

From Regulation to Realization: Legal Analysis of Electric Vehicle Policy in Indonesia, India, and Thailand

Hanif Nur Widhiyanti^a✉, Ipop Abdi Prabowo^c,
Safinaz Mohd. Hussein^b

^a Faculty of Law, Universitas Brawijaya, Malang, Indonesia

^b Faculty of Law, Universitas Sebelas Maret, Surakarta, Indonesia

^c Fakulti Undang-Undang, Universiti Kebangsaan Malaysia, Malaysia

✉ Corresponding email: hanif.nur@ub.ac.id

Abstract

National electric cars play a strategic role in achieving the Sustainable Development Goals. Challenges in developing nationally electric-based cars include infrastructure, regulations, and the readiness of the domestic industry to adopt new technologies. This article examines the challenges and opportunities within Indonesian law to develop a national electric car industry. This article is a legal study with a comparative approach focusing on India, Thailand, and Malaysia to identify best practices in their national electric car policy frameworks. The study reveals that Presidential Regulation No. 79 of 2023 on Electric Motor Vehicles is a stage to support sustainable development and a commitment to international environmental law such as the Paris Agreement. Although the Domestic Component Level policy has faced criticism in the context of global trade, this approach can be justified under

international law if it aims at environmental protection, is proportionate, and is not discriminatory. This aligns with the WTO jurisprudence in the *2012 China-Raw Materials* case and the recognition that Article XX of GATT allows countries to implement environmentally friendly policies. Thus, domestic component level protection is not protectionism but a part of a national decarbonization strategy for a fair and independent green economy.

KEYWORDS *Legal Efforts, The National Automotive Industries, WTO, GATT*

Introduction

After a long period of silence, the existence of Solo Manufaktur Kreasi's (*Esemka*) car has resurfaced. Esemka initially planned to establish a factory in Demangan, Sambu, and Boyolali, with an initial plan to collaborate with the Malaysian automotive manufacturer Proton.¹ In 2015, a memorandum of understanding (MoU) was signed between Proton Holdings, Bhd., but no further action was taken, and the MoU expired. Thus, the cooperation was not continued.²

The development of the *Esemka* car continues to progress. Factory facilities, such as buildings and production units, have been prepared. *Esemka* was inaugurated by President Joko Widodo on September 6, 2019. At the inauguration, it was stated that *Esemka* factory had a production capacity of 12,000 units per year, with domestic component level (DCL) reaching 90%. The company announced that some components were produced in collaboration with PT Industri Kereta Api (INKA) and Pertamina.³ Currently, Esemka is focused on pick-up trucks, which are sold to small businesses through

¹ Muchus Budi R., *Esemka Gandeng Proton, Wali Kota Solo: Kami Kecewa*, <https://news.detik.com/berita/d-3157060/esemka-gandeng-proton-wali-kota-solo-kami-kecewa>, (March 3, 2016), accessed April 12, 2025.

² Jibi, Solopos, dan Danie H. Soe'oed, *Sukiyat: Hampir Semua Komponen Mobil Esemka Mencomot Mobil Lain*, <https://solopos.espos.id/esemka-sukiyat-hampir-semua-komponen-mencomot-mobil-lain-167458-167458>, (March 3, 2012), accessed April 12, 2025.

³ Redaksi—Espos.id, *PT INKA siapkan produksi Mobnas*, <https://news.espos.id/pt-inka-siapkan-produksi-mobnas-262777>, (12 Januari 2012), accessed April 14, 2025.

cooperative or BPR credits. The number of Esemka pick-up trucks is quite high in the Lampung area. However, to date, Esemka has not been registered as a member of the Indonesian Automotive Industry Association (Gaikindo – *Gabungan Industri Kendaraan Bermotor Indonesia*).

Esemka is not the first party with the idea of creating a national car. In 1996, Indonesia introduced the term “national car” under the brand *Timor*.⁴ The Timor national car policy began with the issuance of Presidential Instruction Number 2 of 1996 on the national car program, which appointed PT Timor Putra Nusantara (TPN) as the pioneer in producing the national car. As one of the largest automotive markets in the Southeast Asian region, Indonesia is often compared to neighboring countries, such as Malaysia, which already has its own national car, Proton. However, this comparison is irrelevant because Proton was started decades ago.⁵ Likewise, European and Japanese car manufacturers began their industry decades ago, starting with Karl Benz who received the patent for the first car in 1885–1886.

Recently, the government has shifted towards developing a national electric car in response to global challenges, such as the fossil fuel crisis and climate change. The vision of a national electric car pursues technological independence, environmental sustainability, and energy efficiency. This circumstance is where the close relationship lies: the experience of developing a conventional national car becomes the basis for forming a regulatory framework and an industry collaboration model, as well as encouraging research and development in electric vehicles.

The development of an environmentally friendly automotive business paradigm has emerged alongside the growing awareness among countries of the impacts of climate change. International environmental law demands on the automotive industry, such as those found in the Paris Agreement and the Sustainable Development Goals (SDGs), generally do not directly regulate electric vehicles but rather emphasize the principles of sustainability, carbon emission reduction, and comprehensive environmental protection. Electric cars are considered part of the solution for fulfilling state obligations under various international agreements.

⁴ Armansyah Effendy, *Hukum Dagang Internasional: Sengketa Mobil Timor WTO*. <http://armansyaeffendy.wordpress.com/category/cakrawala-hati/ilmu-hukum/> (November 27, 2011), accessed April 12, 2025.

⁵ detikOto, *Definisi Mobil Nasional perlu diseragamkan*, <https://oto.detik.com/catatan-pengendara-mobil/d-2139187/definisi-mobil-nasional-perlu-diseragamkan>, (January, 11 2013), accessed April 12, 2025.

