated by Klijn and Koppenjan [10], this study proposes a five-dimensional integrated EV policy network model for Indonesia:

Dimension 1 Actor integration. The current spoke-and-hub structure should be replaced by a formalized cross-ministry EV secretariat housed under the Coordinating Ministry for Economic Affairs, with representation from the Ministry of Finance, Ministry of Trade, Ministry of Investment (BKPM), Ministry of Energy (ESDM), and State Electricity Corporation (PLN) and advisory seats for industry associations (GAIKINDO) for vehicle manufacturers, Indonesia Battery Corporation (IBC) for battery manufacturers and consumer representatives. This aligns with the findings of Sandström and Carlsson [11] that Festerous Integrated Actor Network (HICAs) generate superior policy performance.

Dimension 2 Structural Coherence. Fiscal incentives, Domestic Content Requirement roadmaps, and infrastructure standards should be developed on synchronized timelines and subject to unified impact assessments. The current sequential approach must be substituted by concurrent policy development to eliminate market-distorting lags.

Dimension 3 Process Accountability: The Secretariat of the Ministry of Economic Affairs should institutionalize quarterly performance reviews against defined EV penetration, investment, and greenhouse gas (GHG) reduction targets, with binding feedback loops to regulatory revision. James [15] emphasized that incentive programs must be tied to measurable investment performance to justify their fiscal cost.

Dimension 4 Strategic Targeting. Incentives must be recalibrated toward mass-market affordability. A graduated purchase subsidy for EVs priced below IDR 250 million funded in part by revenue recycling from conventional vehicle taxation would extend EV access to middle-income consumers while maintaining fiscal neutrality. The battery buy-back guarantee scheme would address the depreciation risk that currently deters rational consumers.

Dimension 5 Environmental responsiveness. The network must be structured to respond dynamically to evolving global factors, including Chinese standards penetration through the ASEAN–China Green Vehicle Initiative, European Union automotive standards proposals in the Indonesia – European (I–EU) The Comprehensive Economic Partnership Agreement (CEPA) negotiations, and the rapidly shifting battery technology landscape. Indonesia's decision to join the 1958 United Nations Regulations for Wheeled Vehicles, UNECE Agreement, has significant implications for domestic industry protection and should be treated as a network-level strategic decision.

6.3 Comparative lessons

Norway's EV success was not the product of a single fiscal measure but of a sustained, multidecade, Mult instrument policy network that progressively reduced the total cost of EV ownership below that of ICE vehicles through accumulated fiscal, infrastructure, and behavioural incentives (Haugneland *et al*. [20]). China's dominance in the global EV market similarly reflects a long-horizon state-industry-research network in which fiscal incentives were embedded within industrial policy, technology standards, and infrastructure investment on a national scale. Indonesia's model, while ambitious in scope, has operated over a shorter horizon (2019–2024), with less integration across network dimensions and significantly lower financial commitment per vehicle incentivized.

The comparative success of Thailand in the ASEAN is instructive. Thailand offered a combination of production-based subsidies, consumer purchase grants (up to 150,000 THB per vehicle), and aggressive EV zone development that produced more pronounced manufacturers' demand signals. Indonesia's incentive package is comparable in instrument type but has not matched Thailand's commitment magnitude relative to its automotive market size. Given Indonesia's larger population, stronger nickel-to-battery value chain potential, and larger long-run market, a higher initial fiscal commitment is economically justifiable.

7. Conclusion

This study aimed to evaluate whether Indonesia's fiscal incentive framework is sufficient to drive the development of a viable national EV industry. The analysis demonstrates that while Indonesia has constructed one of the region's most comprehensive EV fiscal incentive architectures spanning tax holidays, tax allowances, luxury sales tax exemptions, import duty waivers, VAT relief, and R&D deductions incentives alone are necessary but not sufficient conditions for transformative EV industry development.

Three overarching conclusions emerge. First, fiscal incentives have delivered measurable market acceleration: EV sales grew from 685 units in 2021 to 43,188 units in 2024, and the LG–Hyundai battery plant represents a strategically significant investment anchor. These achievements should be acknowledged. Second, structural gaps in the policy network fragmented coordination, inadequate infrastructure, a mass-market price ceiling, EV depreciation risk, and equity concerns limit the translation of fiscal generosity into market transformation. Incentives designed for upper-income early adopters do not generate the scale of demand required for domestic manufacturing to achieve cost competitiveness. Third, reform of the policy network model is required. A single, integrated EV secretariat with cross-ministry authority, synchronized policy timelines, and outcome-based accountability mechanisms would significantly improve the policy's effectiveness.

Indonesia possesses uniquely favourable structural conditions for EV industry leadership: the world's largest nickel reserves, a massive domestic market, existing automotive manufacturing capacity, and growing oversupply in its electricity grid. Converting these structural advantages into industrial outcomes requires a fiscal incentive regime embedded within rather than independent of a well-coordinated, inclusive, and adaptive policy network. The question is no longer whether to provide fiscal incentives but how to architect the network within which they operate so that their intended effects are fully realized.

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