

Coal Management and National Energy Security: A Legal Analysis of Power Outages in Indonesia

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Abstract

Indonesia is one of the world's largest coal producers, with coal remaining a major source of energy for electricity generation. However, despite its abundant coal resources, Indonesia continues to face energy security challenges, including power outages and instability in electricity supply across several regions. This study aims to analyze the legal framework for coal management in supporting national energy security and its implementation within Indonesia's electricity system. The research uses a normative legal method with statutory and conceptual approaches by examining relevant regulations and legal principles. The results show that Indonesia has regulated coal management through the Domestic Market Obligation (DMO) policy and various legal instruments in the energy and electricity sectors. Nevertheless, implementation still faces challenges, including weak supervision, inconsistent enforcement, governance issues, and conflicts between export interests and domestic energy needs. These problems affect the reliability of electricity supply and the effectiveness of coal utilization for national energy security. Therefore, strengthening oversight, improving stakeholder coordination, ensuring consistent implementation of regulations, and accelerating the transition toward sustainable energy sources are necessary to achieve national energy security in accordance with Article 33, paragraph (3) of the 1945 Constitution of the Republic of Indonesia.

Introduction

Indonesia is one of the countries with the largest coal reserves in the world and regards this commodity as one of the main pillars of national energy security. Constitutionally, coal is not merely viewed as a trade commodity, but as a natural resource that falls under the category of "sectors of production that are vital to the state and essential to the livelihood of the

people.” Therefore, based on the mandate of Article 33, paragraphs (2) and (3) of the 1945 Constitution of the Republic of Indonesia, the state bears full responsibility for controlling and managing these resources for the greatest possible prosperity of the people.¹ Data from the International Energy Agency (IEA) shows that in 2023, coal accounted for approximately 35.6% of Indonesia’s total primary energy supply (Total Energy Supply), while approximately 69.1% of national electricity production was still generated by coal-fired power plants.²

In 2023, Indonesia’s coal production reached 16,549,479 terajoules (TJ), ranking second in the Asia-Pacific region behind China. Indonesia was also the largest coal exporter in the Asia-Pacific region, with export volumes reaching 11,851,631 TJ. However, this dominance creates systemic vulnerabilities. High dependence on fossil fuels places national stability at the mercy of global market fluctuations, as approximately 68.7% of national production is allocated for export to generate foreign exchange for the country. This situation creates a sharp dichotomy between Indonesia’s strategic role in global energy trade and its domestic obligation to ensure national energy security.

On the one hand, this heavy reliance on coal provides economic benefits through government revenue, export earnings, and the supply of energy to industry and the public. On the other hand, however, the high use of coal also raises environmental concerns. The IEA notes that carbon emissions from coal use in Indonesia reached approximately 351,755 MtCO₂ in 2023, an increase of about 663% compared to 2000.³ This situation indicates that coal management is not only related to economic and energy security aspects, but is also closely linked to environmental protection efforts and Indonesia’s commitment to reducing greenhouse gas emissions.

The Indonesian government continues to promote the energy transition toward cleaner energy use in accordance with the concept of the “Green Constitution” implied in Article 33, paragraph (4) of the 1945 Constitution of the Republic of Indonesia. According to a statement from the Ministry of Energy and Mineral Resources reported by ANTARA, Indonesia’s renewable energy mix reached 17.89% in April 2026, exceeding the government’s target of 16.46%.⁴ Nevertheless, this transition has not yet succeeded in reducing the vital role of coal, which still accounts for approximately 64.87% of national

¹ “UNDANG-UNDANG DASAR NEGARA REPUBLIK INDONESIA 1945,” n.d.

² International Energy Agency (IEA), “Coal 2024: Analysis and Forecast to 2027 ” (Paris, 2024).

³ International Energy Agency (IEA), “Indonesia Energy Profile ” (Paris, 2024).