Countries such as China⁶, the United States, and the European Union⁷ are developing electric vehicles using different strategies, generally centered on incentive policies, infrastructure investment, and clean energy transition targets. China provides subsidies to both producers and consumers and has built millions of charging stations. The United States enacted the Inflation Reduction Act, which offers tax incentives for domestically manufactured electric vehicles and strengthens the domestic battery supply chain. Meanwhile, the European Union has implemented strict regulations to reduce emissions, including a ban on the sale of fossil fuel-based vehicles starting in 2035 and the development of the European Battery Alliance project.

China is a global leader in terms of EV production volume and adoption. Through the "Made in China 2025" program, the Chinese government is encouraging the development of new energy vehicles (NEVs) with major investments in battery and vehicle manufacturing. Companies such as BYD and NIO are examples of the success of this national strategy. Meanwhile, the United States, through companies such as Tesla,⁸ is redefining the global perception of electric cars from being an alternative to a symbol of technological innovation and prestige.

In other regions, such as Europe and Southeast Asia, emission reduction policies and medium-term bans on fossil fuel vehicles are key drivers of transformation. Governments in various countries are now encouraging the consumption of electric cars and growing their industrial ecosystems—including battery manufacturing, component recycling, and specialized workforce training. In this way, national electric cars are seen as an environmentally friendly means of transportation and a driving force for a sustainable future economy.

International trade law issues in the context of the development of national electric cars arise when countries implement protectionist policies or subsidies that are considered to interfere with the principles of fair trade. To encourage the national electric car industry, many countries provide large subsidies to local manufacturers or set local content requirements. Although this step aims to accelerate the energy transition and develop the domestic industry, it may

⁶ Lee, Y. S. *Revival of Industrial Policy: Implications for International Trade Law*. (Minnesota: Minnesota Journal of International Law, 2024)

⁷ Nelson, D., & Puccio, L. *Nihil Novi Sub Sole: The Need for Rethinking WTO and Green Subsidies in Light of United States–Renewable Energy*. (UK: Cambridge University Press - World Trade Review, 2021)

⁸ Fang, M. M., & Zhou, W. *Greening the Road: China's Low-Carbon Energy Transition and International Trade Regulation*. (UK: Cambridge University Press, 2022).

conflict with the World Trade Organization (WTO) rules, especially the Agreement on Subsidies and Countervailing Measures (SCM Agreement).

For example, the European Union and the United States have repeatedly sued China's electric car subsidy policy because it is considered to have created global market distortions. On the other hand, through the Inflation Reduction Act (IRA) of 2022, the United States has also been criticized for providing incentives only for electric vehicles produced in North America or those whose raw materials come from trading partner countries.⁹ Policies like this can trigger international trade disputes because other countries consider them discriminatory and violate the WTO's most-favoured-nation (MFN) and national treatment principles.¹⁰

In Indonesia and other developing countries building a national electric car industry, the challenge is how to formulate policies that support the domestic industry without violating international trade laws. This circumstance includes incentive regulations, emission standards, and import policies for components and batteries. Policy inconsistencies with international law can lead to lawsuits at the WTO or impact bilateral trade relations. Therefore, these countries must balance national industrial development with compliance with global rules.

The demand for environmentally friendly industrial development through a national electric vehicle program faces legal challenges, particularly in the effort to transition toward low-emission transportation. Although the government has issued Presidential Regulation No. 55 of 2019 on the Acceleration of the Battery Electric Vehicle Program, regulatory overlaps and conflicts of authority between central and regional institutions, as well as the absence of standardized regulations on vehicle safety and battery recycling, present legal issues that are examined in this article titled *Addressing the Stagnation in the Development of Indonesia's Electric National Automotive Industry*.

This study is a literature-based legal research that compares the regulatory frameworks related to electric vehicle policy in Indonesia, India, and Thailand. Based on the explanation above, the article aims to analyze in depth the regulations on electric vehicles in Indonesia, India, and Thailand. Furthermore, the study not only examines the existing regulations in these countries but also

⁹ Pelton, A. Protecting Protectionism in the WTO. (US: Columbia Journal of Environmental Law, 2024)

¹⁰ Budak, T. G. Renewable Energy Subsidies: Local Content Requirement and WTO Disputes. (Istanbul: Bilgi University, 2019)

seeks best practices that can be adopted or implemented in Indonesia for the development of electric vehicles.

This study used a normative juridical methodology. To deepen the analysis, it employed regulatory, conceptual, and comparative approaches to examine the implementation of electric vehicle regulations in Indonesia. The regulatory approach was used to assess Indonesia's electric vehicle policy, while the conceptual and comparative approaches are used to compare and evaluate the implementation of electric vehicle policies in Indonesia, India, and Thailand.

Lesson Learned from Problems of International Trade Law on the Development of the National Automotive Industry

Due to the Timor national car case, Japan's lawsuit began from the issuance of Presidential Instruction Number 2 of 1996 and Presidential Decree Number 42 of 1996, particularly on the granting of special privileges related to taxes and duties to PT Timor Putra Nasional, with the condition of using up to 60% local components within three years from the production of the first national car. However, if the gradual use of local components—set at 20% in the first year and 60% in the third year—is not met, PT Timor Putra Nasional will be required to bear the burden of luxury goods tax and import duties. However, the main requirement seems to have been overlooked, as in fact, Timor cars were imported into Indonesia in fully assembled form from South Korea without any import duties, including port charges.

