

Construction of Electric Vehicle Policies in Indonesia, Types, and Prices

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ABSTRACT

An electric vehicle is a vehicle that uses one or more traction motors or electric motors, using electrical energy for vehicle propulsion stored in batteries or in other storage areas. At this time the development of the use of electric vehicles in various countries began to grow rapidly. Indonesia is one of the countries that has the desire to become one of the centers of the electric vehicle industry in the world, but this must pay attention to government policies, vehicle choices, and prices.

Keywords: *Electric vehicles, government policies, vehicle choices and prices.*

1. INTRODUCTION

Along with the development of the times as it is today, humans will certainly continue to create and innovate to make new things such as one of them is in the transportation sector, namely with electric vehicles. With the electric vehicle itself is expected to reduce air pollution because the fuel used is electric energy and electric vehicles themselves have batteries as the main source, as we know before that the transportation sector contributes a lot of greenhouse gas emissions. It can be seen at this time many countries have started using electric vehicles. The largest electric vehicle market is currently in China which is then followed by Europe and the United States. Indonesia is now also starting to be interested in becoming one of the centers of the electric vehicle industry in the world but its own development until now is still very minimal, this is because there is still a lack of battery charging infrastructure for electric cars and there is still little interest from the general public to replace cars that are fossil-based into electric vehicles. There are several factors that can be done so that the general public wants to replace fossil fuel cars using electric vehicles, one of which is by way of policy making by the Indonesian government. So far the policies that have been made by the government are given by making various regulations regarding electric vehicles. This policy is made by the central government as well as

the local government. The central government first established Presidential Regulation (Perpres) Number 55 of 2019 after the establishment of Presidential Regulation of the government to form PP No. 73 of 2019 which regulates PPnBM or Sales Tax on Luxury Goods from electric vehicles is 0 (zero) percent, after the PP then there are rules regarding electric vehicles by the Ministry of Transportation, namely the Regulation of the Minister of Transportation No. 45 of 2020 concerning Certain Virgins using Motor Drive. Electricity. After that from Permen Energi and Mineral Resources (ESDM) Number 13 of 2020 on the Provision of Electric Charging Infrastructure for Battery-Based Motor Vehicles. The next rule is Regulation by the Minister of Home Affairs No. 8 of 2020 on Basic Calculation of The Imposition of Motor Vehicle Tax and Duties on the Name of Motor Vehicles in 2020. In addition, the local government also formed regulations, for example in the provincial government of DKI Jakarta issued two regulations, namely Governor Regulation No. 88 of 2019 which regulates electric vehicles free odd and Governor Regulation No. 3 of 2020 which regulates bbn kb electric vehicles by 0 (zero) percent.

Although in Indonesia there is still very minimal development of electric vehicles but there are already several electric vehicles that have begun to be marketed in Indonesia including Hyundai Ioniq electric prime AT

which costs Rp 637 million, Hyundai Iqoniq Electric Signature AT Rp 677 million, hyundai iqoniq signature kona electric which costs 694 million, renault twizy Rp 408 million, DFSK Gelora E BV Rp 480 million, DFSK Gelora Rp 510 million, Nissan Leaf One ToneRp 649 million, Nissan Leaf Dual ToneRp 651 million, Lexue UX300e Rp 1,245 billion, and the most important is bmw i3s which costs Rp 1.35 billion.

The purpose of writing this article is to explain the construction of the Government of the Republic of Indonesia's policy towards electric vehicles that are starting to enter Indonesia and the choice and price of electric vehicles so that ordinary people can know and start switching to using electric vehicles to reduce existing pollution and reduced greenhouse gas emissions.

2. DISCUSSION

2.1. Electric Vehicle

An electric vehicle (EV) is a vehicle that is fully or partially driven by a motor that uses electricity in a battery where the battery can be recharged. This electric vehicle can be used as an alternative to sustainable energy management because it uses 100 percent electricity and batteries as its main energy. But at this time there is a lot of growing use of batteries and fuel together to drive the car or called a hybrid. In its current development, many countries are starting to produce electric vehicles including China, China is currently said to be the largest electric vehicle center in the world even being the market of half of the world's electric cars. In April 2021, China itself began to build 65 thousand charging stations, 644 power exchange stations, as well as 1.87 million charging poles nationwide to boost the use of electric vehicles. The infrastructure is built in 176 cities and more than 50,000 highways in China. China has long been the largest electric vehicle center in the world and many have become Chinese-made brands, one of which is the pioneer or originator of electric cars, namely Tesla which is then followed by other car cars such as Tesla Inc, Xpeng Inc, Nio Inc, and ALSO BYD which is increasingly expanding production capacity owned by China. After China was followed by Europe and the United States, in Europe alone electric car sales have represented one in nine cars sold and in existing data also showed a 3.5 percent increase in sales from the previous year. But even so, gasoline cars remain the vehicles that contribute the largest sales in the European Union country, namely sales still reach 48 percent of all existing sales. For the United States, the U.S. government itself has targeted by 2030 the sales of electric vehicles should reach 40 percent.