⁴ Direktorat Jenderal Ketenagalistrikan Kementerian Energi dan Sumber Daya Mineral, “Bauran EBT Pembangkit Listrik April 2026 Lampau Target,” June 8, 2026.

electricity generation. The tension between the ambition for an energy transition and the reality of dependence on fossil fuels often leads to paradoxical policies, where on one hand the country is committed to Net Zero Emissions (NZE), yet on the other hand it continues to provide substantial incentives to the coal industry.

This situation indicates that coal will remain a critical energy source for Indonesia for the foreseeable future. Therefore, the management of coal resources cannot be solely focused on increasing production and exports; it must also be carried out in accordance with the principle of state control over natural resources as mandated by Article 33, paragraph (3) of the 1945 Constitution of the Republic of Indonesia, while taking into account aspects of public benefit, environmental sustainability, and the interests of both present and future generations. From a legal perspective, coal management cannot be oriented solely toward economic aspects; rather, it must fulfill the principle of State Control (HMN) as mandated by Article 33, paragraph (3) of the 1945 Constitution of the Republic of Indonesia, as well as the principle of intergenerational justice as stipulated in Law No. 30 of Year 2007 on Energy.

The failure to align these priorities reached its nadir in mid-2026, when a power crisis (blackout) occurred.⁵ widespread across Java, Sumatra, and Kalimantan. This indicates that the availability of coal reserves alone is not sufficient to ensure the reliability of the electricity system if distribution management and regulation are not effective. This incident reveals dysfunction in primary energy management, where administrative obstacles resulting from changes to the validity period of the Work Plan and Budget (RKAB)⁶ The reduction from three years to one year under Law No. 2 of 2025 was the primary contributing factor. The striking disparity between domestic and global prices, coupled with low compliance by producers with the 25% Domestic Market Obligation (DMO) policy, has undermined the reliability of the national electricity supply.

The centralized management of natural resources through Law No. 2 of 2025 on the fourth amendment to the Mineral and Coal Law is expected to provide legal certainty. However, this policy has actually raised the risk of regulatory capture, where energy sector regulations appear to be influenced by the interests of certain mining business elites, resulting in policies that often prioritize export profits over the public interest in electricity. Legally, the

⁵ Direktorat Jenderal Ketenagalistrikan Kementerian Energi dan Sumber Daya Mineral.

⁶ Iwan Purwantono, "Pemicu Pemadaman Listrik, Tenggara Strategics: Pasokan Batu Bara Terganggu RKAB," July 2, 2026, <https://www.inilah.com/pemicu-pemadaman-listrik-tenggara-strategics-pasokan-batu-bara-terganggu-rkab>.

Constitutional Court, in Decision No. 39/PUU-XXI/2023, affirmed that the state is obligated to maintain full control over electricity as a public utility through five functions of authority: policy (beleid), regulation (regelendaad), administration (bestuursdaad), management (beheersdaad), and oversight (toezichthoudensdaad)⁷. The failure to secure a coal supply for power plants represents a dysfunction in the state's management and oversight functions, which directly results in the violation of citizens' constitutional right to reliable public services.

Several previous studies have examined coal management from various perspectives. Melati et al. (2022) analyzed the implementation of the Domestic Market Obligation (DMO) policy in support of national energy security⁸. Devi et al. (2024) evaluated the implementation of the DMO policy and found that its implementation still faces various challenges, such as differences in coal specifications, price disparities, and varying levels of compliance among business operators.⁹ The study by Hudaya and Madiutomo (2019) focuses on projections of Indonesia's coal reserve availability to meet energy needs through 2050. Meanwhile, Putranto et al. (2025) analyze the legal challenges of implementing the DMO policy from the perspectives of investment and sustainability.¹⁰

Although these studies have contributed to the development of research on coal management and energy security, the discussion remains dominated by aspects of DMO policy, investment, and coal reserve projections. There has been little research linking coal management from the perspective of Natural Resources and Environmental Law to the phenomenon of power outages as a case study to evaluate the implementation of energy management and the electricity system in Indonesia. Furthermore, previous studies generally treat power outages as a technical issue within the electricity sector, rather than as an indicator of the failure to implement natural resource management from a legal perspective. In fact, power outages demonstrate that energy resource management depends not only on the availability of natural resources but is

⁷ "Putusan Mahkamah Konstitusi Nomor 39/PUU-XXI/2023," Mahkamah Konstitusi Republik Indonesia § (2023).

