



## Integrating the Competition Law and Renewable Energy Policy: Challenges and Strategies Towards Sustainability

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Article Information	Abstract
<p>Received for publication April 29, 2025 Accepted after corrections April 30, 2026</p> <p>Keywords: Business Competition; Green Energy; Sustainability</p> <p>DOI: 10.20961/yustisia.v15i1.101630</p>	<p>The Indonesia's switch to renewable energy is crucial to combating climate change, meeting international decarbonisation goals, and ensuring energy security. However, institutional and regulatory barriers, especially under competition law, hinder renewable energy development. This paper examines whether Indonesia's competition law framework supports renewable energy development and proposes legal reform to balance market regulation and sustainability. The study analyses competition regulation and energy and regulatory development in the EU and China utilising normative legal research methods: statutory, conceptual, and comparison. The results show that Law Number 5 of 1999 still prioritises economic efficiency and market structure over sustainability. Renewable energy investment and innovation are hindered by market entry barriers, restricted infrastructural access, highly concentrated market structures, and state-owned energy businesses. A comparative analysis demonstrates that competition legislation can help energy transition when environmental and sustainability benefits are included. Therefore, this study recommends revising Article 51 of Law Number 5 of 1999, integrating sustainability criteria into competition analysis, providing fair access to energy infrastructure, and harmonising competition, energy, and environmental laws to create a more competitive, innovative, and sustainable renewable energy ecosystem in Indonesia.</p>

### I. Introduction

Climate change is an increasingly critical worldwide concern that affects environmental, economic and social systems. (Jha and Dev 2024). The Earth's surface has experienced a dramatic increase in the global average temperature. In 2023, the average temperature was 1.45 degrees Celsius above the pre-industrial revolution

period (Ibraheem et al. 2023). This phenomena has resulted in the frequent natural disasters like floods and droughts, and has posed grave concerns to the global food security and public health across the world (Adnan et al. 2024). At the regional level, especially in Southeast Asian countries, the impact of climate change is evident in the increasing intensity and frequency of extreme weather, which impacts the agricultural sector and other natural resources (Tang 2019). In Indonesia, climate change has significantly impacted the economy. Over the past three decades, an average temperature rise of 0.9°C has disrupted agricultural productivity and increased food costs (Singh, Sah, and Singh 2023).

The energy transition to renewable energy utilisation has become one of Indonesia's key priorities in reaching targets for reducing greenhouse gas emissions and fulfilling global climate change commitments (Sultan et al. 2024). The success of the energy transition, however, does not depend only on environmental and energy policies, but also on the ability of the legal framework to build a market that is competitive, inventive and able to attract investment. In this regard, business competition law plays an essential role, because it defines how far new business players can enter the renewable energy industry and compete fairly with business players who already have a dominating position (Sobok 2020).

Although Indonesia already has Law Number 5 of 1999 concerning the Prohibition of Monopoly Practices and Unfair Business Competition (hereinafter abbreviated to Law Number 5 of 1999), the energy sector is still dominated by state-owned enterprises that control strategic infrastructure, energy distribution, and market access (“Business Agreements That Cause Unfair Business Competition” 2020). This dominance gains legal legitimacy through the exemption provided by Article 51 of Law Number 5 of 1999 for the branch of production that is important to the state and controls the livelihood of the people. On the one hand, energy security and public services require state control. On the other side, such conditions might create obstacles to entry for business actors in renewable energy and diminish incentives for innovation and investment in the green energy sector (Qiu, Seah, and Martinus 2024).

Some previous studies have examined the relationship between green energy policies and corporate competition legislation. Kinseng et al. Indonesian competition law system, and point out the lack of clear environmental elements in the competition law system (Kinseng et al. 2023). Sumarsono emphasized the importance of government policies in encouraging the development of renewable energy through regulatory instruments that support market competition (Sumarsono 2023). Meanwhile, Mealy and Teytelboym point out that competition law has an important role to play in supporting the transition to a green economy through more competitive and innovative market arrangements (Mealy and Teytelboym 2022).

However, these studies still have drawbacks. Most of the studies talk on the topic of energy policy or sustainability in general, without an in-depth study of the impact of the structure of Indonesia's business competition laws on the development of the renewable energy sector (Bajoria, Kanpariya, and Bera 2024). In addition, existing

studies tend to discuss business competition law and green energy policy as two separate fields, so they have not comprehensively explained how the dominance of business actors who obtain regulatory protection can affect the effectiveness of the energy transition (Kanat et al. 2022). Thus, there is still a research gap regarding the suitability of Indonesia's business competition legal framework in supporting renewable energy development and sustainability goals (Kanat et al. 2022)

Based on these problems, this study poses research questions: to what extent does Indonesia's legal framework for business competition support or impede the development of the renewable energy sector, and what legal reforms are required to align business competition policies with the goals of sustainability and energy transition?

Indonesia's current business competition legal framework is not fully able to support the acceleration of the renewable energy transition. Legal exemptions granted to the state-controlled energy sector (Elkhatat and Al-Muhtaseb 2024), combined with various structural barriers to the entry of new business actors (Abrianti et al. 2024), have limited the level of competition, innovation, and investment in the renewable energy sector (Anggraini et al. 2024). Therefore, it is necessary to reform the business competition law to be more adaptive to the sustainability agenda while maintaining the public interest and national energy security.