2.2. Government Policies Related to Electric Vehicle in Indonesia

Because the development of electric vehicles in various countries has been quite rapid, Indonesia is also starting to develop for its electric vehicles because the government hopes that the use of electric vehicles can reduce air pollution in Indonesia (electric vehicles are considered more environmentally friendly and reduce global warming due to using battery fuel). However, the development of electric vehicles in Indonesia can be said to be still very minimal this can be seen with the number of people who still use oil-based vehicles that cause impacts on the air. To support the development of electric vehicles in Indonesia, the government of the Republic of Indonesia has made several policies regarding electric vehicles in Indonesia both the central government and the local government. Some of the policies made by the central government are:

2.2.1. Presidential Regulation Number 55 of 2019

It is the first regulation established regarding electric vehicles in which it regulates the Acceleration of *Battery Electric Vehicle* Program for road transportation. Presidential Decree No. 55 of 2019 was pressed by the President of the Republic of Indonesia Mr. Joko Widodo on August 8, 2019 and this Regulation came into force after being enacted by the Ministry of Law and Human Rights Yassona H. Laoly in the State Gazette of the Republic of Indonesia Year 2019 Number 146 on August 12, 2019 in Jakarta, Indonesia. With the issuance of this Presidential Regulation, the Government is committed to the development of transportation energy systems that lead to electric vehicles in anticipation of the projected demand for large fuel. Battery-based (battery electric vehicle) for road transportation.

2.2.2. PP No. 73 of 2019

PP No. 73 of 2019 concerning Taxable Goods classified as Luxury In the Form of Motor Vehicles That Are Subject to Sales Tax on Luxury Goods (PPnBM) from electric vehicles is 0 (zero) percent. This Government Regulation was established on October 15, 2019 by the President of the Republic of Indonesia Mr. Ir. H. Joko Widodo.

2.2.3. Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 45 of 2020

Regulation of the Minister of Transportation No. 45 of 2020 regulates certain vehicles by using electric motor drive. Certain vehicles as intended in this Ministerial Regulation are electric bicycles, electric one-wheeled bicycles, electric autopets, hoverboards, and also electric

scooters. The Regulation of the Minister of Transportation No. 45 of 2020 was established on June 16, 2020, was enacted on June 22, 2020 and entered into force on June 22, 2020 as well. The considerations used in the Regulation of the Minister of Transportation of the Republic of Indonesia Number 45 of 2020 concerning Certain Vehicles Using Electric Motor Drive are as follows:

That to ensure the safety of the use of Certain Vehicles by Using Electric Motor Drive, it is necessary to establish the Regulation of the Minister of Transportation Regulations on Certain Vehicles by Using Electric Motor Drive.

2.2.4. Regulation of the Minister of Energy and Mineral Resources (ESDM) Number 13 of 2020

Regulation of the Minister of Energy and Mineral Resources (ESDM) No. 13 of 2020 regulates the Provision of Electric Charging Infrastructure for Battery-Based Motor Vehicles. This regulation was established on August 4, 2020 by Minister of Energy and Mineral Resources Arifin Tasrif, and promulgated and started on August 7, 2020. This Ministerial Regulation consists of 8 Chapters, 35 Articles, and 5 Annexes with the main points of arrangement being:

Battery-based KBL Charging Infrastructure in the form of SPBKLU and SPKLU; SPBKLU Business Entity has a Business Entity that has NIB and Approval of Permit from the Ministry of Human Rights; SPKLU Business Entity is a Business Entity holding integrated IUPTL or IUPTL Sales that has a cross-province Business Area; Spklu licensing process is served through Online Single Submission (*OSS*); SPBKLU and SPKLU business schemes; Codification of identity numbers SBKLU and SPKLU; Electricity tariffs for SBKLU and SPKLU; Waiver facilities for SPBKLU and SPKLU Business Entities; and Safety of SPBKLU Electricity, SPKLU, and Private Electricity Installations.

2.2.5. Regulation of the Minister of Home Affairs No. 8 of 2020

Regulation by the Minister of Home Affairs No. 8 of 2020 regulates the Basic Calculation of The Imposition of Motor Vehicle Tax and Duties on The Name of Motor Vehicles. This Ministerial Regulation was set on January 20, 2020 and was enacted and came into force on January 31, 2020. The considerations used for The Minister of Home Affairs Regulation No. 8 of 2020 are the initial draft of the government's work plan in 2020 and the macroeconomic framework and fiscal policy points, it is necessary to make adjustments to the provisions of The Minister of Trade Regulation No. 77 of 2018 on Licensing Services Trying to Integrate Electronically in the Field of Trade; Based on these considerations it is necessary to establish the Regulation of the Minister of

Trade on Licensing Services Trying to Integrate Electronically in the Field of Trade.

