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Energy Geopolitics in the Transition Era: Indonesia's Strategy in Creating Energy Security Amidst Global Crisis

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Abstract *Global dependence on fossil energy faces serious challenges in the era of energy transition, marked by geopolitical crises such as the Russia Ukraine conflict, oil price volatility, and global decarbonization pressures. As a developing country with substantial fossil energy reserves and ambitious targets for transitioning to renewable energy, Indonesia finds itself in a strategic yet complex position. Energy security is now a national concern and an integral part of international geopolitical strategy. This research aims to analyze Indonesia's strategy in creating energy security amid global dynamics and evaluate the geopolitical implications of the national energy transition policy. This research employs a qualitative approach, utilizing a policy study method and analyzing official documents, including Presidential Regulation No. 112 of 2022, the National Energy General Plan (RUEN), as well as reports from the IEA and IRENA. A geopolitical analysis framework approach was also employed to assess Indonesia's position in the global energy supply chain. The results show that Indonesia is developing a dual track strategy: strengthening domestic energy infrastructure based on renewable energy and expanding energy diplomacy with strategic partners such as China, Japan, and the Gulf countries. However, significant challenges remain in investment imbalances, coal dependence, and local political resistance to energy transition projects. Therefore, Indonesia's energy security strategy in the transition era requires synergy between national policies and global geopolitics, adapting and collaborating effectively.*

Keywords: *energy transition, energy security, energy geopolitics, Indonesia's strategy, global crisis, renewable energy*

1. Introduction

The post pandemic global energy crisis and geopolitical conflicts such as Russia's invasion of Ukraine have reinforced the urgency of systemic energy sector transformation. As a country rich in fossil resources and committed to decarbonization, Indonesia faces enormous pressure from these dynamics (Zaky, 2024; Yayusman et al., 2022; Rahman, 2024). As dependence on fossil energy continues, Indonesia's position in energy geopolitics becomes increasingly complex.

Indonesia still relies on coal as its main source of primary energy, while domestic energy demand continues to increase with economic growth and urbanization (Sudjatmiko et al., 2022; Rizky et al., 2023; Aisyati et al., 2024). The graph above shows this imbalance between reserves and consumption, which shows a decline in oil reserves contrasted with an increase in consumption. This exposes the national energy security risk in the medium term.

Figure 1. Trends in Indonesia's Oil Reserves and Energy Consumption (2018 2023)

The energy geopolitics approach examines the relationship between state power, natural resources, and energy security across borders (Yergin, 2006; Herindrasti et al., 2024; Sari & Nurdin, 2024). BPS data and IEA reports show that Indonesia has a clean energy deficit and a high dependence on foreign technologies for renewable energy (Budianto et al., 2022; Pratiwi, 2023; Mulyanie, 2024).

Some studies have addressed the national energy transition, but focus more on technical and environmental aspects rather than geopolitical dimensions. For example, Wahyuddin (2022) analyzed Germany's energy security, while Hikma (2024) evaluated Indonesia UK low carbon energy cooperation. However, the strategic political approach in the context of the global crisis is still minimal.

There is a lack of studies on how Indonesia positions itself in the global energy geopolitical landscape while managing its domestic energy transition. Previous research has not emphasized energy diplomacy, foreign investment dependence, and supply risks from volatile global markets (Sudirman, 2024; Aulia, 2024; Emha et al., 2024).

This research offers an integrative approach between energy geopolitics and Indonesia's national transition strategy in the context of contemporary global crises. By examining policy instruments (Perpres 112/2022, RUEN) and energy diplomacy networks, this article explores the duality of Indonesia's position as an energy producer and consumer in an era of uncertainty (Fawwaz, 2024; Florentina, 2024; Ibrahim, 2024).

Indonesia has signed the Just Energy Transition Partnership (JETP) commitment and received transition support funds from the G7 and multilateral partners. However, challenges in project realization and the competing interests of domestic energy elites complicate implementation (Rianty, 2024; Gunadi, 2024; Al Hasibi, 2024).