To illustrate the claim, this article examines the conceptual link between business competition law and renewable energy development. Furthermore, this article analyses the major barriers in Indonesia's regulatory framework for commercial competitiveness that impede the development of renewable energy. Following that, the study conducted a comparative analysis of regulatory processes in the European Union and China to draw important lessons for Indonesia. Finally, this essay provides proposals for legal and policy reforms to create a competitive legal environment that better supports sustainability and accelerates the energy transition (Anggraini et al. 2025).

This study is a legal research to analyse the extent to which the legal environment of corporate competitiveness in Indonesia supports or inhibits the growth of renewable energy. The choice of legal research is justified by the fact that the study is focused on the examination of norms, principles and policies in law regulating the interaction between the law of business competitiveness and the development of renewable energy. This research uses three basic methodologies, which are the legislative approach, the conceptual approach and the comparative approach (Keumala et al. 2025). The statutory approach is used to review various regulations related to business competition and the energy sector, especially Law Number 5 of 1999 concerning the Prohibition of Monopoly Practices and Unfair Business Competition, Law Number 30 of 2007 concerning Energy, as well as various regulations related to renewable energy and electricity. Meanwhile, a conceptual approach is used to analyze legal concepts related to dominant positions, barriers to entry, sustainability, and green energy transition as a basis for building a research analysis framework.

In addition, this study uses a comparative approach by comparing Indonesia's regulatory framework with the European Union and China, which was chosen for its success in integrating business competition policies with the energy transition through different regulatory models. The legal materials used consist of primary, secondary, and tertiary legal materials. Primary legal materials include laws and regulations, government policies, and official documents related to business competition law and renewable energy, while secondary legal materials consist of books, scientific journal articles, policy reports, and previous research. The tertiary legal materials are in the form of legal dictionaries, encyclopedias, and other explanatory documents (Setiyono et al. 2024). All legal materials are analysed using the doctrinal legal analysis, legal interpretation, and comparative legal reasoning to see the consistency of legal norms, to assess the appropriateness of the applicable laws, and to find the best practices to be applied in Indonesia. Furthermore, this study employs a sustainability-based legal assessment to analyse the extent to which the business competition legal framework can foster innovation, investment, and market access needed to assist the acceleration of the renewable energy transition (Abrianti et al. 2024).

## II. Discussion

### A. The Linkage of Green Energy and the Sustainable Competition Law Framework

Indonesia now relies heavily on fossil fuels, particularly coal, accounting for around 25% of total greenhouse gas emissions. While Indonesia has considerable potential in renewable energy sources, such as hydro, geothermal, and solar, renewable energy's contribution to the energy mix remains low, with around 10-11% in 2022 (Manurung, Prakoso, and Roziqin 2024). In addition, other contributions, such as deforestation and land use for agriculture, particularly for oil palm plantations, also contribute significantly to emissions, with more than half of the emissions coming from the land-use sector (Küfeoğlu 2024). To achieve the greenhouse gas emission (GHG) reduction target, Indonesia has established commitments to reduce emissions by 29% independently and up to 41% with international support by 2030 (Mukti and Koestoer 2023).

Globally, many countries have taken proactive steps to reduce their dependence on fossil fuels (Peszko et al. 2020). The 2015 Paris Agreement is an important milestone, prompting countries around the world to set ambitious targets to reduce emissions and switch to renewable energy sources (Acen et al. 2024). Developed countries, such as the countries in the European Union (EU) and the United States (U.S), have implemented policies supporting innovation in renewable energy technologies, as well as providing incentives for investment in the sector (Delina and Tung 2024). Indonesia cannot be left behind. As one of the countries with significant GHG emissions, Indonesia's responsibility to contribute to this global effort is even more urgent.

The Indonesian government has also launched various initiatives to increase the use of renewable energy, including a forestry social program that gives communities

legal access to manage forests. In addition, Indonesia signed the Just Energy Transition Partnership (JETP) with G7 countries and international institutions to facilitate the transition from fossil fuels to renewable energy with an investment of USD 20 billion in the next five years (Pambudi et al. 2023), and despite progress in policies and commitments to green energy, Indonesia faces major challenges in reducing its reliance on fossil fuels. Factors such as technological and infrastructure limitations are the main obstacles to this transition. Therefore, the government needs to create regulations that support investment in the renewable energy sector.

Aligns with the theory of environmental law, which emphasizes the importance of environmental protection in the law's development. Laws must be designed to protect natural resources and encourage sustainable practices. Meanwhile, on the other hand, it must align with social justice for all Indonesian people, as mandated by Pancasila at point five (5). In social justice theory, we are reminded that the green energy transition must be beneficial for all communities, particularly for vulnerable groups (Delina and Tung 2024). Energy policies must consider the social and economic impacts of this transition. On the other hand, the green economy theory emphasizes the importance of creating a sustainable and environmentally friendly economy.

With abundant renewable resource potential and strong commitment from the government, Indonesia is on track to achieve its green energy goals and significantly reduce GHG emissions (Leontinus 2022). This must be supported by regulations that support the proper implementation. So far, existing regulations have only emphasized environmental law, energy law, and criminal law. It is also important to consider competition laws in supporting the regulation and sustainability of energy projects. This is because it is closely related to business competition in the energy sector. This may also be contributed to by how business actors can result in unfair business competition in the energy sector, for example, monopoly practices, barriers to entry, bundling, and mergers which can also damage the competitive climate so that it has an impact on environmental sustainability.