In addition to provoking reactions from Japan, the policy received reactions from several parties, including the United States and some European countries. However, Japan remained the most persistent leader because of its strong interest in the automotive industry, which has controlled almost 90% of the car market in Indonesia.¹¹ The reactions of the United States and several European countries were also reflected in their plans to invest in the automotive industry in Indonesia. Eventually, a conversation occurred between the Japanese and Indonesian governments, but the meeting did not result in any agreement. The next action taken by Japan was through the Deputy Minister of

¹¹ An-An Chandrawulan, *Hukum Perusahaan Multinasional*, (Bandung: CV Keni Media, 2014), p. 73

International Trade and Industry, who stated that they would bring the issue to the WTO.¹²

Japan's lawsuit against Indonesia at the WTO consisted of the following three points:

- 1) Special treatment for the import of cars from KIA Motors Korea, which only benefits one country. This policy violates Article 10 of the GATT on the treatment of import goods free from tariff barriers.
- 2) Exemption from luxury goods tax granted to national car manufacturers for two years. This policy violates Article 3 paragraph (2) of the GATT.
- 3) Requiring local component balance, such as incentives.
 - a. Allowing the exemption from import tariffs,
 - b. Exempting luxury goods tax under the national car program in violation of Article 3, paragraph (1) of GATT and Article 3 of the Multilateral Trade Agreement.

On October 4, 1996, the Japanese government officially filed a complaint against Indonesia to the WTO based on Article 22, paragraph (1) of GATT. The core of Japan's complaint was to resolve its trade dispute with Indonesia in accordance with multilateral trade agreements under WTO provisions.¹³ It was stated that if the matter could not be resolved within five to six months after the complaint was filed with the WTO, Japan would bring the case to a higher level.

After six months without resolution since Japan officially filed a complaint against Indonesia with the WTO, a Dispute Settlement Body (DSB) was formed, which holds monthly hearings on dispute settlement. A panel was established after attempts for settlement had reached an impasse. The panel, consisting of 3 to 5 members, would examine the complaint and witnesses. Within six months, the panel would submit its recommendations to the DSB, and the final decision of the panel would be ratified by the DSB one year later.

In its decision on the national car, the WTO stated that Indonesia had violated the GATT Principles of *National Treatment* and considered the national car policy to be incompatible with the spirit of free trade promoted by the WTO. The WTO ruled that Indonesia must eliminate the subsidies and all privileges granted to PT Timor Putra Nasional as the producer of the Timor

¹² Mahmud Siregar, *Hukum Perdagangan Internasional, Bahan Kuliah Program Studi Ilmu Hukum*, (Medan: Sekolah Pascasarjana USU, 2009), p. 117.

¹³ Matthias Herdegen, *Principles of International Economic Law 2nd Edition*, (Oxford: Oxford University Press, 2016).

car.¹⁴

The considerations used by the WTO in its decision include the following:

- 1) The exemption from import duties and luxury goods tax, which is only applicable to PT Timor Putra Nasional, constitutes discriminatory treatment and will certainly harm investors who have already invested and conducted their business in Indonesia. The imposition of the exemption on import duties and luxury goods tax for the Timor car would make it cheaper due to the reduction in the production costs. This would threaten the position of foreign investors who cannot lower the sale prices of their products. In such unhealthy market competition, foreign investors would undoubtedly be severely harmed.
- 2) To create effective and efficient free trade, GATT's rules have tried to eliminate all barriers to international trade, including nontariff trade barriers. Therefore, the Indonesian government's policy of imposing mandatory domestic component requirements on foreign investors is considered a government effort to create nontariff trade barriers to protect the domestic market from foreign market pressure. This policy is one of the government's strategies to protect the Timor car market from competition with foreign car manufacturers. Such policy instruments are clearly detrimental to foreign car manufacturers and can create an unhealthy competitive environment.

The case of the Timor national car shows that, on the one hand, we have a domestic interest in fostering the growth of domestic industry (*infant industry*), which, of course, requires a lot of special treatment so that the industry can grow, develop, and survive in both the domestic and international markets.¹⁵ On the other hand, Indonesia must consequently perform its binding international obligations as a subject of international law and/or because of international agreements.

A summary of the development related to submission of complaints and efforts to resolve national car disputes is presented in Table 1.

¹⁴ Rusli Pandika, *Sanksi Dagang Unilateral: Di Bawah Sistem Hukum WTO*, (Bandung: Alumni, 2010).

¹⁵ Syubhan Akib, *Definisi Mobil Nasional Harus Dibuat*, <https://www.mobil123.com/berita/definisi-mobil-nasional-harus-dibuat/4149>, (February 11, 2015), accessed April 12, 2025.

TABLE 1. Submission Process and Efforts to Resolve the National Car Dispute (The complaint filed by Japan)

Date	Dispute Settlement Process
October 4, 1996	Japan requested consultations with Indonesia as contained in Article 4 of the <i>Understanding on Rules and Procedures Governing the Settlement of Disputes</i> ("DSU") regarding articles that Japan believes Indonesia violated, including XXII:1 of the <i>General Agreement on Trade-Related Investment Measures</i> (the " <i>TRIMs Agreement</i> ").
November 5, 1996	Japan and Indonesia held consultations requested by Japan on October 4, 1996.
November 29, 1996	Japan proposed <i>additional</i> consultations with Indonesia regarding the national car program with due regard to Articles 1 and 4 of the DSU, Article XXII:1 of the GATT 1994, and Articles 7 and 30 of the <i>Agreement on Subsidies and Countervailing Measures</i> (<i>SCM Agreement</i>).
December 3, 1996	Held in Geneva, Indonesia and Japan conducted the consultations requested by Japan on November 29, 1996, but no satisfactory outcome was achieved.
April 17, 1997	Japan requested the establishment of a panel based on Articles 4.7 and 6.1 of the DSU regarding violations of Article XXIII:2 of the GATT 1994; Article 8 of the <i>TRIMs Agreement</i> ; and Article 30 of the <i>SCM Agreement</i> . Japan requested that the panel examined the consistency of the implementation of the National Car Program organized by the Indonesian government in relation to the international trade law provisions contained in Articles I:1; III:2; X:1, and X:3(a) of the GATT 1994, Article 2 of the <i>TRIMs Agreement</i> , and Articles 3.1(b) and 28.2 of the <i>SCM Agreement</i> .