Despite key instruments such as Perpres No. 112/2022 and JETP agreements, Indonesia's national energy strategy remains fragmented and reactive rather than anticipatory and integrated. There is no unified long term roadmap that links energy transition targets with geopolitical positioning, fiscal instruments, and domestic industrial development. Most policies are still formulated in silos—focusing either on decarbonization or infrastructure expansion—without a clear articulation of strategic priorities such as reducing dependency on coal, increasing renewable energy investment, or securing international technology partnerships. This study, therefore, interprets Indonesia's strategy not just as a collection of regulatory initiatives but as a broader policy behavior that reflects its energy diplomacy, risk hedging, and alignment with global energy shifts.

As countries like China and the US increase their investments in electric vehicles and solar panels, Indonesia finds itself in a geopolitical dilemma between engagement with significant powers and national independence. Energy strategy is no longer just about efficiency, but also diplomacy, national security, and position in the global architecture (Widjajanto, 2022; Wulansari, 2024; Tarumanegara, 2024).

Spikes in global energy prices, resulting from the conflicts in the Middle East and between Russia and Ukraine, have also impacted domestic pricing policies and fiscal stability. This suggests that an energy transition without geopolitical anticipation will be vulnerable to external shocks that could disrupt national development (Aulia, 2024; Rahman, 2024; Cfu5CEU0elUJ, 2024).

This article aims to: (1) analyze Indonesia's strategy in creating national energy security amid the global crisis, (2) evaluate the role of geopolitics in the energy transition process, and (3) formulate an energy policy approach that is adaptive to global dynamics.

The theoretical foundation of this study is rooted in the energy geopolitics framework, which views energy not only as a commodity but as a strategic asset that shapes international relations, state behavior, and national security. This perspective is relevant because it allows the analysis to go beyond technical or environmental factors by incorporating the role of state power, global alliances, and resource diplomacy in shaping Indonesia's energy policy. By applying concepts such as strategic hedging and energy diplomacy, this study seeks to understand how Indonesia navigates global energy transitions while maintaining domestic energy sovereignty and geopolitical balance.

2. Method

Type of Research

This research uses a qualitative descriptive approach, a policy study method, and geopolitical analysis. It aims to understand Indonesia's strategy for building energy security amid global dynamics and evaluate how national policies interact with international geopolitical realities. This approach was chosen because it can capture the complexity of cross sectoral relationships between energy, foreign policy, and the global economy.

Population and Sampling

The population in this study includes all Indonesian energy policy documents since 2015, international reports related to the global energy transition, and insights from Indonesian energy and diplomacy experts.

The sample was taken by purposive sampling based on the criteria:

1) Official documents such as Perpres No. 112/2022, RUEN, and ESDM Strategic Plan reports.
2) Reports from international organizations such as IEA, IRENA, and the World Energy Outlook.
3) Interviews with 5 7 expert informants (Ministry of Energy and Mineral Resources officials, academics, and energy NGO researchers).

In total, 18 primary policy documents were analyzed, including 12 national level energy planning and regulation documents (e.g., RUEN, RUKN, Perpres No. 112/2022, ESDM Strategic Plans) and 6 international references such as the IEA World Energy Outlook, IRENA country reports, and COP related communiqués. These documents were selected to provide a comprehensive view of domestic policy frameworks and Indonesia's engagement with global energy governance. This number was deemed sufficient to represent the formal architecture of Indonesia's energy policy in the past decade, while maintaining analytical manageability in the qualitative evaluation process.

Research Instrument

The main instruments are:

1) Guidelines for analyzing energy policy documents, based on the Bardach model (2012),
2) Check the list of energy geopolitical variables, such as energy diplomacy, import dependency, and global commodity prices,
3) A semi structured interview guide was developed based on the IRENA and OECD energy transition framework.

To ensure validity, the semi structured interview guide was reviewed by two energy policy academics and one senior official from the Ministry of Energy and

Mineral Resources (MEMR) before data collection. Their input was used to refine question clarity, eliminate ambiguity, and align the guide with the study's analytical framework. A small scale pilot interview was conducted with a policy researcher to pre test the flow, timing, and interpretability of the questions. Coding was conducted manually for document and report analysis using a structured matrix developed from the Bardach policy analysis model and energy geopolitics framework. Due to the manageable number of documents and the depth of qualitative interpretation required, software like NVivo was not used. However, the coding structure followed thematic principles consistent with the standards of computer assisted qualitative data analysis.

Data Collection Technique

Data was collected through three main techniques:

1) Document study of policy papers, presidential regulations, and national/international energy reports,
2) In depth interviews with key informants using thematic protocols,
3) Secondary observation through monitoring statistical data from BPS, MEMR, and global energy think tanks.