#### 1. Monopoly Practice

According to Article 1, Paragraph 2 of Law Number 5 of 1999, monopoly practice is the concentration of economic power by one or more business actors over the production and/or marketing of specific goods and/or services, resulting in unfair business competition and potentially harming the public interest. Meanwhile, Article 17, Paragraph 1 specifies that business actors are prohibited from regulating the production and/or promotion of goods and/or services that may result in monopolistic methods and/or unfair business competition (Sabirin and Tri Anggraini 2024).

In Article 17, Paragraph 2, a business actor is considered to have control if: 1) the goods and/or services have not been substituted. As a result, other business actors cannot enter the competition. 2) One business

actor or group of business actors controls more than 50% of the market share for a certain type of goods or services (Sabirin and Herfian 2021a). It is crucial to encourage fair competition among energy providers, as this aligns with the theory of justice, emphasizing the need for equality of access and opportunity for all business actors (Sabirin and Herfian 2021b). Existing regulations must reduce monopolies in the energy sector, thus protecting consumer rights and creating an environment in which renewable energy companies can compete effectively and sustainably. In this context, Law No. 5 of 1999 plays an important role in preventing market domination by large companies that hinder innovation and sustainability (Du, Cheng, and Yao 2021).

Business competition itself is a market dynamic that is expected to be able to encourage efficiency, innovation, and consumer protection. However, in the energy sector, the reality of business competition is still hampered by various structural obstacles and government policies that give privileges to one particular party (Wolniak et al. 2024). In Indonesia, the energy sector is synonymous with monopoly practices that are justified and develop naturally. Natural monopolies occur due to high investment and infrastructure costs, such as power plants and gas pipelines. This infrastructure requires a large economic scale that can only be built by one entity, usually State-Owned Enterprises (SOEs) such as Indonesia's State-Owned Oil and Gas Company (Anggraini et al. 2025).

This is supported by the provisions of Article 33 of the Republic of Indonesia's 1945 Constitution, which emphasises that the state controls the production branch that is important to the state and controls the people's livelihood, as well as Law Number 30 of 2009 concerning Electricity and Law Number 22 of 2001 concerning Oil and Gas, which mandates the state to manage these strategic sectors through state-owned enterprises. The support for regulation is increasingly obvious in Law Number 5 of 1999 about the Prohibition of Monopoly Practices and Unfair Business Competition, particularly in Article 51, which excludes monopoly practices by the state in essential sectors of the public interest (Jayusman and Setianingrum 2023).

In addition to natural and legal monopolies, the phenomenon of cartel monopoly also often appears in the energy sector. Cartels occur when several large companies, albeit in more than one industry, informally or covertly agree on price control, distribution volume, or market segmentation, so that healthy competition is not realized or even shut down. Related regulations have been affirmed in Article 11 and Article 27 of Law Number 5 of 1999, which prohibit price-fixing agreements and/or market area sharing between business actors. However, supervision of cartel practices requires the active role of supervisory institutions such as

the Indonesian Competition Commission (ICC), because cartels tend to be difficult to formally identify. In practice, the dominant position of SOEs and regulatory protection often causes business competition in the energy sector to not run optimally, so the potential for monopolies and cartels remains the main challenge that must be overcome in order to encourage efficiency and justice in the national energy industry (Elkhatat and Al-Muhtaseb 2024).

Law Number 5 of 1999 is the main legal basis for supervising monopoly behavior, including in the energy sector (Hakim 2017). However, an exception can be granted as per Article 51 of Law No.5 of 1999, where monopolies by the state are still possible in the public interest, especially in the vital sector. On the other hand, the ICC plays a role as a supervisor of the implementation of this regulation.

PT PLN (*Persero*), the Indonesian state-owned electricity company (hereinafter referred to as "PLN") has a dominant role in managing electricity transmission and distribution nationally. As the only entity responsible for the main electricity grid, PLN's monopoly poses a number of fundamental problems. One of the most striking issues is electricity tariff discrimination. The capping or price cap policy practiced by PLN causes price disparities between customer groups, both small industries, households, and large industrial customers (Wiganarto, Asenar, and Gultom 2021).

This policy is often considered unfair because certain industries or regions can get larger subsidies, while other consumers bear the burden of higher tariffs. This tariff injustice has an effect on the competitiveness of small industries and entrepreneurship, which is highly dependent on electricity operational costs. In addition to tariff problems, PLN's monopoly also causes limited access for private companies in the provision of electricity services. The government does open opportunities for the private sector through the Independent Power Producer (IPP) scheme, but strict regulations and bureaucracy remain a huge barrier to entry. As a result, healthy competition in the electricity sector is difficult to realize, and consumers have no alternative service providers (Küsters 2023).

This situation is different from other sectors that are more competitive and allow for more efficient pricing through market mechanisms. The next problem that arises due to PLN's monopoly is the issue of efficiency. As a sole company, PLN often faces internal challenges such as waste of resources, bureaucratic inefficiency, and the inability to respond to technological developments agilely. The lack of competitive pressure has led to innovation, and efforts to reduce the cost of electricity production or distribution are slow. Finally, service quality tends to be

stagnant, and consumers, both households and industries, must bear the risk of PLN's performance not optimizing (Rehiara et al. 2023).