Source: Meliala, and edited by authors.¹⁶

Indonesia is currently classified as a developing country. The WTO does

¹⁶ A. J. Meliala, *Penyelesaian Sengketa dalam Perdagangan Internasional: Studi tentang Sengketa Indonesia Versus Amerika Serikat, Eropa, dan Jepang Mengenai Mobil Nasional*, (Depok: Bachelor Thesis—Faculty of Law, Universitas Indonesia, 2011).

not provide a clear definition of developed and developing countries. However, the definition of developing countries generally can be seen in Article XVIII paragraph 1 of the GATT which describes it as a country whose economy can only support a low standard of living and is in the early stages of development.¹⁷ The classification of countries is an important aspect when reviewing WTO provisions, as developing countries receive special treatment and specific rights under the provisions contained in the WTO. However, this does not guarantee that developing countries will always receive special rights and treatment.¹⁸

The principle of preference for developing countries requires flexibility with respect to certain legal rules for developing countries. This means that these countries should receive special treatment when interacting with developed countries. An example of this special treatment is the reduction of import duties on products from developing countries that enter the markets of developed countries.

According to John Jackson, the fundamental principle of granting concessions to developing countries is the application of justice to ensure balance in the implementation of business, commonly referred to as the principle of *solidarity*. This means that the concessions granted by the WTO are not permanent.¹⁹ If the conditions justifying these concessions are resolved, the special treatment will end or will be limited to a certain period. The period given to developing countries in such cases is often insufficient to help them overcome the issues they face. Developing countries, which are in a state of vulnerability, rarely succeed in fulfilling the condition imposed.

The concessions granted to developing countries are in the form of allowance for certain reasons. According to the WTO, concessions in fulfilling these obligations as protection or safeguards may be made if they aim to improve the balance of payments. This provision allows a country to take actions, including tariff and nontariff measures, to improve its balance of payments. This provision emphasizes that the measures taken must not exceed the measures to save the balance of payments. If a country implements such measures, it must also establish a program to return to its original state within a certain period.

The program indicates that the protection policy will be gradually

¹⁷ M. Herdegen, *Op. Cit.*, p. 217. See also Van den Bossche, P dan Werner Zdouc, *The Law and Policy of The World Trade Organization Third Edition*, (Cambridge: Cambridge University Press, 2013), p. 914.

¹⁸ Mahmud Siregar, *Op. Cit.*, p. 51-52.

¹⁹ Syahmin, A. K., *Pokok-Pokok Hukum Organisasi Internasional*, (Bandung: Penerbit Bina Cipta, 1986).

eliminated within a specified period until the situation returns to its original state, meaning that no restrictions will remain. Thus, the WTO acknowledges the existence of exceptions or deviations from the mandated principles. To allow developing countries to enhance their economies, the WTO permits deviations from its provisions, subject to certain conditions that must be met.

In practice, the implementation of WTO provisions, especially the S&D principle, faces obstacles and is ineffective. This can be observed from several indications: market access for developing countries to developed countries is always hindered; the trade interests of developing countries are not protected; transition periods are inadequate, there is no flexibility for developing countries in implementing WTO provisions; and technical assistance from developed countries is insufficient.²⁰

Principle of Protection Against Infant Industry

One of the reasons for a country to implement a protection in its international trade policy is to protect *infant industries*. The *infant industry* is a concept elaborated on the idea of temporary protection, which can take the form of tariff or nontariff barriers. The goal is to support the development of these industries so that, over time, they can gradually become competitive in the global market.

Although trade barriers can be implemented as part of the infant industry argument under the GATT, countries that apply protection for infant industries may be required to compensate countries affected by these measures. The declaration and request for the protection of *infant industry* was initially made by Hamilton (1791), Friedrich List (1841), and John Stuart Mill (1848), and over time, requests for such protection became more frequent. In the 19th century, *infant industries* in the United States and Germany were given special protection against competition from imported goods. Today, the protection of infant industries is commonly used by developing countries.

Although developing countries have demonstrated their competitiveness with developed countries in several trade sectors, *infant industries*, are not yet able to compete with established industries in developed countries. As part of the implementation of the principle of solidarity, developed countries have an

²⁰ Nandang Sutrisno, "Efektifitas Ketentuan-Ketentuan World Trade Organization tentang Perlakuan Khusus dan Berbeda Bagi Negara Berkembang: Implementasi dalam Praktek dan dalam Penyelesaian Sengketa," *Jurnal Hukum* 16, no. special edition (Oktober 2009): 9.

obligation to provide *differential treatment* to developing countries to enable them to improve their economic levels. The *special* principle of UNCTAD Article IV states that *developing countries have the right to protect their infant industries*.

According to Article XVIII, such measures can only be implemented if tariff measures are not sufficient to protect the *infant industry*. However, many observers argue that this approach has limited benefits for developing countries.

To enable developing countries to improve their economies, the GATT allows developing countries to deviate from certain provisions. These facilities are provided only to countries with low living standards and those in the early stages of development, as outlined in Article XVIII paragraph 1 of the GATT.

The term *can only support low standards of living* refers to countries whose normal economic position is at least comparable to that of countries experiencing depression, thus requiring special treatment for export goods. Meanwhile, the term *are in the early stages of development* refers not only to countries that are just starting economic development but also countries that are just in their industrialization process to reduce their dependence on primary commodities.

As previously discussed, the main principle underlying the GATT is the principle of non-discrimination, which is known in the WTO as *Most Favored Nation* (MFN). In short, MFN is the principle that international trade among WTO members should be conducted on a non-discriminatory basis. This means that concessions granted to one trading partner must also apply to all other countries. All countries are placed on equal footing. In addition to the general legal principles of the WTO, to achieve the WTO's goal of promoting the welfare of developing member countries, special provisions were agreed upon.

