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The impact of tax incentives on Electric Vehicles in Indonesia

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Abstract
Tax laws related to electric vehicles and infrastructure can either encourage or hinder the expansion of the eco-friendly vehicle sector. Supportive tax policies, such as tax exemptions and subsidies, have been shown to significantly increase the adoption of electric vehicles. One policy that can be implemented to increase electric vehicle sales is to provide tax subsidies. Tax subsidies refer to the reduction or elimination of taxes provided by the government to encourage the use or purchase of certain goods. This study aims to determine how tax laws and infrastructure can influence or encourage the expansion of the electric vehicle sector in Indonesia. The results indicate that supportive fiscal policies, such as tax incentives, can significantly accelerate the adoption of electric vehicles. The Indonesian government has set a subsidy of IDR 7 million for 200,000 electric motorcycles, with the goal of converting 50,000 motorcycles by the end of 2023. Finance Minister Sri Mulyani stated that for electric cars with a 40% local content (TKDN), government assistance will take the form of a 10% reduction in value-added tax (VAT), with only 1% VAT being borne. Electric car charging facilities are not yet widespread in most parts of Indonesia, currently only found in large cities. The Indonesian government is expected to consistently accelerate the development and equitable distribution of electric vehicle infrastructure, as well as maximize subsidies and tax incentives to increase electric vehicle use as an effort to reduce carbon emissions.

Keywords: Incentives, taxes, cars, Electricity, emissions, Indonesia

Introduction
Pendahuluan

The development of motor vehicle technology worldwide is currently proceeding very rapidly, moving towards the era of electrification. Developed countries are competing to develop battery-powered electric vehicles (BEVs) as a manifestation of a global commitment to reducing carbon emissions and achieving the Net Zero Emission target[1]. Indonesia, as a developing country with significant automotive market potential, has also prioritized electric vehicle development for sustainable economic development [2].

The Indonesian government has demonstrated a strong commitment to encouraging the use of electric vehicles through various policies, including fiscal incentives in the form of import duty relief for imported electric vehicles. This policy aims to attract investment in the electric vehicle industry, accelerate technology transfer, and strengthen the competitiveness of the national automotive industry [3].

Electric vehicles strongly support sustainable development policies. Climate change is a global challenge; rising global temperatures have triggered climate change in various parts of the world, and one of the main factors contributing to this problem is carbon emissions. These emissions refer to the release of gases, heat, and light into the atmosphere. In other words, carbon emissions are the release of carbon dioxide (CO2) into the air, which can have indirect impacts on the environment, health, and economic stability. Carbon emissions from transportation, in particular, play a significant role in this problem. The Statistical Review of World Energy report shows that global fossil fuel and energy emissions reached a record high, totaling 35.8 billion metric tons of carbon (CO2) emissions from fossil fuels. This indicates that global CO2 emissions from fossil fuels have reached their highest level, impacting climate change, necessitating a shift to more environmentally friendly vehicles [4].

Environmentally friendly vehicles, such as electric vehicles (EVs), are an alternative for those aware of the harmful effects of these emissions. This is because electric vehicles do not directly emit exhaust emissions, and this is one way to reduce carbon emissions in the transportation industry. Electric vehicles can reduce dependence on fossil fuels and the global carbon footprint if powered by clean, renewable electricity sources[5]. Currently, the adoption of electric vehicles is still limited, even though electric vehicles have significant potential to help reduce carbon emissions.

Paying taxes is not only an obligation but also the right of every individual to contribute to funding the government and the nation's progress. It is unclear how much is collected by progressive taxes, and how many people are unaware of their application because the subject and purpose of progressive taxes have not been separated. According to [6], there are still ways to circumvent the system that imposes progressive taxes on electric vehicles due to the lack of a consistent progressive tax mechanism in Indonesia.