⁸ Lena Tria Melati, Imam Supriyadi, and Yusuf Ali, "Strategi Pengembangan Pembangkit Listrik Tenaga Air Mini/Mikro Hidro Di Indonesia," *G-Tech: Jurnal Teknologi Terapan* 6, no. 2 (2022): 91–99.

⁹ Oxaria Silviana Devi and Sri Suryaningsum, "ANALYSIS OF THE REALIZATION OF DOMESTIC MARKET OBLIGATION POLICY ON NATIONAL ENERGY SECURITY INDEPENDENCE," *Count: Journal of Accounting, Business and Management* 1, no. 3 (2024): 187–93.

¹⁰ Rahmat Dwi Putranto and Ayler Beniah Ndraha, "Balancing Investment and Sustainability: Legal Challenges in Implementing the Domestic Market Obligation (DMO) in Indonesia's Coal Sector," *TEC EMPRESARIAL* 20, no. 2 (2025): 38–57.

also influenced by governance, regulatory implementation, and the reliability of energy infrastructure.

This study offers a novel approach by using the 2026 power outage phenomenon as a case study to evaluate the implementation of the State's Right of Control (HMN) amid the threat of private-interest intervention in national energy policy. Based on the above, this study aims to analyze the legal framework for coal management in support of energy security, examine the state's responsibility for disruptions in electricity service, and formulate regulatory solutions to.

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Method

This study employs a normative legal research method because it focuses on examining the legal norms governing coal management in relation to national energy security. The approach used is multidimensional, encompassing the statutory approach, the conceptual approach, and the case approach. The statutory approach involves examining the consistency of regulations across the mining, energy, electricity, and environmental protection sectors. Meanwhile, the conceptual approach is used to analyze the doctrine of State Sovereignty (HMN), the theory of the welfare state, and the concept of regulatory capture in energy governance. The case approach is applied by analyzing the phenomenon of rolling blackouts in 2026 and examining Constitutional Court Decision No. 39/PUU-XXI/2023 regarding the constitutionality of the electricity cluster.

The legal sources used consist of primary and secondary legal sources. Primary legal sources include the 1945 Constitution of the Republic of Indonesia, Law No. 30 of 2007 on Energy, Law No. 30 of 2009 on Electricity, Law -Law No. 2 of 2025 on the Fourth Amendment to Law No. 4 of 2009 on Mineral and Coal Mining, and Law No. 32 of 2009 on Environmental Protection and Management. Secondary legal sources were obtained from books, scientific journals, official reports from the Ministry of Energy and Mineral Resources (ESDM), the International Energy Agency (IEA), and news reports on power outages in Indonesia, which were used as case studies in this research.

Legal materials were collected through a literature review by examining laws and regulations, scholarly literature, official reports, and other documents related to the research subject. Subsequently, all legal materials were analyzed qualitatively using a descriptive-analytical method. The analysis was conducted by linking applicable legal provisions, relevant legal concepts, and emerging facts regarding coal management and power outages in Indonesia. Through this analysis, this study aims to provide an overview of the implementation of coal management in support of national energy security from the perspective of Natural Resources and Environmental Law.

Results and Discussion

The Constitutionality of Electricity and Coal within the Framework of the State's Right of Control

Coal management in Indonesia is a direct manifestation of the mandate set forth in Article 33, paragraph (3) of the 1945 Constitution of the Republic of Indonesia, which stipulates that natural resources are controlled by the state for the greatest possible prosperity of the people. In the energy sector, coal holds a strategic position as it accounts for approximately 69.1% of national electricity production. Regulations regarding coal management are currently set forth in Law No. 2 of 2025 on the Fourth Amendment to Law No. 4 of 2009 on Mineral and Coal Mining. In addition, energy management is also supported by Law No. 30 of 2007 on Energy and Law No. 30 of 2009 on Electricity. These three regulations indicate that coal management must strike a balance between economic interests, national energy security, and environmental protection.