In general, the laws governing international trade determined in the WTO aim to improve the welfare of member countries, with special treatment for developing countries with consideration of justice because of the absence of balance between developed and developing countries. The exceptions given to developing countries, for example, can be seen in the special treatment of the applicability of WTO provisions containing the MFN principle. In certain cases, exceptions to this principle may be made. These cases relate to various types of preference systems that were in place during the negotiations, which may continue and remain in effect.

Malaysia is also a WTO member. Based on Article XVIII of the GATT, Indonesia, as a developing country, may request certain "facilities" from the WTO on the grounds of developing its domestic industry, which is still

classified as an infant industry.²¹ For temporary purposes, Indonesia may seek an exception to the implementation of the principle of non-discrimination, particularly the principle of MFN.

Indonesia, as a developing country, may request several exceptions within the WTO framework to support the development of its national car industry as an infant industry. Of course, Indonesia cannot unilaterally apply such exceptions, as in the case of the Timor National Car.²² In this case, Indonesia unilaterally granted tax and duties privileges to PT Timor Putra Nasional through Presidential Instruction No. 2 of 1996 and Presidential Decree No. 42 of 1996.²³ Indonesia can propose protection for the development of its national car industry as an *infant industry* by first notifying the *Contracting Parties* about the following matters:

First, Indonesia must be able to:²⁴

- a. provide an overview of the national car development plan, including the plan to collaborate with Proton Malaysia;
- b. explain that to develop the national car, several actions/facilities will be implemented, which may include both tariff and nontariff barriers within the framework of WTO cooperation; and
- c. provide arguments behind the "facilities" to be implemented for the development of the national industry. With the hope of supporting the development of the national car industry and gradually allowing it to compete in the global trade market.

Second, Indonesia must be able to provide a *schedule* for each facility to be implemented by the national car development plan, in accordance with the time limits specified in Article XVIII Paragraph 14;

Third, Indonesia must wait for the decision of the *Contracting Parties*, and the Contracting Parties will grant their approval after discussions among the

²¹ Anazawa, M. "The Automotive Industry in Malaysia", in Schröder, M., F. Iwasaki and H. Kobayashi (Eds.). *Promotion of Electromobility in ASEAN: States, Carmakes, and Internasional Production Networks*. ERIA Research Project Report FY 2021 No. 03, Jakarta: ERIA: 61-86.

²² detikFinance. *Mobnas Ala Mobil Timor Sempat Bermasalah dengan WTO, Bagaimana Proton?* <http://finance.detik.com/read/2015/02/09/185335/2828107/1036/mobnas-ala-mobil-timor-sempat-bermasalah-dengan-wto-bagaimana-proton>, (February 9, 2015). Accessed April 12, 2025.

²³ Podium, *Mobil Timor*, <http://www.podiuminteraktif.com/berita-1870-partai-nasrep-dan-mobil-timor.html>, (2013), accessed April 12, 2025.

²⁴ Nayazri, G. M., *Akhirnya Proton Bicara soal Kerja Sama dengan Esemka*, <https://otomotif.kompas.com/read/2017/02/20/074200415/akhirnya.proton.bicara.soal.kerja.sama.dengan.esemka>, (February 20, 2017), accessed April 12, 2025.

participants.

In developing a national car, Indonesia can take inspiration from Malaysia's approach to developing its national car, Proton, which advanced from the initial car design phase in 2000 and continued to develop the engine until 2002. Malaysia's policy on the development of the Proton car was aimed at increasing the participation of domestic car manufacturers.²⁵ In addition, the development of a national car also plays an important role for Indonesia. This trend is based on the increase in passenger car users, from 7,910,407 units in 2009 to 11,484,514 units in 2014, making Indonesia one of the largest car markets in the world. Most of these cars are produced by Japanese manufacturers, such as Toyota, Daihatsu, and Mitsubishi, with a total market share of about 66.1% of all cars in Indonesia.²⁶ Initially, the development of the national car began during the New Order government era, supported by the programs of Habibie, the Minister of Industry at that time, Soehoed in the 1978–1981 period, had three views related to the automotive industry: 1. Automotive industrialization encourages the use of diversified technological sources to avoid technological dependence from other countries; 2. Urge transnational companies to make subcontracting agreements for component supplies so that the benefits can be more evenly distributed to the automotive industry and its supporting industries; and 3. The automotive industry will be linked to other strategic industries, such as the steel industry of Krakatau Steel, which, in turn, will allow the automotive industry to become a driving force for structural changes in the Indonesia's economy. Thus, the automotive industry is a testing ground for conceptual industrialization strategies.²⁷

This is not without reason, but due to free trade, which is crucial for promoting the export of various foreign products to Indonesia, including in the automotive sector. There are currently three producing countries in the world—the United States, Japan, and Germany—all of which heavily rely on their automotive industries in economic development. As an illustration, according to the *World Economic Forum* report on "*Manufacturing for Growth* (2013), the relationship between car production growth and economic growth is highly correlated. This has implications for ongoing efforts to expand their markets in many countries, including Indonesia, through the establishment of factories

²⁵ Anazawa, M. *Op. Cit.*

²⁶ Business Motor International, *Indonesia Autos Report Q4 2011*, (London: Business Motor Internasional, 2011), retrieved from <https://www.jtrustbank.co.id/theme/Site/pdf/AnnualReport/AnnualReport2011.pdf>

²⁷ Ian Chalmers, Jobhaar, M., & Arini, T. E, *Konglomerasi: Negara dan Modal dalam Industri Otomotif Indonesia, 1950-1985*, (Jakarta: Gramedia Pustaka Utama, 1996).