In this regard, fiscal policy is crucial in encouraging the adoption of electric vehicles, one of which is by lowering the cost of electric vehicle ownership to attract consumers to environmentally friendly vehicles. Several countries have implemented tax incentives. More than 50% of new cars sold in Norway are now electric thanks to a tax-free policy for electric vehicles. However, in poor countries like Indonesia, tax policies and laws are less user-friendly, and inadequate charging infrastructure remains low, resulting in low adoption of electric vehicles [7].

While inconsistent or unsupportive policies can actually be a barrier to electric vehicle adoption, well-designed tax policies can act as a powerful incentive. The government

must make a sustained commitment to electric vehicle adoption through strong regulations, adequate financial incentives, and significant infrastructure assistance. In addition to encouraging the public to be more selective in terms of motor vehicle ownership, progressive motor vehicle tax policies seek to increase regional revenue. The implementation of this policy is based on the idea that an individual's tax burden increases with the number of motorized vehicles they own [8].

Based on the above background, the research question is how tax laws and infrastructure help or hinder the growth of electric vehicles in Indonesia and other developing countries. The purpose of this research is to determine how tax laws and infrastructure can influence or enhance the expansion of the electric vehicle sector in Indonesia.

Method

This research is a legal study with a normative approach that focuses on examining the regulations and policies governing tax incentives for electric vehicles in both countries. The aim of this study is to understand how each country implements tax subsidies as a strategy to encourage electric vehicle adoption. The study population includes all existing regulations and policies, with samples consisting of legal documents, government reports, and relevant previous studies.

This research uses a qualitative approach, based on the collection and analysis of data from sources such as scientific journals, relevant books, and agency websites focused on the study of existing laws and policies.

Results and Discussion

Infrastructure and Tax Policy

Electric vehicles in Indonesia are underdeveloped and still in their early stages of adoption. The Indonesian government has offered several incentives, such as exempting some electric vehicles from the luxury goods tax, but the impact has not been significant. Furthermore, one of the biggest barriers to consumer adoption is the lack of adequate charging infrastructure [9].

Electric Vehicle Adaptation Issues and Their Solutions: Research on electric vehicles has uncovered a number of obstacles, including a comprehensive analysis of issues ranging from charging infrastructure and limited range to high initial costs and a lack of well-designed incentives.

For electric vehicles to achieve widespread adoption, the development of charging infrastructure and accessibility is crucial. Charging power, accessibility, and charging strategies are some of the categories into which charging infrastructure can be divided. The convenience and feasibility of electric vehicle use are significantly influenced by each of these factors, which ultimately influence how quickly businesses and consumers adopt electric vehicles. Infrastructure for electric vehicle charging must be available to increase adoption. Electric vehicle owners will find it easier to charge their cars if public charging stations are strategically located, such as along highways, parking lots, and shopping centers. Easily accessible charging stations allow more people to use electric vehicles and reduce range anxiety, the fear of running out of battery power before reaching their destination. Because they can easily charge their cars at any time, home charging options are also important, especially for people with dedicated parking spaces [10].

Compared to electric vehicle markets in more developed countries, the choice of electric vehicle models in developing countries is more limited. There may be fewer choices for consumers in these regions, and some preferred models may be inaccessible. People are considering switching to electric vehicles (EVs) as a result of rising gasoline costs. However, the switch has proven difficult due to the limited supply of electric vehicles and their higher prices [11].

Subsidy Policy in Indonesia

A subsidy policy is a government policy to provide financial assistance or support to the community, foundations, or specific organizations. This assistance is provided to encourage or maintain certain activities, such as advancing economic activity, suppressing the price of locally produced goods, or promoting social good. Taxes are contributions made by the people to the state treasury based on law (which can be enforced) without receiving any directly demonstrable benefits and are used to pay for general expenses. Some taxes are directly received by the public and others are not. Types of taxes include Income Tax (PPH), Land and Building Tax (PBB), and Value Added Tax (PPN).

As with the tax subsidy policy for electric vehicle use, this policy aims to encourage people to switch to electric vehicles, but it also has a broader positive impact on society and the environment.

