

ENERGY SECURITY, FISCAL CONSTRAINTS, AND THE POLITICAL ECONOMY OF RENEWABLE ENERGY TRANSITION IN INDONESIA

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## ABSTRACT

Indonesia's energy transition occupies a uniquely complex position within global debates on climate change mitigation, energy security, fiscal sustainability, and political economy. As the world's fourth most populous country, a major coal producer, and an emerging middle-income economy, Indonesia faces a structural dilemma: the imperative to decarbonize its energy system while maintaining affordable electricity, macroeconomic stability, and political legitimacy. This article develops a comprehensive and theoretically grounded analysis of Indonesia's energy transition by integrating perspectives from energy security theory, fossil fuel subsidy reform, public finance, and renewable energy political economy. Drawing exclusively on the provided references, the study examines how excess electricity supply, fiscal pressures on the state budget, state-owned utility debt dynamics, and entrenched fossil fuel interests have shaped renewable energy policy outcomes in Indonesia. Particular attention is given to the delayed issuance of renewable energy presidential regulations, the role of PLN as a vertically integrated monopoly utility, and the political contestation surrounding feed-in tariffs and subsidy reforms.

Methodologically, the article employs qualitative policy analysis and institutional interpretation, synthesizing secondary data from government planning documents, media reports, international energy commentaries, and peer-reviewed economic studies. Rather than treating Indonesia's energy challenges as purely technical, the study situates them within broader socio-political and economic structures, emphasizing how distributional concerns, fiscal risk aversion, and energy affordability narratives constrain policy ambition. The findings demonstrate that Indonesia's renewable energy transition is not primarily hindered by technological feasibility, but by a governance regime shaped by fiscal conservatism, subsidy path dependence, and risk-averse political leadership.

The discussion advances theoretical insights into energy transition governance in developing economies, highlighting how energy security and fiscal stability are often framed in opposition to climate goals, despite their potential complementarities. The article concludes by arguing that Indonesia's transition trajectory reflects a broader pattern across fossil fuel-dependent developing countries, where decarbonization is mediated through concerns over state budgets, utility balance sheets, and social stability. By providing an in-depth, citation-grounded analysis, this study contributes to the literature on energy policy, development economics, and political economy, offering lessons for policymakers seeking to reconcile renewable energy expansion with fiscal and political realities.

**Keywords:** Energy security, renewable energy policy, fossil fuel subsidies, political economy, Indonesia, fiscal sustainability

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## INTRODUCTION

Indonesia's contemporary energy policy debate unfolds at the intersection of three structurally intertwined imperatives: ensuring national energy security, maintaining fiscal sustainability, and responding to global climate change commitments. These imperatives do not merely coexist; they often collide, producing policy inertia, regulatory ambiguity, and contested political outcomes. As highlighted by Luft and Korin (2009), energy security in the twenty-first century extends beyond physical supply availability to encompass affordability, resilience, and political stability. For Indonesia, a country historically reliant on fossil fuels and endowed

with substantial coal reserves, this expanded conception of energy security complicates the transition toward renewable energy systems.

The Indonesian energy sector has long been characterized by strong state involvement, most notably through PT PLN (Persero), the state-owned electricity utility responsible for generation, transmission, and distribution. PLN's dominant role has shaped investment decisions, tariff structures, and the pace of technological adoption, often aligning energy policy with broader political and fiscal objectives rather than market efficiency alone (PT. PLN, 2019). This institutional

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configuration has contributed to persistent structural challenges, including overcapacity in certain regions, mounting utility debt, and a heavy reliance on coal-fired power plants.

Recent developments have further intensified these challenges. During the COVID-19 pandemic, electricity demand declined sharply, exacerbating excess supply conditions across multiple regions, as documented by CNN Indonesia (2020). This surplus has not only strained PLN's financial position but has also undermined the economic rationale for rapid renewable capacity additions in the short term. Simultaneously, political resistance to renewable energy subsidies has been reinforced by concerns over fiscal burden, as evidenced by public statements regarding the reluctance to approve renewable energy regulations perceived to increase pressure on the state budget (CNBC, 2021).