(assembly), after-sales services, component supplies, and so on.²⁸

Thus, the essence of developing the national car industry to ensure that it no longer violates the WTO trade provisions lies in the process of communication and request to the WTO that Indonesia would temporarily apply some facilities, which may include tariff and nontariff barriers, as part of its effort to develop the national car industry, which is still in its early stages. The development of the national car industry as an *infant* industry is expected to enable it to gradually compete in both domestic and international markets.

Trajectory of the Indonesia's Electric National Industry: Lessons Learned from India and Thailand

Indonesia currently has Presidential Regulation No. 55 of 2019 on the Acceleration of the Battery Electric Vehicle Program for Road Transportation, which was amended by Presidential Regulation No. 79 of 2023 on Amendments to Presidential Regulation No. 55 of 2019 on the Acceleration of the Battery Electric Vehicle Program for Road Transportation.²⁹ These regulations state that Indonesia is currently developing battery-based electric motor vehicles. This initiative aims to support SDGs by contributing to the preservation of the planet through the reduction of fossil fuel and non-renewable energy use.³⁰

International environmental law, particularly since the 1992 Rio Conference and the 2015 Paris Agreement, has positioned climate change and carbon emission reduction as shared responsibilities among all nations. One of the core principles of this legal framework is common but differentiated responsibilities (CBDR), under which developed countries bear greater obligations, while developing countries are still encouraged to contribute according to their capacities.³¹ In this context, electric vehicles serve as a tangible

²⁸ G. S. Indraprahasta dan Anugerah Yuka Asmara, *Pengembangan Mobil Nasional (Bermerek Lokal) di Indonesia Mungkinkah?* (Jakarta: LIPI Press, 2015), p. 142.

²⁹ Hendra Ardodi dan Yannes Martinus Pasaribu, "Tantangan dan Kompetensi Kunci Desainer Produk Industri dalam Membangun Masa Depan Sepeda Motor Listrik Nasional di Era Teknologi 4.0," *Jurnal Desain Indonesia*, 31 Januari 2024, 16, <https://doi.org/10.52265/jdi.v6i1.363>.

³⁰ Marina Asti, Imama Supriyadi, dan Poernomo Yusgiantoro, "Analisa Penggunaan Sepeda Motor Listrik Bagi Transportasi Online Terhadap Ketahanan Energi (Studi Pada Gojek)," *Jurnal Ketahanan Energi* 6, no. 1 (2020): 20.

³¹ United Nations Environment Programme (UNEP), *Emissions Gap Report 2020*, (Nairobi: UNEP, 2020).

means of implementing this principle. By promoting the adoption of electric cars, countries aim to reduce emissions from the transportation sector, which is one of the largest global sources of carbon emissions.

Although international environmental law encourages the adoption of clean technologies by member states, including Indonesia, the reality on the ground reveals a disparity between developed and developing countries. Developing countries often face barriers in accessing technology, financing, and human resource capacity.³² In the case of electric vehicles, this is evident in the dominance of developed countries in battery and vehicle technology. This analysis underscores the need to strengthen mechanisms for technology transfer and global financing so that international law serves not only as a form of pressure but also as an opportunity for a fair and sustainable transition.³³

A concrete example of a developing country's practice in the electric vehicle industry that reflects compliance with international environmental law is India. As a signatory to the Paris Agreement, India has launched a national scheme called FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) since 2015, which is now in its second phase (FAME II).³⁴ This program provides subsidies for electric vehicles—two-wheelers, three-wheelers, and four-wheelers—and encourages local manufacturers to develop battery and electric vehicle technologies. India has also set a target to sell only electric vehicles for public transportation by 2030 as part of its commitment to reducing carbon emissions under the Nationally Determined Contributions (NDCs) framework.

³² Setiyono, B. "Analisis Harmonisasi Regulasi Kendaraan Listrik di Indonesia dalam Perspektif Hukum Lingkungan Internasional," *Jurnal Hukum Lingkungan* 18, no. 2 (2021): 142-158, <https://doi.org/10.14710/jhl.18.2.142-158>.

³³ ERIA Study team, "EV Policies in ASEAN Countries", in Naoko Doi, Alloysius Joko Puranto, Shigeru Suehiro, Toshiya Okamura, Kazuhisa Takemura, Masami Iwai, Akira Matsumoto, Kaita Katayama (eds), *Study on Policies and Infrastructure Development for the Wider Penetration of Electrified Vehicle in ASEAN Countries*. ERIA Research Project Report FY2022 No. 18, Jakarta: ERIA, pp. 1-43. See also Institute for Global Environmental Strategies (IGES), *EV Policy Comparison in ASEAN: Progress, Gaps, and Challenges*. (2021), <https://www.iges.or.jp/en/pub/ev-policy-asean/en>, accessed April 12, 2025.

³⁴ Government of India—Ministry of Heavy Industries, *FAME India Scheme Phase II*, <https://heavyindustries.gov.in/fame-ii>, (t.t.), accessed April 12, 2025. see also United Nations Climate Change (UNCC), *Nationally Determined Contributions (NDCs)*, <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>, (t.t.), accessed April 12, 2025.

Another example comes from Thailand, which has established a major plan called the “EV Roadmap 2035,” supported by strong government backing and fiscal incentives for electric vehicle investors. Thailand aims for 30% of total vehicle production by 2030 to consist of electric vehicles, in line with national emission reduction targets.³⁵ To demonstrate its commitment to global climate agreements, Thailand also promotes ASEAN regional cooperation on eco-friendly vehicle standards and expands the development of charging stations nationwide. These practices illustrate how developing countries strive to progressively implement international environmental law, despite significant challenges in capacity and funding.

Despite these progressive programs, both countries still face domestic challenges in the development of electric vehicles, *see* Table 2.