The Constitutional Court, through Decision No. 39/PUU-XXI/2023, has once again reaffirmed that the electricity sector is a vital branch of production that must be controlled by the state because it concerns the basic needs of the people. This concept of "state control" is in line with the thinking of Moh. Hatta, who referred to electricity as a public utility that must be under government control to ensure its availability to the public.

The exercise of the State's Sovereign Right (HMN) must be realized through five functions of authority, namely: policy (beleid), regulation (regelendaad), administration (bestuursdaad), management (beheersdaad), and oversight (toezichthoudensdaad). The state must not merely act as a passive regulator but must assume full responsibility for ensuring the availability of primary energy. Therefore, disruptions in the coal supply that trigger power outages indicate a dysfunction in the state's administrative and supervisory functions regarding the management of strategic natural resources.

In the context of the 2026 power outages, the state's regulatory role cannot be understood merely as the authority to issue regulations. The state must also be able to ensure that policies regarding mining, coal distribution, and energy supply operate in an integrated manner. When administrative obstacles disrupt the supply of coal to power plants, the issue is no longer merely technical; rather, it reflects the suboptimal implementation of the state's management and oversight functions, as interpreted by the Constitutional Court.

Supply Chain Management Dysfunction: Issues with the RKAB and DMO Policy

Although Indonesia is one of the largest coal producers, with reserves totaling 38.84 billion metric tons, national energy security faces administrative vulnerabilities. The phenomenon of rolling blackouts in 2026 revealed that the supply crisis was not caused by a shortage of reserves, but rather by bureaucratic obstacles in the approval of the Work Plan and Budget (RKAB). The change in the RKAB's validity period from three years to one year, based on the implementation of Law No. 2 of 2025, created administrative bottlenecks that forced a number of producers to cease operations because they did not yet have valid operating permits.¹¹

In addition to administrative issues, noncompliance with the 25% Domestic Market Obligation (DMO) policy is a crucial factor.¹² This is driven by a stark price disparity, in which the DMO price for PLN is set at US\$70 per metric ton, while the international market price reaches US\$140 per metric ton. This 100% price difference creates an incentive for mining companies to prioritize exports for greater profits rather than fulfilling domestic obligations. Weak administrative sanctions and oversight regarding DMO compliance have resulted in PLN frequently facing supply deficits that threaten the reliability of the electricity system.¹³

Thus, the effectiveness of the DMO policy is determined not only by the level of domestic sales obligations, but also by the government's ability to establish an efficient licensing system and consistent oversight mechanisms.

The Threat of Regulatory Capture and Its Implications for Public Services

¹¹ Nanang Wijayanto, "Pemadaman Listrik Ungkap Pentingnya Sinkronisasi RKAB Dan Pasokan Batu Bara," July 2, 2026, <https://ekbis.sindonews.com/read/1724051/34/pemadaman-listrik-ungkap-pentingnya-sinkronisasi-rkab-dan-pasokan-batu-bara-1782976065>.

¹² Ice Fahmi et al., "7. Pengaruh Kebijakan DMO Batubara Terhadap Ketahanan Energi Nasional Dalam Mendukung Pertahanan Dan Keamanan Negara," *Jurnal TNI Angkatan Udara* 1, no. 3 (2022).

¹³ Devi and Suryaningsum, "ANALYSIS OF THE REALIZATION OF DOMESTIC MARKET OBLIGATION POLICY ON NATIONAL ENERGY SECURITY INDEPENDENCE."