By providing tax subsidies, the government can reduce the cost burden borne by electricity users. This can be done through reductions in Motor Vehicle Tax (PKB) or other tax incentives related to the purchase or ownership of electric vehicles.

Government policy regarding electric car subsidies has been a focus since the enactment of Presidential Regulation Number 55 of 2019. This Presidential Regulation clearly outlines the stages of subsidies based on the Domestic Component Level (TKDN).

The minimum TKDN is 40% until 2023. This will then increase to 60% until 2029, and then to 80% from 2030 onward. In practice, incentives are provided through value-added tax (VAT) deductions based on the TKDN. This is further regulated in Ministry of Finance Regulation Number 38 of 2023. The amount of the VAT incentive is determined based on the TKDN level achieved by electric vehicle manufacturers. For example, for vehicles with a 20% TKDN, such as buses, the VAT incentive is 5%, while for vehicles with a 40% TKDN, such as buses and cars, the VAT incentive is 10%. Through this policy, the government seeks to encourage the automotive industry to increase the level of localization of production, thereby reducing dependence on imported components and strengthening national economic resilience. Furthermore, subsidized electric cars are also expected to stimulate the growth of the electric vehicle market by making them more affordable for consumers.

Presidential Regulation 55/2019 also stipulates that each relevant Ministry/Institution must issue derivative regulations no later than one year after the enactment of Presidential Regulation 55/2019. Research has found that these derivative regulations have been issued, as follows:

1. Minister of Industry Regulation No. 27 of 2020 concerning Specifications, Development Roadmaps,

and Provisions for Calculating the Value of Domestic Components for Battery-Based Electric Motor Vehicles

2. Minister of Industry Regulation No. 28 of 2020 concerning Completely Disassembled and Incompletely Disassembled Electric Motor Vehicles (KBLBB). Regulates procedures for Completely Disassembled (CKD) and Incompletely Disassembled (ICKD) roadworthiness testing of KBLBB.

3. Minister of Energy and Mineral Resources Regulation No. 13 of 2020 concerning Provision of Electric Charging Infrastructure for Battery-Based Electric Motor Vehicles.

4. Minister of Home Affairs Regulation No. 8 of 2020 concerning the Calculation of the Tax Base for Motor Vehicles and Motor Vehicle Title Transfer Fees. This serves as the legal framework for local governments to provide incentives for motor vehicle taxes and motor vehicle title transfer fees for those purchasing electric vehicles.

5. Minister of Transportation Regulation No. 44 of 2020 concerning Physical Testing of Motor Vehicles with Electric Motors. This regulates the roadworthiness testing of electric vehicles (KBLBB).

6. Minister of Trade Regulation No. 100 of 2020 concerning Procedures and Specifications for Importing Lithium Raw Materials.

7. Minister of Transportation Regulation No. 45 of 2020 concerning Certain Vehicles Using Electric Motors.

8. KBLBB Validity Mark: Decree of the Indonesian National Police Traffic Corps No. 5 of 2020 concerning Motor Vehicle Registration Numbers (TNKB) for electric vehicles (KBLBB). This regulates the procurement process for special TNKBs for electric vehicles (KBLBB).

Conclusion

Fiscal policy and infrastructure for electric vehicle charging are crucial for driving electric vehicle adoption and the growth of the green vehicle sector. Supportive fiscal policies, such as tax incentives, can significantly accelerate electric vehicle adoption. The Indonesian government has set a subsidy of IDR 7 million for 200,000 electric motorcycles, with the goal of converting 50,000 motorcycles by the end of 2023. Finance Minister Sri Mulyani stated that for electric cars with a 40% local content (TKDN), government assistance will be in the form of a 10% reduction in value-added tax (VAT), with only 1% VAT borne. Electric car charging facilities are not yet evenly distributed across most of Indonesia, currently only found in large cities. In this regard, the Indonesian government is expected to remain consistent in accelerating the development and equitable distribution of electric vehicle infrastructure, as well as maximizing subsidies and tax incentives to increase electric vehicle usage as an effort to reduce carbon emissions.

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