TABLE 2. Comparison of Regulations and Implementation of National Electric Vehicles in India and Thailand

Issue	Country	
	India	Thailand
Challenge	<p>a) Regulatory ambiguity regarding battery usage and recycling.³⁶</p> <p>b) Absence of binding national legislation: EV policies remain programmatic (such as FAME) rather than enforceable laws that comprehensively govern the entire sector.³⁷</p> <p>India involves multiple ministries in EV policy, including the Ministry of Road Transport, the Ministry of</p>	<p>a) Absence of a long-term legal framework: Electric vehicle regulations in Thailand are largely in the form of fiscal incentive policies through the Board of Investment (BOI), rather than comprehensive legislation.³⁹</p> <p>b) Dependence on foreign investors: Due to the lack of</p>

³⁵ Vincent Birot, *BOI Incentives For Battery Electronic Vehicles*, <https://lexnovapartners.com/boi-incentives-for-battery-electric-vehicles/>, (24 Mei 2024), accessed April 12, 2025.

³⁶ Ministry of Environment, Forest, and Climate Change (MoEFCC)—Government of India, *Battery Waste Management Rules*, (New Delhi: MoFECC, 2022). This regulation is still at the ministerial level, and India has yet to adopt a higher-level legal framework beyond this regulation—such as statutory legislation. However, in response to technological developments and advancements in India’s national battery-based technology, the regulation has been amended five times, with the most recent amendment enacted on February 25, 2025.

³⁷ *Ibid.*

³⁹ Government Public Relations Department—Office of the Prime Minister of Thailand, *Thailand EV Policy Roadmap 2035*, www.thaigov.go.th/news/contents/details/43230, accessed April 12, 2025.

Issue	Country	
	India	Thailand
	New and Renewable Energy, and the Ministry of Heavy Industries. However, inter-agency coordination is often unsynchronized, resulting in inconsistent incentive policies and technical standards. ³⁸	strong legal protections for domestic manufacturers, Thailand's EV industry is primarily driven by foreign investors (e.g., from China and Japan), resulting in local regulations being relatively passive toward domestic innovation. ⁴⁰ Lack of specific regulations governing the development, maintenance, and safety standards of charging stations, which hinders network expansion.
Solution	a) The Indian government launched the Battery Waste Management Rules (2022), which regulate the recycling of lithium batteries. ⁴¹ The establishment of the National Mission on Transformative Mobility and Battery Storage aims to coordinate cross-ministerial policy efforts. ⁴²	a) The government introduced the EV Policy Roadmap 2035, a more holistic plan that includes a national strategy for developing the EV ecosystem. ⁴³ Thailand is drafting an electric vehicle development law to provide greater legal certainty. ⁴⁴
Policy Approach	a) Binding Regulation at the National Level: Although India does not yet have a specific law on electric vehicles, schemes such as FAME (Faster Adoption and Manufacturing of Electric	a) Thailand does not yet have a specific law on electric vehicles, but it has the EV Roadmap 2035, a long-term government policy. This policy includes a national

³⁸ *Ibid.*

⁴⁰ United Nations Development Programme (UNDP) Thailand, *Thailand launches National Electric Vehicle Policy Committee*, <https://www.undp.org/thailand/news/thailand-launches-national-electric-vehicle-policy-committee>, accessed April 12, 2025.

⁴¹ Ministry of Environment, Forest, and Climate Change (MoEFCC)—Government of India, *Op. Cit.*

⁴² Ministry of Environment, Forest, and Climate Change (MoEFCC)—Government of India, *Op. Cit.*

⁴³ Government Public Relations Department—Office of the Prime Minister of Thailand, *Op. Cit.*

⁴⁴ Government Public Relations Department—Office of the Prime Minister of Thailand, *Op. Cit.*

Issue	Country	
	India	Thailand
	<p>Vehicles) are implemented through ministries with legal authority derived from the national budget policy and cabinet decisions.⁴⁵</p> <p>India implements its policy in a structured manner through national missions: the National Electric Mobility Mission Plan (NEMMP) and the National Mission on Transformative Mobility serve as the foundation for cross-sectoral policies, with active roles played by both the central and state governments.⁴⁶</p>	<p>target that 30% of total vehicle production must be electric vehicles by 2030.⁴⁷</p> <p>The Thai government is drafting an EV Act to regulate the development, production, distribution, and infrastructure of electric vehicles under national law.⁴⁸</p>

Learning from India and Thailand, both of which are moving toward binding national legal systems aligned with international environmental law, challenges remain in harmonizing regulations and institutional coordination. Their efforts reflect the strengthening of the principles of sustainable development, intergenerational equity, and access to clean technology, which are key values in global environmental law.

The WTO views Indonesia's development of a national electric vehicle (EV) industry as an issue that must comply with the fundamental principles of international trade: openness, fairness, and non-discrimination. As a WTO member since 1995, Indonesia is bound by the principles of the General Agreement on Tariffs and Trade (GATT), particularly those on Most Favoured Nation (MFN) and National Treatment. In this context, Indonesia's EV development policies—such as incentives for domestic producers, the requirement for a certain level of local component, or restrictions on the import

⁴⁵ Department of Heavy Industry—Ministry of Heavy Industries and Public Enterprise—Government of India, *National Electric Mobility Mission Plan 2020*, (New Delhi: Department of Heavy Industry—Ministry of Heavy Industries and Public Enterprise, 2012).

⁴⁶ *Ibid.*

⁴⁷ Electric Vehicle Association of Thailand (EVAT), *Thailand EV Roadmap 2035*, <https://www.evat.or.th>, accessed April 12, 2025.

⁴⁸ Thai Government PR Department, *Draft Law on EV Development*, <https://www.thaigov.go.th/news/contents/details/57733>, (2022), accessed April 12, 2025.

of specific components—may attract WTO scrutiny if deemed to disproportionately restrict market access for foreign products and technologies.

