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ELECTRIC AND HYBRID VEHICLE INCENTIVE POLICY: POTENTIAL AND CHALLENGES

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Abstract

Indonesia faces global challenges in reducing carbon emissions and addressing climate change, particularly in the transportation sector. To support its Nationally Determined Contribution (NDC) targets, the government introduced an incentive scheme for battery electric vehicles (KBLBB) in 2025. This paper examines the scheme, its potential benefits, and the challenges in implementing incentives for electric and hybrid vehicles in Indonesia. The KBLBB scheme includes Value-Added Tax (VAT) exemptions borne by the government, luxury goods sales tax (PPnBM) exemptions, and import duty incentives to encourage the adoption of electric and hybrid vehicles. With a budget of IDR 6.16 trillion, this policy aims to enhance the competitiveness of electric vehicles, reduce carbon emissions, stimulate local industry growth, and support the clean energy transition. However, challenges such as infrastructure limitations, high production costs, public awareness, and competition from imports remain significant hurdles. Strategic implementation and international collaboration are required to accelerate the adoption of this environmentally friendly technology. Commission VII of the DPR RI should push for the development of the electric and hybrid vehicle ecosystem through regulatory support, local industry strengthening, infrastructure expansion, international cooperation, and public education campaigns.

Introduction

The rise in carbon emissions and global climate change is one of the most pressing challenges today. The transportation sector, which significantly contributes to greenhouse gas emissions, is a key focus of various countries, including Indonesia. To address this issue, Indonesia has set ambitious commitments through the Enhanced Nationally Determined Contribution (NDC), targeting a 32% reduction in carbon emissions (358 million tons) through domestic efforts and a 41% reduction (446 million tons) with international support by 2030 (Public

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Communication and Information Bureau, 2024). One of the main strategies to achieve these targets is the development and adoption of battery electric vehicles (KBLBB).

As of November 2024, the Ministry of Transportation's Type Test Registration Certification System (SRUT) recorded 195,084 KBLBB units in Indonesia. This includes 160,578 electric motorcycles, 33,555 electric cars, and 951 other electric vehicles. Currently, the total number of electric cars only accounts for 1.67% of the 2030 target of 2 million units (Abdurrahman, 2025).

To accelerate KBLBB adoption, in 2025, the Indonesian government introduced a comprehensive fiscal incentive scheme for electric and hybrid vehicles. This scheme includes VAT exemptions borne by the government and PPnBM incentives for electric and hybrid cars, as announced by the Ministry of Finance (Rajendra, 2025). This policy is designed to enhance the competitiveness of electric vehicles compared to fossil fuel-powered vehicles, encouraging consumer interest in switching to environmentally friendly technology. This paper examines the scheme, its potential benefits, and the challenges in implementing electric and hybrid vehicle incentives in Indonesia.

Electric and Hybrid Vehicle Incentive Scheme in 2025

The incentive scheme for electric and hybrid vehicles includes: (1) A 10% incentive for specific four-wheeled electric vehicles with a minimum Domestic Component Level (TKDN) of 40% and a 5% incentive for specific electric buses with a TKDN between 20% and less than 40%. (2) A 15% PPnBM exemption borne by the government for the import of certain completely built-up (CBU) four-wheeled KBLBBs and for certain completely knocked-down (CKD) four-wheeled KBLBBs produced domestically. (3) Import duty exemptions for CBU electric vehicles with a 0% tariff. (4) A 3% PPnBM exemption borne by the government for hybrid motor vehicles ("Kemenkeu klarifikasi skema," 2025).According to the Economic Policy Package document released by the Coordinating Ministry for Economic Affairs on December 15, 2024, the estimated budget for electric vehicle incentives in 2025 is IDR 6.16 trillion. This budget consists of several key components: VAT exemptions borne by the government for electric vehicles amounting to IDR 2.8 trillion, PPnBM exemptions for electric cars totaling IDR 2.52 trillion, and PPnBM exemptions for hybrid vehicles reaching IDR 840 billion ("Kemenkeu klarifikasi skema," 2025).