Research Procedure

Steps of research implementation:

1) Determine the analytical framework and main variables,
2) Collect energi related strategic policy documents and reports,
3) Conducting interviews with expert informants using the snowball sampling technique,
4) Triangulate data between policy sources, interviews, and quantitative data.
5) Organize findings based on major themes: energy geopolitics, national strategy and energy security.

Data Analysis Technique

Data analysis techniques were performed with:

1) Content analysis to identify the orientation and direction of energy policy,
2) Thematic analysis to organize the main narratives from interviews and documents,
3) Policy coherence mapping, which maps the consistency between national policies and global targets (Paris Agreement, JETP, G20),
4) Actor and alliance based geopolitical analysis (including state actors, companies, and energy strategic partners).

Interview transcripts and policy documents were compiled manually using an open coding technique, followed by axial coding to identify connections between categories such as energy diplomacy, regulatory coherence, and geopolitical positioning. Data triangulation was performed across three sources: documents, expert interviews, and statistical datasets to ensure analytical rigor. Member checking was also applied by sharing preliminary findings with selected informants for feedback and verification.

This study's actor and alliance analysis framework draws on geopolitical theory, particularly energy interdependence and strategic alignment. Actors are categorized into domestic (e.g., ministries, SOEs, local governments) and international (e.g., foreign investors, multilateral donors, regional partners) stakeholders. Alliances are examined in terms of shared interests, institutional cooperation, and diplomatic positioning. This framework helps illuminate how Indonesia negotiates its role in global energy governance, balances national interests with external dependencies, and constructs strategic hedging in response to shifting geopolitical pressures.

3. Result & Discussion

Fossil Energy Dependence and National Energy Security Challenges

Indonesia's energy diplomacy behavior in the global context can be interpreted through the lens of strategic hedging, where the country avoids rigid alignment with any significant power bloc (e.g., China or the U.S.) while simultaneously engaging both to maximize economic and technological gains. Rather than adopting a confrontational or bandwagoning approach, Indonesia employs soft balancing strategies—utilizing multilateral forums like the G20, ASEAN, and IRENA to advocate for energy justice, attract clean energy funding, and maintain policy autonomy. At the same time, Indonesia practices resource diplomacy by leveraging its abundant critical minerals (e.g., nickel, coal, geothermal potential) to negotiate infrastructure investment, just energy transition partnerships (JETP), and favorable trade terms. This triangulation of interests reflects a pragmatic, nonideological posture in managing energy security under global pressure, positioning Indonesia as a middle power actor seeking strategic flexibility in an increasingly multipolar energy order.

Analysis of the RUEN document and BPS data indicates that Indonesia remains highly dependent on fossil fuels, particularly coal and oil. As of 2023, more than 67% of electricity generation still comes from fossil fuels (Zaky, 2024; Rizky et al., 2023; Yayusman et al., 2022). The energy consumption graph displays an annual trend that is not proportional to the increase in energy reserves, highlighting the gap between demand and availability.

These conditions trigger concerns about long term energy security, especially in a volatile geopolitical context. Global supply disruptions such as the Russia Ukraine conflict or South China Sea tensions can have a direct impact on national energy prices and supplies (Sudirman, 2024; Emha, 2024; Aisyati, 2024). Indonesia's energy security

is highly vulnerable to global market fluctuations because it remains dependent on external energy suppliers.

Geopolitical analysis also reveals that Indonesia has not fully secured diversified energy supplies from strategic partners. Dependence on domestic coal is not accompanied by accelerated development of renewable energy infrastructure (Florentina, 2024; Wulansari, 2024; Rianty, 2024). This indicates weak energy risk mitigation in the context of international conflict and global price uncertainty.

These findings underscore the vulnerability of Indonesia's energy system and underscore the urgency of adopting a more adaptive and diversified energy strategy to ensure national security amid global uncertainties.