One globally highlighted issue is Indonesia's policy requiring a minimum level of local content to qualify for EV incentives. Although this measure aims to promote local industry development, the WTO may regard it as a form of local content requirement inconsistent with Article III of GATT (National Treatment) and the Agreement on Trade-Related Investment Measures (TRIMs). In several international cases, similar provisions have been challenged at the WTO for allegedly disadvantaging foreign investors or unfairly restricting market competition.

However, the WTO also allows for flexibility through Article XX of the GATT, which permits member states to implement certain policies aimed at environmental protection. Accordingly, as long as Indonesia can demonstrate that its electric vehicle (EV) policy is intended to reduce emissions and protect the environment in a proportional manner, and not for protectionist purposes, such a policy can be justified within the WTO legal framework. Thus, the development of a national EV industry must be carefully designed to remain aligned with Indonesia's global commitments to international trade and environmental protection.

The application of local content requirements in the development of the national EV industry should not be seen as a form of protectionism, but rather as part of a sustainability strategy and the strengthening of an environmentally friendly industrial ecosystem. By promoting the use of local components, Indonesia not only creates economic value added but also reduces the carbon footprint associated with global production and logistics processes. Local components, such as batteries produced from domestic nickel sources, can significantly reduce transport emissions and the carbon footprint of energy-intensive imports. In this way, local content requirement reinforces the principle of green industrialization, consistent with Indonesia's commitments under the Paris Agreement.⁴⁹

Moreover, the local content requirement policy supports the development of a decentralized and resilient green supply chain. In a global context marked by geopolitical tensions and dependence on certain supply chains (e.g., battery

⁴⁹ Kementerian Perindustrian, *Siap Masuki Era Kendaraan Listrik, Indonesia Fokus Bangun Ekosistem*, <https://kemenperin.go.id/artikel/22865/Siap-Masuki-Era-Kendaraan-Listrik,-Indonesia-Fokus-Bangun-Ekosistem>, (16 Oktober 2021), accessed April 12, 2025. See also the Regulation of the Minister of Industry No. 6 of 2022 on Specifications, Development Roadmap, and Provisions for Calculating the Domestic Component Level Value of Battery Electric Vehicles (BEVs).

imports from a dominant country), strengthening domestic production becomes a strategic move to ensure the sustainability of environmentally friendly vehicle supply. The local content requirement is not intended to exclude foreign components but to ensure that the clean energy transition in the transportation sector can proceed with economic justice and technological independence. Therefore, the local content requirement policy should be viewed as a mechanism for mainstreaming environmental principles, rather than merely as a tool for protection.

Local content requirements (LCR), such as local content requirement in Indonesia, may be justified within the framework of environmental sustainability through exceptions under Article XX of the GATT, as demonstrated in the case of *China – Raw Materials* (2012).

In the case *China – Measures Relating to the Exportation of Various Raw Materials*, the WTO Appellate Body held that Article XX of the GATT may be invoked to justify national policies that appear to violate other WTO rules, provided that such policies are aimed at protecting the environment and meet the criteria of non-discrimination and not constituting a disguised restriction on international trade.⁵⁰ The WTO acknowledges that “members can, under Article XX of the GATT, adopt trade-related measures to protect the environment, provided they are not applied in a manner that constitutes arbitrary or unjustifiable discrimination.”

Referring to the *China – Raw Materials* case, as well as academic analyses and WTO principles, it can be concluded that local content requirements such as local content requirement in Indonesia can be legally justified under international law, provided they are designed to support environmental objectives and implemented in a proportional and non-discriminatory manner. This opens the possibility for Indonesia to legitimately maintain local content requirement in the EV industry as part of its national decarbonization strategy.⁵¹

Conclusion

Under the provisions of Article XVIII of the GATT, Indonesia can request several "facilities" from the WTO on the grounds of infant industry development. Therefore, Indonesia must first submit a proposal to the

⁵⁰ Danielle Spiegel Feld dan Stephanie Switzer, “The Yale Journal of International Law Online,” *Yale Journal of International Law Online* 38 (5 Agustus 2012).

⁵¹ World Trade Organization (WTO), *Trade and Environment*, https://www.wto.org/english/tratop_e/envir_e/envir_e.htm, (t.t.), accessed April 12, 2025.

Contracting Parties regarding the development plan for the Esemka national car to obtain protection for the infant industry. The weakness in the Indonesia's industrial development so far has been the lack of comprehensive preparation for the development process. This includes anticipatory actions when Indonesia is bound by international agreements, such as in the WTO forum. Indonesian government must initiate a communication process and submit a request to the WTO, stating that Indonesia will temporarily apply several facilities that may be classified as tariff and nontariff barriers, as part of the effort to develop the national car industry, which is still in its early stages.

The development of a national car has recently shifted toward an environmentally friendly approach, focusing on the advancement of electric vehicles. This aligns with global trends. Indonesia's policy for developing a national electric vehicle industry, as outlined in Presidential Regulation No. 55 of 2019 in conjunction with Presidential Regulation No. 79 of 2023, represents a concrete effort to support sustainable development goals and fulfill commitments under international environmental law, such as the Paris Agreement. Although policies like the Local Content Requirement have drawn attention in the context of global trade, such measures can be justified under international law if they are designed for environmental protection, implemented proportionally, and applied in a non-discriminatory manner. Support for this principle is reflected in WTO jurisprudence, such as the *China – Raw Materials* (2012) case, as well as in the WTO's explicit recognition that Article XX of the GATT provides space for countries to adopt environmentally friendly policies. Therefore, the local content requirement policy is not merely a form of protectionism but an integral part of Indonesia's national decarbonization strategy and the transition toward a fair and sovereign green economy.

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