This phenomenon of power outages can also be viewed through the lens of regulatory capture a situation in which regulatory agencies are influenced by private business interests in the policymaking process. The involvement of the political elite in the energy sector often results in biased regulations, such as the relaxation of oversight or the provision of incentives that benefit business owners more than the public interest.¹⁴

Regulatory capture in the mining sector can occur when the policy-making and implementation processes prioritize the interests of business actors over the public interest. In the context of coal management, this situation becomes evident when implemented policies fail to ensure the fulfillment of domestic energy needs, despite Indonesia's abundant coal reserves. Consequently, the state's objective of energy control as mandated by Article 33 of the 1945 Constitution of the Republic of Indonesia risks shifting from maximizing the people's prosperity toward serving the economic interests of specific groups.

Consequently, national energy policies tend to be reactive and do not prioritize long-term domestic energy security. This risk is increasingly evident in Law No. 2 of 2025, where the centralization of authority may minimize public participation and transparency in the management of natural resources. The state's failure to secure primary energy for power plants due to interference by private interests constitutes a disregard for citizens' right to reliable public services.

The State's Liability for Consumer Losses and Energy Security

The government has an absolute obligation to provide energy buffer reserves to prevent crises, in accordance with the mandate of Law No. 30 of 2007. From the perspective of natural resource law, energy security is measured not only by the volume of production, but also by self-reliance and equitable access. The 2026 blackout demands that the state no longer rely entirely on the fluctuations of the private market through an unconstitutional unbundling scheme. Instead, the state, through PLN, must maintain majority control over the electricity supply system to avoid the risk of supply disruptions caused by private entities.

In addition, pursuant to Article 29 of Law No. 30 of 2009, consumers have the right to receive a continuous supply of electricity of good quality. The law also requires electricity providers to provide compensation in the event of a power outage caused by operational errors. The state bears an obligation of

¹⁴ Iman Prihandono and Ekawestri Prajwalita Widiati, "Regulatory Capture in Energy Sector: Evidence from Indonesia," *The Theory and Practice of Legislation* 11, no. 3 (2023): 207–31.

result in fulfilling the socioeconomic rights of its citizens; failure to guarantee electricity constitutes a violation of its obligation to promote the general welfare.

The current supply crisis requires the government to strengthen its energy buffer reserves to prevent emergencies. In addition to accelerating the transition to New and Renewable Energy (EBT), the state through PLN must retain majority control over the electricity supply system to avoid the risk of dependence on private market fluctuations. The integration of a transparent licensing system, free from regulatory capture, is an absolute prerequisite for achieving equitable energy security in accordance with the constitutional mandate.

Thus, coal management cannot be measured solely by the volume of production or the value of exports, but also by the state's ability to ensure energy supply security and provide reliable electricity services to the public. These efforts constitute the implementation of Article 33, paragraph (3) of the 1945 Constitution of the Republic of Indonesia, which prioritizes the people's prosperity as the primary objective of natural resource management. Furthermore, the state's responsibility extends beyond providing compensation to consumers; it also includes the obligation to reform energy regulations and governance to prevent similar incidents from recurring in the future.

Conclusion

Coal management plays a strategic role in supporting national energy security, as coal remains the primary source of electricity generation in Indonesia. The existing legal framework provides a sufficient foundation for coal management, but its implementation still faces various challenges, particularly in maintaining a balance between export interests, domestic energy needs, and environmental protection.

The phenomenon of power outages demonstrates that the success of natural resource management is determined not only by the size of coal reserves but also by the effectiveness of governance, compliance with regulations, and the readiness of the national energy infrastructure. Therefore, it is necessary to strengthen oversight policies, optimize the implementation of the Domestic Market Obligation (DMO), and accelerate the development of new and renewable energy to achieve a sustainable and equitable energy system.

Moving forward, harmonizing mining and electricity regulations, strengthening oversight of DMO implementation, and digitizing the RKAB permitting system will be strategic steps toward achieving sustainable

national energy security in accordance with the mandate of Article 33 of the 1945 Constitution of the Republic of Indonesia.

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