The dominance of PLN and PT Pertamina (*Persero*), Indonesia's state-owned oil and gas company (hereinafter referred to "Pertamina") does not necessarily contradict the law of business competition because it gains legitimacy through Article 51 of Law Number 5 of 1999 and Article 33 of the 1945 Constitution. However, legal issues arise when such exceptions result in structural barriers that reduce renewable energy producers' access to distribution networks, markets, and essential infrastructure (Anggraini 2014). From the perspective of sustainable competition law, the legal objectives of business competition are no longer limited to economic efficiency alone, but also include the creation of market conditions that support innovation and environmental sustainability. Therefore, legally permissible dominance must still be evaluated if it produces an exclusive impact that hinders the transition to low-carbon energy. This case shows the tension between the model of state control over strategic sectors and the need to create a more competitive energy market. If access to the electricity transmission and distribution network remains concentrated in one business actor, then renewable energy players will face higher transaction costs and investment uncertainty. This condition ultimately reduces Indonesia's ability to achieve renewable energy mix targets and sustainable development goals.

## 2. **Barrier to entry**

In the energy sector in Indonesia, both state-owned and private companies face significant barriers to entry, which also affect the level of business competition in this industry. Barriers to entry refer to a variety of factors that prevent new companies from entering certain markets, including strict government regulations, very high initial investment costs, and intellectual property rights (IPR) exclusivity. In the context of business competition in Indonesia, business actors are prohibited from practicing practices that create unreasonable barriers to entry because they are considered as acts of market domination as stipulated in Article 19 of Law Number 5 of 1999.

These barriers often reinforce monopolistic and oligopolistic practices and ultimately lower the level of healthy competition in the energy sector. In addition to regulation, the large initial investment costs are a serious barrier for small companies and newcomers in the energy sector, particularly renewable energy. Green technology requires advanced infrastructure and in-depth research, so it requires large funds estimated at USD 100 billion to achieve the renewable energy utilization target in Indonesia. With an annual investment need of around USD 20 billion in the electricity sector alone, the opportunities for start-ups that don't have

large capital to compete are very limited (Keumala et al. 2025). The minimal availability of capital faced with high risks makes this sector less attractive to small investors when compared to other sectors that promise quick profits.

From the perspective of green antitrust theory, barriers to entry are not only seen as a problem of business competition (Zhou 2024), but also as an obstacle to environmental innovation (Ma et al. 2024). High investment costs, limited access to technology, and control over energy infrastructure make it difficult for new business actors to introduce cleaner and more efficient technologies (Basiri et al. 2025). Thus, the anti-competitive impact of barriers to entry not only harms consumers through reduced market choice, but also delays the achievement of environmental and decarbonization goals (Herman et al. 2023).

This condition shows that the analysis of business competition in the energy sector can no longer be carried out solely based on price size and market share (Spulber 2023). Instead, regulators need to consider the long-term impacts on green innovation, emission reduction, and energy sustainability (Kumar et al. 2023), as part of the assessment of business competition (Jarvis, Legendre, and Lee 2024).

### 3. Bundling or Tying

Bundling, or product bundling, is the practice in which a company offers multiple products or services as a single package (Bhargava 2021). In the context of business competition, particularly in the energy sector, it causes problems related to healthy competition. Article 15, paragraph (2) of Law Number 5 of 1999. The practice of bundling becomes problematic when large companies utilize this strategy to dominate the market. If an energy company offers a service package combining the supply of electricity with maintenance and repair services at a lower price, this can discourage small businesses from competing. If bundling is utilized to reduce prices and block other business actors' access to the market, then this can be considered a violation of these provisions (Carlton 2007).

Article 19 of the similar Law Number 5 of 1999 also emphasizes the prohibition of market control that can harm other business actors. If bundling causes a single company to control more than 50% of the market share in the energy sector, then the company can be considered as practicing monopoly and/or market domination. This can potentially reduce choice for consumers and increase long-term prices, as the lack of competition will affect innovation and service quality (Keiningham et al. 2020).

In the energy sector, where infrastructure and initial investment are often very high, bundling can be a tool for large companies to maintain

domination. This has the potential to create barriers to entry for new businesses that may not be able to compete with the service packages offered by large companies. In this context, Article 25 of Law Number 5 of 1999 prohibits the abuse of a dominant position to establish trade terms that can hinder consumers or limit the market. Although bundling provides benefits in the form of efficiency and convenience for consumers, this practice must be closely monitored in terms of business competition law (Chawla and Kumar 2022). Existing regulations aim to ensure that no business actors abuse their market power through bundling strategies that harm competitors and consumers.

From the perspective of green antitrust theory, barriers to entry are not only seen as a problem of business competition, but also as an obstacle to environmental innovation. High investment costs, limited access to technology, and control over energy infrastructure make it difficult for new business actors to introduce cleaner and more efficient technology (B. Ma and Li 2025). Thus, the anti-competitive impact of barriers to entry not only harms consumers through reduced market choice but also delays the achievement of environmental and decarbonization goals. This condition shows that the analysis of business competition in the energy sector can no longer be done solely based on price, size and market share. Instead, regulators need to consider the long-term impact on green innovation, emissions reduction, and energy sustainability as part of their business competition assessments.

#### **4. Corporate Action (Merger)**

Corporate actions, especially mergers, in Indonesia's energy sector have shown significant development in recent years. Traditional energy companies are increasingly trying to integrate with companies engaged in the field of green energy (Rosário, Raimundo, and Cruz 2022). This move aims to improve efficiency and competitiveness, as well as meet market demands that are increasingly leading to greener energy sources. Merger trend in the energy sector. One of the obvious examples of this trend is the acquisition plan by PT Energi Mega Persada Tbk (ENRG), which is part of the Bakrie Group. ENRG has announced plans to conduct acquisitions and mergers in 2024 with a capital expenditure allocation of IDR 2.32 trillion (Business 2023).