Through this incentive scheme, the government aims to increase electric vehicle adoption for both private and public transportation. This initiative aligns with Indonesia's vision of becoming a leading electric vehicle manufacturing hub in Southeast Asia. In addition to economic benefits, this scheme is designed to help achieve national carbon emission reduction targets, create jobs, and accelerate the transition to sustainable transportation technologies.

Potential Positive Impacts of Electric Vehicle Incentives in Indonesia

The government's 2025 electric vehicle incentive scheme is expected to have significant positive impacts across environmental, economic, and social aspects. The Coordinating Ministry for Maritime Affairs and Investment targets 2 million electric vehicles by 2030 (Liman, 2024).

One of the biggest benefits is carbon emission reduction. Battery electric vehicles produce significantly lower emissions than fossil fuel-powered vehicles. Increased adoption of electric vehicles can substantially reduce greenhouse gas emissions, supporting the national carbon reduction targets outlined in the Enhanced NDC.

Economically, these incentives can drive the growth of an environmentally friendly automotive industry. With VAT and PPnBM exemptions, as well as price subsidies, electric vehicle demand is projected to rise sharply. This demand growth will encourage both local and foreign automotive manufacturers to expand their production capacity in Indonesia. Investments in this sector will not only create new jobs but also accelerate the development of local supply chains for components such as batteries and electric motors. This will enhance Indonesia's competitiveness as a regional electric vehicle manufacturing hub.

Another positive impact is reduced dependence on fossil fuels. The increased use of electric vehicles will significantly lower fuel consumption, supporting the clean energy transition and reducing trade deficits caused by fuel imports. Moreover, lower fossil fuel consumption can improve national energy efficiency and strengthen Indonesia's long-term energy security.

Expanding electric vehicle infrastructure also benefits the general public. Incentives for developing electric charging stations will provide greater and more widespread access to charging facilities. This infrastructure will support not only private electric vehicles but also electric-based public transportation such as buses and taxis, improving public transport efficiency and offering cleaner mobility options for citizens.

Challenges in Implementing the Electric Vehicle Incentive Scheme

Despite its many potential benefits, the implementation of this incentive scheme faces several challenges. One of the main challenges is the limited availability of supporting infrastructure, such as electric charging stations. Currently, charging infrastructure is concentrated in major cities and has not yet reached remote areas. Without widespread network development, electric vehicle adoption will struggle to reach a broader audience, especially outside urban centers.

Another challenge is the high production cost of electric vehicles, particularly battery components, which account for a significant portion of total vehicle costs. Although the government provides price subsidies, electric vehicles are

still considered expensive compared to fossil fuel-powered vehicles. This remains a barrier for middle- and lower-income consumers, requiring further efforts to reduce production costs, such as additional incentives for local battery manufacturers.

Public awareness of the benefits of electric vehicles is also a significant challenge. Despite incentives, many people are still unaware of the cost-efficiency and environmental advantages of electric vehicles. Concerns about vehicle performance, battery range, and charging infrastructure availability may also deter consumers. A massive public education campaign is needed to address these knowledge gaps and increase acceptance.

From an industry perspective, competition with imported products poses another challenge. While import duty exemptions encourage market availability, they may weaken the competitiveness of local manufacturers. Domestic electric vehicle producers face pressure to meet global quality standards while keeping costs competitive. Without adequate protection or additional incentives, the local industry risks falling behind in the rapidly growing electric vehicle market.

Conclusion

The implementation of the 2025 electric and hybrid vehicle incentive scheme is a strategic effort to reduce carbon emissions and transition to sustainable transportation. Although this policy offers significant positive impacts, several challenges must be addressed.

Commission VII of the DPR RI should urge the Ministry of Industry to accelerate the development of the electric and hybrid vehicle ecosystem by establishing supportive regulations and maintaining policy consistency to attract long-term investment. Additionally, Commission VII must oversee local industry development by increasing TKDN requirements and facilitating research on battery technology and supporting infrastructure such as electric charging stations. International cooperation for technology transfer is also crucial, alongside public education campaigns to accelerate electric and hybrid vehicle adoption in Indonesia.

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