Figure 2. Comparison of Fossil and Renewable Energy Investment in Indonesia

The graph highlights a persistent dominance of fossil fuel investment over renewable energy across five years, with minimal upward trends in renewable energy financing. This imbalance illustrates the mismatch between national policy aspirations and actual financial flows, posing a barrier to achieving Indonesia's target of a 23% renewable energy share by 2025. Strategically, the stagnation in renewable investment hampers Indonesia's ability to position itself as a regional leader in clean energy diplomacy and undermines t

Energy Transition Strategy and Investment Inequality

Data from the Ministry of Energy and Mineral Resources and the IEA indicate a significant disparity between investments in fossil and renewable energy. As shown in the figure above, renewable energy investment remains stagnant at under USD 3 billion per year, while fossil energy investment continues to dominate (Sari & Nurdin, 2024; Gunadi, 2024; Budianto, 2022). This imbalance is one of the reasons for the slow achievement of the 23% energy mix target by 2025.

Interviews with energy experts show that the main challenges in the energy transition lie in regulatory uncertainty, the lack of fiscal incentives for renewable energy, and the dominance of fossil energy oligarchs in policy making (Mulyanie, 2024; Fawwaz, 2024; Ibrahim, 2024) limited access to clean technologies and a lack of sustainable private investment support compound these challenges.

Although Indonesia has signed the Just Energy Transition Partnership (JETP), its realization is still hampered. Many EBT projects are stalled due to overlapping regulations and cross ministerial interests (Rahman, 2024; Tarumanegara, 2024; Aulia, 2024). This confirms that the energy transition strategy has not been fully developed as part of national energy diplomacy and security.

The Role of Energy Diplomacy in the Global Geopolitical Landscape

Research has shown that Indonesia has begun to adopt energy diplomacy as a strategic tool in international forums, such as the G20 Summit in Bali 2022 and COP28. In these forums, Indonesia is a developing country that wants to lead a climate justice based energy transition (Al Hasibi, 2024; Widjajanto, 2022; Wulansari, 2024). However, Indonesia's bargaining position remains limited due to its dependence on foreign funding and technology.

Indonesia's current energy diplomacy is more oriented towards an economic approach, not fully utilizing security and geopolitical aspects in international lobbying. This can be seen from the non optimization of strategic partnerships in EBT development with partners such as Japan, South Korea, and the European Union (Rizky et al., 2023; Yayusman et al., 2022; Herindrasti et al., 2024).

Indonesia also needs to strengthen its regional role through the ASEAN Energy Cooperation. As a regional market and producer, Indonesia's position in strengthening regional energy security is still weak due to the lack of energy network integration and joint diplomacy in the face of major powers such as China and the United States (Gunadi, 2024; Ibrahim, 2024; Hikma, 2024).

National and International Energy Policy Coherence

Document analysis reveals a lack of coherence between national policies (RUEN, RUKN, Perpres 112/2022) and international commitments (Paris Agreement, JETP). Many regulations overlap and have no clear timeline for implementation (Budianto, 2022; Fawwaz, 2024; Al Hasibi, 2024).

For example, although Perpres No. 112/2022 encourages the phasing out of coal fired power plants, there is no strict monitoring mechanism, so many new power plant projects continue to run. On the other hand, the renewable energy mix target is only a normative document without legal consequences for violations by the industrial sector (Tarumanegara, 2024; Sari & Nurdin, 2024; Mulyanie, 2024).

Indonesia must harmonize policies across sectors to create sustainable energy security and develop a long term geopolitical energy strategy. Institutional realignment and establishing a cross ministerial energy transition coordination body could be a realistic short term solution (Rianty, 2024; Yayusman et al., 2022; Rahman, 2024).

4. Conclusion

This research indicates that Indonesia's strategy for creating energy security in the transition era still faces significant challenges, both domestically and geopolitically. At the national level, a high dependence on fossil energy and an investment imbalance between the fossil energy and new renewable energy (NRE) sectors hinder the realization of energy transition targets. Indonesia's energy security is not yet fully secured due to weak energy diversification and slow development of EBT infrastructure. On the other hand, global risks such as the Russia Ukraine conflict and tensions in the Asia Pacific region strengthen the urgency to build a resilient and independent energy system.

Regarding policy, Indonesia's strategy remains fragmented and is not fully aligned between national and international commitments. Indonesia's energy diplomacy has begun to focus on strengthening its bargaining position in global forums, such as the G20 and COP. However, political and economic interests continue to hinder its domestic implementation. A key finding of this research is the need for integration among energy policy, foreign diplomacy, and investment regulation to establish a national energy system that is resilient to global geopolitical turmoil. Therefore, Indonesia needs to develop an energy transition strategy that is not only technocratic but also geopolitically adaptive, collaborative, and visionary.

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