The plan includes the acquisition of oil and gas block assets and serves as a part of the company's strategy to strengthen its position in the national energy market. Throughout 2023, ENRG has actively made acquisitions, including the acquisition of 100% of PT Sulawesi Regas Satu shares and several assets from PT Pertamina Hulu Energi (Sidik 2023). On the other hand, Pertamina Hulu Energi also plans to merge two of its subsidiaries: PT Elnusa Tbk. (ELSA) and PT Pertamina Drilling Services

Indonesia (PDSI) (Nyoman Ary Wahyudi 2024). The merger plan aims to create better operational synergies and optimize costs. With this step, Pertamina expects to improve operational performance and efficiency while avoiding harmful competition between subsidiaries.

However, any merger in the energy sector must comply with the business competition law stipulated by Law Number 5 of 1999 in Indonesia. According to Article 28 of the Law, business actors who conduct mergers must report the plan to the ICC to assess its impact on market structure and competition. The ICC has the authority to reject mergers if they are considered to cause excessive market dominance or harm consumers. In addition, the principle of balance of interests in business competition law protects the interests of business actors as well as the public interest. Therefore, mergers must not hinder the entry of new business actors into the market (Niemczyk et al. 2022).

Along with increasing awareness of environmental sustainability, traditional energy companies are beginning to consider integrating with green energy companies. This aims to diversify energy sources and reduce dependence on fossil energy sources. By shifting to renewable energy, companies not only meet the demands of consumers who are increasingly aware of environmental issues but also improve their competitiveness in the global market. This integration further aligns with the Indonesian government's policy to encourage the use of renewable energy as part of efforts to achieve carbon emission reduction targets. Through these policies, the government expects to create a more sustainable and environmentally friendly energy ecosystem.

While mergers can be beneficial, there are also risks associated with establishing a dominant position in the market. When two large companies merge, they create entities with significant market power, which leads to the abuse of a dominant position. In this case, the new company may be able to establish high prices or limit the supply of products and services (Anggraini 2013). Abuse of a dominant position can harm consumers by reducing choices and increasing prices.

While this merger offers efficiency and innovation opportunities for consumers, there is a concern that it may lead to a dominant market position, potentially disadvantageous to smaller business actors (Harsh 2024). With greater market power, the bigger energy company can establish prices and policies that may not be favorable to small competitors. Corporate actions such as mergers in Indonesia's energy sector indicate a positive trend in integration efforts towards more sustainable energy sources. However, it is important to maintain a balance between business growth and protection against healthy business competition through strict legal regulations.

Based on the understanding of the four (4) points above, ICC must be able to adapt quickly to changes in market conditions and new technologies that emerge due to climate change. Moreover, transparency in the decision-making process is essential to ensure that all business actors are treated fairly (Lepri et al. 2018). Climate change, as a global challenge, requires a multidisciplinary approach to mitigate it (Idris et al. 2024). In the modern era marked by the challenges of climate change and the need for sustainability, the relationship between a sustainable competition legal framework and green energy becomes increasingly important.

Green energy, including renewable sources such as solar, wind, and biomass, is a primary solution to reduce carbon emissions and address the negative impacts of fossil fuel use (Arifur Rahman et al. 2024). However, to achieve an effective transition to green energy, a legal framework is required to support the development of renewable energy and ensure that competition in the energy market takes place in a healthy and sustainable manner. With regulations that prevent monopolistic practices and unfair competition, business actors in the renewable energy sector can compete fairly. Regulations that support the development of green energy infrastructure, such as distribution networks for renewable energy, will ensure that communities, particularly in remote areas, can access clean and sustainable energy sources. This is essential to achieve inclusive sustainability goals, where all levels of society can enjoy the benefits of the energy transition.

In the context of green energy, this indicates that companies must comply with regulations governing emissions, resource use, and the environmental impact of their activities. With strict supervision and sanctions for violators, companies will be more motivated to adopt environmentally friendly business practices.

In China, the Anti-Monopoly Law of the People's Republic of China regulates the prohibition of monopolistic practices that can harm competition in the market. Article 17 of Anti-Monopoly law of China emphasizes the importance of preventing market domination by large companies, thus providing opportunities for small and medium-sized companies to compete, particularly in the renewable energy sector (Owen, Sun, and Zheng 2017). In addition, Article 20 prohibits measures that impede healthy competition, including price fixing and production restrictions, which are essential for keeping renewable energy prices competitive (Yang et al. 2024). Meanwhile, in the Regulation (EU) 2019/943 on the Internal Rules of the Energy Market provides a legal framework for the sustainable integration of energy markets. Article 1 of this regulation outlines the objective of creating an integrated and sustainable energy market that promotes the use of renewable energy and reduces greenhouse

gas emissions. Article 3 regulates the basic principles of the energy market, including fair competition and consumer protection, as well as encouraging investment in renewable energy.

Furthermore, Article 15 regulates the development of policies that support renewable energy, including providing incentives for investment in clean technologies. In the United States, the Sherman Antitrust Act, enacted in 1890, regulates the prohibition of treaties that restrict trade or competition (Woodcock 2023). Article 1 of this law can be utilized to prevent collusion between energy companies that can harm innovation and competition in the renewable energy sector. Article 2 of the Sherman Antitrust Act asserts that any attempt to consolidate monopolistic market power is illegal, thus encouraging healthy competition. Additionally, the Energy Policy Act of 2005 provides incentives for renewable energy development, with Section 201 outlining tax credits for renewable energy production and Section 203 focusing on the development of energy infrastructure that supports the use of renewable energy (Rastegar, Eweje, and Sajjad 2024). By adopting principles from laws in China, the EU, and the U.S, Indonesia can enhance the legal framework that supports the transition to green energy and creates a healthy, competitive climate in the energy sector. Such measures will aid Indonesia in achieving its renewable energy targets, contributing to environmental sustainability and advancing climate change mitigation and adaptation efforts.