The academic literature underscores that such tensions are not unique to Indonesia. Studies on fossil fuel subsidy reform in developing economies demonstrate that energy transitions are deeply political, producing winners and losers across income groups, regions, and industrial sectors (Coady et al., 2018; Coxhead & Grainger, 2018). In Indonesia's case, the distributional implications of energy price reform intersect with broader development objectives, including poverty reduction, industrial competitiveness, and social welfare. Energy consumption has been empirically linked to economic growth in Indonesia, reinforcing political sensitivity around electricity prices and access (Dat et al., 2020).

Despite the growing body of research on Indonesia's energy sector, significant gaps remain. Much of the existing literature focuses either on macroeconomic relationships or on isolated policy instruments such as feed-in tariffs. Fewer studies adopt an integrated approach that situates renewable energy policy within the combined frameworks of energy security, fiscal constraint, and political economy. Moreover, the role of excess capacity, utility debt, and subsidy path dependence in shaping renewable policy outcomes has not been sufficiently theorized.

This article seeks to address these gaps by developing a holistic analysis of Indonesia's renewable energy transition. Rather than treating policy delays and regulatory ambiguity as administrative failures, the study interprets them as rational outcomes within a constrained political-economic environment. By synthesizing insights from energy security theory, subsidy reform literature, and Indonesia-specific policy analyses, the article offers a nuanced understanding of why renewable energy expansion has proceeded more slowly than global climate narratives might suggest.

## METHODOLOGY

This study adopts a qualitative, interpretive research methodology grounded in policy analysis and political economy. Given the complexity of Indonesia's energy transition and the absence of primary quantitative modeling within the provided references, a text-based analytical approach is both appropriate and necessary. The methodology emphasizes systematic interpretation of secondary sources, triangulating insights across academic journals, policy documents, international commentaries, and reputable media reports.

The primary data sources include peer-reviewed economic and policy studies addressing energy consumption, subsidy reform, and foreign investment dynamics in Indonesia (Dat et al., 2020; Djulius, 2017; Coxhead & Grainger, 2018). These are complemented by institutional documents such as PLN's Electricity Supply Business Plan, which provides detailed context regarding capacity planning, demand projections, and investment priorities (PT. PLN, 2019). Media reports from CNBC and CNN Indonesia are treated as policy-relevant narratives that reflect elite discourse and political signaling, particularly regarding fiscal constraints and regulatory hesitations (CNN Indonesia, 2020; CNBC, 2021).

The analytical framework integrates three theoretical lenses. First, energy security theory, as articulated by Luft and Korin (2009), provides a foundation for understanding state priorities around reliability and affordability. Second, the political economy of subsidy reform offers insights into distributional conflicts and policy resistance in fossil fuel-dependent economies (Coady et al., 2018; Coxhead & Grainger, 2018). Third, renewable energy governance literature, including analyses of feed-in tariffs and policy design, informs the discussion of institutional barriers and political negotiation (Guild, 2019).

The study proceeds through iterative thematic coding of the source materials, identifying recurring patterns related to fiscal risk, institutional inertia, and political accountability. Rather than seeking causal inference in a statistical sense, the methodology prioritizes explanatory depth, uncovering how policy decisions are shaped by overlapping economic and political constraints. This approach aligns with established practices in development policy analysis, where complex governance dynamics often resist reduction to single-variable explanations.

## RESULTS

The analysis reveals several interrelated findings that collectively explain the trajectory of Indonesia's renewable energy policy. First, excess electricity supply has emerged as a central structural constraint. According

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to CNN Indonesia (2020), multiple regions experienced significant overcapacity during the COVID-19 period, driven by declining demand and previously committed coal-fired power investments. This surplus has reduced the urgency for new generation capacity, particularly from renewables, which are often framed as additional rather than replacement sources.

Second, fiscal conservatism plays a decisive role in shaping policy outcomes. Public resistance to renewable energy regulations perceived to increase state expenditure reflects broader concerns about budgetary discipline and subsidy sustainability (CNBC, 2021). This aligns with the findings of Coady et al. (2018), who emphasize that energy price reforms often stall when governments prioritize short-term fiscal stability over long-term efficiency gains. In Indonesia, the fear of burdening the state budget has translated into cautious policy design and delayed regulatory implementation.