In addition to the policies set by the central government, the local government also sets policies, including the Jakarta Government which issued two regulations, namely Governor Regulation No. 88 of 2019 is a change to the Governor's Regulation No. 155 of 2018 which regulates odd-even free electric vehicles and Governor Regulation No. 3 of 2020 which regulates BBN KB of electric vehicles by 0 (zero) percent.

2.3. Types and Prices of Electric Vehicles in Indonesia

At this time in Indonesia itself there are already several electric cars. Here are some lists of electric cars in Indonesia ranging from the cheapest to the most expensive prices:

2.3.1. Hyundai ioqonik electric prime AT which priced at Rp 637 million

Hyundai Ioqonik Electric is an electric car produced by Hyundai which since entering Indonesia has received a good reception from the people of Indonesia. This electric car began to come and be launched in Indonesia on November 6, 2020 ago. This car already has features that are fairly complete such as the use of a combination of LED lights on the rear lights of the car, on the exterior already has LEDs on the DRL, the dashboard uses an LCD cluster that is 7 inch in size and can display various information, its 8-inch hadunit that has connectivity with a smartphone like a car today, the interior is made as sensitive as possible so that there are people entering it feels still like driving a car that is on the road. Generally, there are 7 airbags, and have a regenerative braking system that can be activated through the paddle lever behind the steering wheel.

2.3.2. Hyundai Ioqonik Electric Signature Rp 677 million

Hyundai Ioqonik Electric Signature is almost the same as Hyundai Ioqonik Electric Prime only signature has a more complete feature compared to prime such as sunroof, and equipped blind spot collision warning.

2.3.3. Hyundai ioqonik signature kona electric which costs 694 million

In this car, Hyundai held a number of revisions including a facelift version that does not have a grille and face design that is made more minimalist, has a look that looks more dashing, its battery is superior when compared to ioqonik, has abundant torque, therefore the price of the Hyundai Konik is more expensive when compared to ioqonik.

2.3.4. Renault twizy Rp 408 million

Renault twizy is a battery-based electric car with a price that includes cheap and odd-even rule-free in DKI Jakarta. The uniqueness of the Renault twizy is that the wheels are separate from the car body space. Charging this electric car only takes 2.5 hours for a distance of 80 kilometers and in charging can be connected with a 220 volt home songket without the use of additional adapters.

2.3.5. DFSK Gelora E BV Rp 480 million DFSK Gelora Rp 510 million

DFSK Gelora is a minibus available in various formats where this minibus can be used as a passenger transport to blind vand for commercial purposes. DFSK Gelora can be said to be the first minibus to be driven using electricity that is marketed en masse in Indonesia in 2021.

2.3.6. Nissan Leaf One Tone Rp 649 million Nissan Leaf Dual Tone Rp 651 million Lexue UX300e Rp 1,245 billion

The electric vehicle made by the All New Nissan Leaf provides a maximum power overflow of up to 110 kW which is equivalent to 150 PS and a maximum torque of 320 Nm which makes it able to accelerate from 0 to 100 km per hour in 7.9 seconds and a maximum speed of 155 km per hour. In addition, this electric car uses a 40 kWh lithium ion battery that allows to travel a distance of 311 km on a single charge based on test results from the New European Driving Cycle (NEDC) or equivalent to 40 km per day for one week on a single charge.

2.3.7. BMW i3s is worth Rp 1.35 billion.

It is part of the BMW I family that uses alternative german-issued drive. To move, the BMW i3s uses an electric dynamo in the back. The energy source comes from batteries installed on the floor of the car that can be recharged using household electricity. In urgent time there is a 3-cylinder engine that uses for battery chargers when this car is running. Especially for this type BMW makes a sportier shape compared to the usual version. This can be seen from a stronger and stockier stature. Looking ahead, this BMW car has a wider look with spoilers and be,per tinged glossy. Not only that, the suspension of this car is lowered and the 20 inch pelk is covered in black and the tires are made bigger.

3. CONCLUSION

At this time to adjust to other countries, Indonesia has also begun to emphasize the use of electric vehicles for the community. In addition, it is also to reduce the impact of the use of oil on the environment and reduce greenhouse gas emissions. This can be seen from various

policies that have been made by the government, at least the central government has established 5 regulations and in Indonesia has also provided several choices of electric cars at various prices there are cheap and also the most expensive.

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