## **B. Promoting Green Energy Through a Sustainable Business Competition Law Framework**

In the European Union (EU), the competition law framework has been progressively integrated with green energy policy through an initiative known as the European Green Deal (Mentes 2023). Launched in December 2019, the European Green Deal aims to make Europe a carbon-neutral continent by 2050 (Milek, Nowak, and Latosińska 2022). Through various incentives, including subsidies and financing for research and development, the EU has significantly increased the share of renewable energy in its energy mix. This policy not only focuses on reducing greenhouse gas (GHG) emissions but also includes the transition to a circular economy and biodiversity conservation. In establishing an ambitious target to reduce GHG emissions by 55% by 2030, the European Green Deal requires member states to undertake major transformations in the energy, transport, and industrial sectors (Krämer 2020). This includes promoting the use of clean energy and investing in green technologies. This effort is expected to shape a sustainable economy that aligns with the Sustainable Development Goals (SDGs), as well as encourage other countries in the world to follow in Europe's footsteps in facing the challenge of climate change (Wolf et al. 2021).

Meanwhile, in the United States (U.S), business competition law is governed by the Sherman Act and the Clayton Act, which focus on preventing anti-

competitive practices (Phillips-Sawyer 2024). While policies are supporting green energy, such as tax credits for renewable energy production and investment, the absence of cohesive national policies can hinder the effectiveness of competition law in promoting sustainable energy solutions (Cafaggi and Iamiceli 2021). While these incentives are beneficial, they are often inadequate to drive the structural changes required in the energy sector. This condition indicates that despite efforts to support the transition to green energy through incentive policies, major challenges remain in terms of integrated regulation and sustainable support. In the absence of a strong and cohesive legal framework, the potential for innovation in green energy technologies in the U.S may not be fully realized, given the reliance on frequently changing policies and political uncertainty (Su et al. 2022).

Indeed, many states worldwide have different renewable energy standards and incentives, creating regulatory complexity that often gets in the way of healthy competition. Amid these dynamics, China has taken an important step in the development of renewable energy by passing the first Energy Law on November 8, 2024, which came into effect on January 1, 2025 (Feng 2024). This law comprises nine chapters that cover various aspects, such as energy planning, energy development and utilization, energy market systems, and energy technology innovation. Its primary objectives are to encourage the development of high-quality energy, ensure national energy security, and promote the green and low-carbon transition (Hu et al. 2021).

Before the passage of the Energy Law, China had adopted several important regulations related to renewable energy, including the Renewable Energy Law implemented in 2006 (Abbas et al. 2023). This law emphasizes the key role of renewable energy in increasing energy supply and ensuring energy safety. The 13th Five-Year Plan (2016-2020) also established a renewable energy development strategy as part of efforts to achieve the SDGs, particularly SDG7, which focuses on access to clean and affordable energy (Liu and Feng 2023). In the context of business competition law, China has established regulations aimed at creating a fairer and more transparent market. The competition law adopted in 2008 aims to prevent unfair business practices, such as monopolies and oligopolies (Hou 2024). This is particularly essential for the renewable energy sector, in which innovation and investment are required to develop more efficient and environmentally friendly technologies (Dhayal et al. 2024). One of the primary purposes of this regulation is to prevent unfair business practices, such as monopolies, barriers to entry, tying, mergers, and oligopolies, which can hinder innovation and investment (Ning and Zhao 2023).

A more competitive market will motivate companies to create new and better solutions in renewable energy (Sadjadi and Fernández 2023). But the competitive market means there is health business competition. The incentives provided to companies investing in this sector will attract both domestic and foreign investors, thereby accelerating the growth of the industry. Moreover,

consistent and clear regulations will provide certainty for companies in planning long-term investments. By reducing complexity for companies operating across states with differing standards, this law creates a more conducive climate for business expansion. This business competition opens up opportunities for international collaboration in the development of renewable energy technology (Tukun and Herrera Anchustegui 2024).

In the EU, the European Green Deal prevents monopolistic practices, though enforcement is often inconsistent (Hancher and Herrera Anchustegui 2024). While the Chinese government has made significant investments in renewable energy and aims to become a global leader in solar and wind energy production, the dominance of state-owned enterprises in the energy sector could create challenges for business competition. This indicates that although China has made rapid progress in renewable energy, an inadequate strong competition law framework could restrict innovation and efficiency (Kowalska-Styczeń, Bublyk, and Lytvyn 2023). Indonesia can take valuable lessons. Strengthening the competition law framework by including specific provisions that support green energy and sustainable practices is an important step. Therefore, three areas must become the government's focus in addressing business competition and green energy sustainability in Indonesia within the framework of business competition law, in adapting to and mitigating climate change.