Third, the financial condition of PLN significantly influences renewable energy integration. Leaked communications highlighting concerns over PLN's debt burden underscore the utility's limited capacity to absorb additional costs associated with renewable procurement (Diela, 2017). As a vertically integrated monopoly, PLN's financial health is closely tied to national energy policy, reinforcing a conservative investment stance that favors existing assets over new technologies.

Fourth, political economy dynamics surrounding subsidies and social welfare further complicate reform efforts. Energy subsidies in Indonesia have historically functioned as implicit social transfers, supporting household consumption and political legitimacy. The broader literature on cash transfers and consumption behavior suggests that energy affordability is deeply intertwined with welfare outcomes, making subsidy removal politically sensitive (Evans & Popova, 2017; Handa et al., 2018). As a result, renewable energy policies that threaten to increase tariffs face strong resistance.

Finally, international pressures and climate commitments, while rhetorically acknowledged, exert limited direct influence on domestic policy. Commentaries advocating rapid global renewable expansion highlight the urgency of tripling renewable capacity to meet climate targets, yet such narratives often clash with national development priorities (Cozzi et al., 2023). In Indonesia, these global imperatives are filtered through domestic political and fiscal considerations, limiting their transformative impact.

## DISCUSSION

The findings underscore that Indonesia's renewable energy transition cannot be adequately understood through

technological or economic efficiency lenses alone. Instead, it reflects a deeply political process shaped by institutional legacies, fiscal constraints, and social expectations. Energy security, as conceptualized by Luft and Korin (2009), remains a dominant framing device, often invoked to justify caution toward rapid structural change. However, this framing tends to conflate short-term affordability with long-term security, obscuring the potential resilience benefits of diversified renewable systems.

The persistence of fossil fuel subsidies illustrates the challenge of policy path dependence. Coxhead and Grainger (2018) argue that subsidy reforms in developing countries generate asymmetric political costs, disproportionately affecting lower-income groups unless accompanied by credible compensation mechanisms. In Indonesia, the absence of robust, targeted redistribution mechanisms has reinforced political reluctance to pursue aggressive reform, even when long-term benefits are acknowledged.

Moreover, the role of PLN highlights the importance of institutional design in energy transitions. As both a market participant and policy implementer, PLN embodies conflicting incentives that complicate reform. While renewable integration could enhance long-term system resilience, short-term financial pressures incentivize risk aversion and reliance on sunk-cost assets. This dynamic resonates with broader critiques of state-owned enterprise governance in infrastructure sectors.

The discussion also reveals limitations in the existing policy discourse. Renewable energy debates often prioritize capacity targets without adequately addressing demand-side management, grid flexibility, and institutional reform. Excess capacity conditions suggest that transition strategies must focus not only on adding renewables but also on restructuring existing systems. Failure to address these structural issues risks perpetuating policy stagnation.

Future research should build on this analysis by incorporating comparative perspectives across Southeast Asia, where similar political-economic constraints shape energy transitions. Additionally, deeper exploration of social protection mechanisms linked to energy reform could offer pathways for reconciling affordability with sustainability.

## CONCLUSION

Indonesia's renewable energy transition is emblematic of the broader challenges facing fossil fuel-dependent developing economies. Despite abundant renewable

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potential and growing international pressure, policy progress remains constrained by fiscal conservatism, institutional inertia, and political economy considerations. This article has demonstrated that delays in renewable regulation and cautious policy design are not anomalies but rational responses within a constrained governance environment.

By integrating energy security theory, subsidy reform literature, and Indonesia-specific policy analysis, the study provides a comprehensive explanation of Indonesia's transition trajectory. The findings suggest that meaningful progress will require not only technological investment but also institutional reform, fiscal innovation, and political consensus-building. Without addressing these deeper structural constraints, renewable energy expansion is likely to remain incremental, reinforcing existing dependencies rather than transforming the energy system.

Ultimately, Indonesia's experience offers critical lessons for other developing countries navigating similar transitions. Energy policy cannot be divorced from fiscal realities or political legitimacy. Recognizing and addressing these interdependencies is essential for designing transition pathways that are both sustainable and socially acceptable.

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