### **1. Protection for Small Businesses in the Energy Sector**

One of the main objectives of business competition law is to safeguard the public interest and create equal business opportunities for all business actors, including small business actors. Article 2 of Law Number 5 of 1999 emphasizes the importance of balancing the interests of business actors and the public interest (Adam 2023). In the green energy sector, protecting small businesses is very important so that they can compete with large companies that have more resources. The empowerment of small business actors has also been facilitated by Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises, which incorporates a mutually beneficial partnership agreement model to both parties. This law mandates the ICC to supervise partnerships that are detrimental to small businesses

In the context of the transition to renewable energy, Indonesia needs to encourage sustainable business models among energy providers. Competition law should be designed to promote environmentally friendly practices, providing incentives to companies that adopt green technologies and sustainable practices. One step that can be taken is to offer fiscal incentives to companies that invest in environmentally friendly technologies. The government can offer tax reductions or value-added tax (VAT) exemptions for companies that use renewable energy or implement cleaner production practices (Cao and Liu 2023). This kind of incentive will encourage companies

to switch to green technology and create a more competitive market for eco-friendly products.

In this case, small businesses also require special attention, as they often serve as the backbone of the economy and pose significant potential to contribute to sustainability if provided with the right support. Additionally, effective monitoring and law enforcement are essential to ensure compliance with environmental standards (Permana, Karmenita, and Rahmat 2023). Monitoring mechanisms should be established to monitor the environmental impact of business actors' activities and ensure that energy providers are compliant with regulations and committed to sustainable practices (Yaqub and Alsabban 2023).

The importance of this monitoring cannot be underestimated, as the absence of a robust mechanism to enforce regulations risks allowing some energy providers to abandon environmental standards for short-term gains. Therefore, the government must ensure that strict sanctions are in place for violators, as well as rewards for companies that demonstrate a commitment to sustainability. This creates a positive incentive for all energy providers to operate within a legal framework that supports sustainability. In the international context, many countries have successfully implemented similar policies with positive results. Germany has implemented a feed-in tariff system that provides a fixed rate for renewable energy producers (Mabee, Mannion, and Carpenter 2012). This policy encourages investment in renewable energy and creates new jobs in the sector. Indonesia can learn from Germany's experience and adjust policies according to the needs of small businesses.

## **2. Business Innovation in the Energy Business Sector**

Business competition law must also encourage innovation in the green energy sector. Article 25 of Law Number 5 of 1999 prohibits the abuse of a dominant position to hinder technological development or limit the market for other business actors. In the context of green energy, the drive for innovation is essential as technology continues to evolve rapidly (Hainsch et al. 2022). A legal framework that supports research and development and protects intellectual property rights without hindering access for new businesses, competition law can help accelerate the transition to renewable energy sources.

Article 101(3) TFEU allows for an exception to the cartel ban if the collaboration results in significant environmental benefits, for example, through infrastructure cooperation, joint purchases, or long-term contracts that accelerate the use of renewable energy (Bailey 2012). In addition, the EU has also used state aid rules to allow incentives (e.g., subsidies) for the development of clean technologies

and renewable energy projects, as long as they do not distort the market disproportionately. The Clean Industrial Deal State Aid Framework also provides special flexibility for critical projects that accelerate decarbonization (Cao and Liu 2023).

Meanwhile, in China, starting from 2024-2025, the selling price of electricity from new renewable projects must be determined by the market (competitive bidding), no longer a fixed price or direct subsidy. This puts renewable producers on a par with coal plants, driving efficiency and innovation so that renewable products are able to compete in price and quality with fossil energy. China is also developing a green certificate trading mechanism to stimulate investment and integration of the renewable electricity market. Rules in China require national and regional interconnection systems to prioritize renewable energy electricity to the transmission grid, although implementation still faces challenges such as curtailment and transparency (Aidhi et al. 2023).

Governments need to create a platform where companies can share best practices and innovations in green technology through industry forums or public-private partnerships, focusing on developing innovative solutions to today's energy challenges. In this way, all stakeholders can collaborate to create a more sustainable business ecosystem (Hardmeier, Berthold, and Siegrist 2024). Encouraging sustainable business models through competition laws that support environmentally friendly practices serves as a strategic step for Indonesia in facing the challenge of climate change (Kahpi et al. 2024). Then, in incentivizing energy providers to adopt green technologies and ensuring effective monitoring and enforcement, Indonesia can create a more sustainable and inclusive energy ecosystem.

To support green energy policies and strengthen competition laws in Indonesia, several recommendations for changes to articles and laws need to be considered. In particular, Law Number 5 of 1999 is also very necessary. The purpose of these changes is to enhance regulations that encourage healthy competition in the green energy sector (Song, Li, and Feng 2024). In this change, it is necessary to add provisions that explicitly support sustainable business practices and green energy. In addition, it is important to regulate sanctions for companies that practice monopolistic practices in the renewable energy sector, as well as encourage transparency in the energy procurement and distribution process (Johnson and Toledano 2023); (Anjanappa 2024).

To ensure the effective implementation of green energy policies, establishing a green energy supervisory institution is essential. This institution will be tasked with supervising and enforcing renewable

energy regulations, as well as developing monitoring systems to ensure compliance with existing regulations. Increasing ICC's capacity to supervise the energy sector will also strengthen law enforcement in this area (Hutauruk et al. 2023). Learning from the EU's experience, which successfully created an internal energy market through the liberalization of the electricity and gas sectors, the elimination of national monopolies, and the promotion of cross-border market integration, offers valuable insights for Indonesia (Putro and Bedner 2023).

Measures such as energy grid unbundling and price transparency help increase competition and drive efficiency in Indonesia's energy market, with the energy system still dominated by PT PLN as an integrated power company. It can learn from the EU's experience. The unbundling process, where the production, transmission, and distribution functions are separated, can help drive competition and efficiency in the electricity sector (Vanhove 2023). This is essential for meeting the ever-increasing demand for electricity and attracting private investment in the energy sector. In the EU, competition law has become an important tool to counter the abuse of market power by dominant actors, such as through asset divestment and the divestment of network capacity. Commitment decisions from large companies are often used to promote a fairer and more open market (Ramadhan, Paulus, and Marcello 2023).

### **3. Setting Up Healthy Business Practices**

Article 17 of Law Number 5 of 1999 prohibits business actors from entering into agreements that can cause monopolistic practices. In the green energy sector, this arrangement is essential to prevent large companies from using their market power to block the entry of new business actors (Semmler et al. 2022). Scrutiny of the dominance of large energy companies, such as PLN, must be strengthened to ensure there are no practices that are detrimental to competition and consumers. In addition, there must be regulations that support investment in renewable energy, similar to the regulatory approach in the EU. Focusing on Long-Term Contracts, the EU identified that such contracts often hinder competition, particularly in the gas and electricity markets. Regulations that tighten contract durations and provide flexibility for consumers have created a more competitive market (Yang et al. 2024).

In Indonesia, long-term contracts in the energy sector, such as PLN's purchase of electricity from private power plants (IPPs), can be evaluated to ensure market flexibility and efficiency. More transparent regulations concerning these contracts can attract increased investment in the renewable energy sector and reduce dependence on fossil energy (Holechek et al. 2022). Indonesia, being vulnerable to

fluctuations in global energy prices, can adopt this approach. The government can promote domestic energy price stability by introducing long-term contract mechanisms for renewable energy and diversifying energy sources. This step will help Indonesia reduce its dependence on fossil energy imports and strengthen national energy security (Arief Rahman et al. 2023).

The EU's energy policy shows how regulation and the application of competition law can promote efficiency, transparency, and fairness in energy markets (Dunne 2021). Through market liberalization, the unbundling of energy grids, and oversight of long-term contracts, the EU has created a more competitive energy market and supported the transition to renewable energy (Urbano, Kampouropoulos, and Romeral 2023). Moreover, its rapid response to the global energy crisis shows the importance of diversifying energy sources and price stability to maintain energy security. For Indonesia, the experience of the EU provides many important lessons. Energy sector reforms can be focused on unbundling the power grid to increase competition, monitoring market dominance to prevent monopolistic practices, and evaluating long-term contracts to be more flexible and supportive of the energy transition (Fabra 2021).

Furthermore, harmonization of energy, environmental, and competition law also needs to be conducted to create synergy between energy policy, business competition, and environmental protection (Ramanauskė, Balezentis, and Streimikiene 2023). In this context, it is necessary to limit emissions for the energy sector and provide incentives for companies that succeed in reducing emissions. In addition, promoting the adoption of clean technologies in the energy production process will be a strategic step towards achieving sustainability goals.

Increasing education and public awareness about the importance of green energy is also crucial. The government can launch educational campaigns to highlight the benefits of renewable energy, as well as organize seminars and workshops for business actors on sustainable practices. Indeed, public participation in renewable energy projects is expected to create wider support for the transition to cleaner and more sustainable energy. Therefore, by implementing the recommendations that have mentioned above, Indonesia can strengthen the legal framework, particularly in integrating competition, energy, and environmental law that supports green energy policies and creates a healthy, competitive climate for businesses. This will help achieve renewable energy targets and contribute to environmental sustainability in mitigating and adapting to climate change.

The EU's experience shows that competition law is not always positioned as an obstacle to environmental goals. Through Article

101(3) of the Treaty on TFEU, agreements that in principle have the potential to restrict competition can obtain an exemption if they produce greater benefits for society, including environmental benefits. This approach is the basis for the development of green cooperation agreements, namely cooperation between business actors that aims to accelerate decarbonization and the development of environmentally friendly technology. Unlike the European Union, Indonesia does not yet have a mechanism that explicitly recognizes the benefits of sustainability as a factor that can be considered in the legal assessment of competition. As a result, there is uncertainty about the extent to which collaboration between business actors to achieve environmental goals is acceptable based on Law Number 5 of 1999. The absence of such a legal framework has the potential to hinder investment and innovation in the renewable energy sector.

### III. Conclusion

This study shows that the challenges Indonesia faces in its renewable energy transition are not only caused by technological, financial or institutional limitations, but also by the existing competition law framework, which remains primarily concerned with economic efficiency and market structure, and does not adequately take sustainability objectives into account. Hence, market dominance, impediments to entry, control of vital infrastructure and overconcentration in the market are still hampering the development of renewable energy. Based on green antitrust theory, ESG governance and sustainable development theory, this paper constructs a sustainable competition law framework, and the competition assessment is extended from traditional indicators such as price and consumer welfare to green innovation, market access, emissions reduction and long-term sustainability.

A comparison with the European Union shows that competition law can serve as an effective tool to promote the energy transition if it is connected with environmental objectives. Therefore, this study recommends that Law Number 5 of 1999 should be amended by amending Article 51, recognising the environmental and sustainability benefits in the assessment of competition, providing fair access to vital energy infrastructure, and including sustainability criteria in the review of mergers and dominance. Such reforms would improve the integration of competition law, energy regulation and environmental protection, allowing competition law to serve not only as an instrument for market efficiency but also as a strategic legal framework to accelerate Indonesia's transition to renewable energy, green economic transformation and sustainable development.

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