

IMPLEMENTATION CHECK OF RUKN 2019-2038

Policy instrument: General National Electricity Plan (RUKN) 2019-2038

RATING

MEDIUM



The achievement of renewable energy shares in the power sector is enforced through the National Electricity Plan (RUKN 2019-2038) and supported by the enactment of Presidential Regulation (PR) 112/2022. However, the government has not provided clear and credible policy direction for its implementing institutions in order to meet the targets detailed in these regulations. PLN, as a state-owned utility, is also facing resource constraints that delay renewable energy project implementation, such as internal budget limitations and a lack of experienced personnel to handle RE projects.

There has been progress in policy development meant to catalyse investment in renewable energy, but investment attractiveness remains low due to the electricity pricing regulations, which still favour fossil fuels. The consequential lack of investment is also preventing the

RE target achievement from being reached. The MEMR annual performance report indicated that the yearly RE shares target has not been met since 2018. The lack of publicly available monitoring and evaluation reporting from other implementing institutions also adds to the difficulty of tracking the progress of RE development in Indonesia.

All in all, renewable energy development in the power sector has a strong legal basis, but its implementation is facing several roadblocks. These roadblocks indicate that the plan is unclear and that the implementing institutions are unprepared. Hence, we rate the implementation of RUKN 2019-2038 as “Medium”. The rating would improve if the government were to address shortcomings in resources, issues, as well as the monitoring mechanism.

Recommendations:



LEGAL STATUS

STRONG

- Establish comprehensive implementation mechanism following the implementation of PR 112/2022.
- Accelerate ratification of the New and Renewable Energy Bill to provide the main regulatory framework for renewable energy development in Indonesia.



INSTITUTIONS & GOVERNANCE

MEDIUM

- Provide clear, integrated, end-to-end apparatus starting from the procurement to the mandatory reporting process, especially for business area holders outside of PLN.



RESOURCES

MEDIUM

- Invest in knowledge infrastructure to increase the skilled workforce in renewable energy projects.
- Improve sustainable finance framework to align with globally accepted practices and show clear favour towards investment in renewable projects.
- Remove inflexible regulatory barriers in renewable infrastructure projects, especially for solar PV development.



OVERSIGHT

MEDIUM

- Improve the monitoring mechanism to effectively track progress and mitigate issues.
- Enforce transparency and accountability by mandating all implementing bodies/institutions to submit publicly available annual reports and operational plans.

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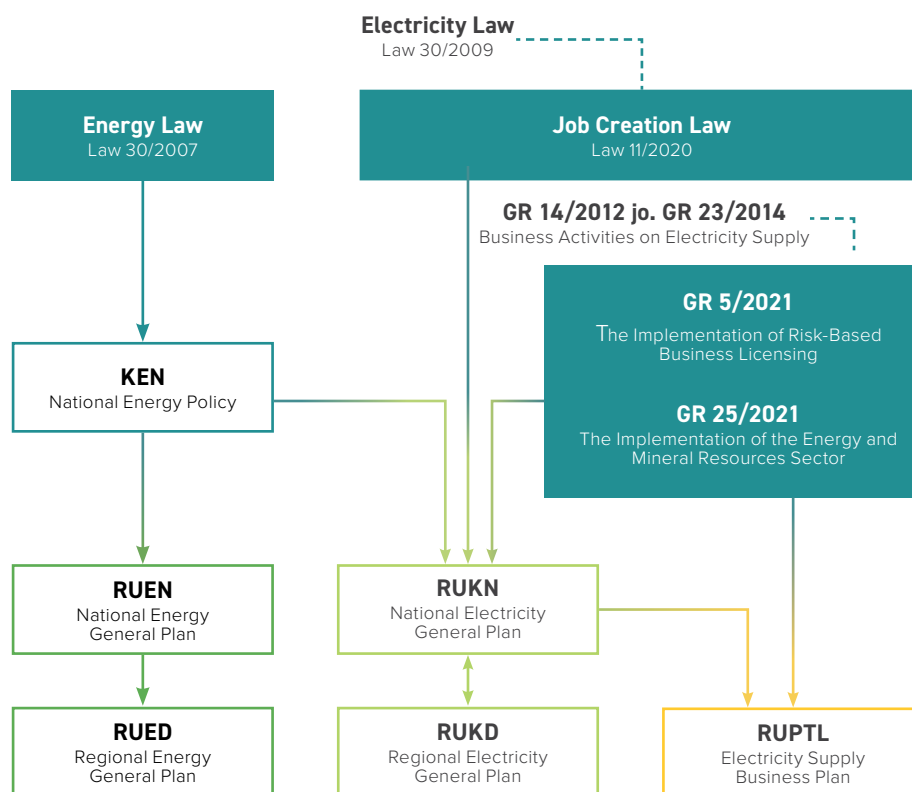


LEGAL STATUS

STRONG

The National Electricity Plan (RUKN 2019-2038) is enacted through the Minister of Energy and Mineral Resources (MEMR) Decree No.143/2019. The RUKN provides a framework for energy-related plans, such as the Electricity Power Supply Business Plan (RUPTL) and the Regional Energy Plan (RUED). The RUKN 2019-2038 assumes that electricity needs will grow around 6.9% annually and is heavily dominated by the demand from the industry sector, followed by the

household, business, public, and transport sectors. Considering that the electricity sub-sector generated 40% of the total CO₂ emission from the energy sector, this demand will need to be met by renewable sources. The RUKN 2019-2038 provides a blueprint for national electricity planning that integrates the renewable energy target shares as outlined in Indonesia's First Nationally Determined Contributions (NDC).



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INSTITUTIONAL FRAMEWORK AND GOVERNANCE

MEDIUM

The MEMR is the regulator of the energy sector and supervises the implementation of energy policy, approves electricity business plans of all utility companies in Indonesia, and formulates electricity tariffs and standards. Under the MEMR, the Directorate General of Electricity (DGE) is responsible for formulating and implementing policies related to the development and supervision of electricity systems in Indonesia, regulating the utility business, and formulating the National Electricity Plan (RUKN) based on the National Energy Policy. PT. PLN (Persero), as a state-owned utility enterprise, as well as 50 business area holders listed in the RUKN, is obligated to submit electricity business plans to the MEMR. These companies must integrate the national renewable energy target into their electricity business plan.

To complement the electricity pricing regulations on RUKN 2019-2038, the Ministry of Finance (MOF) is responsible for providing calculations on the annual electricity subsidy and compensation, based on the recommendation of electricity cost and tariff structure by the MEMR. They must also guarantee financial viability of PLN as a state-owned enterprise. Under this responsibility, the MOF scrutinize PLN's investment plan and asset management to minimize the burden of subsidies to the state's budget.

The policy objectives of the RUKN 2019-2038 are divided into four priority-based categories. In descending order, these are: generation, transmission, distribution, and rural electrification progress. The RUKN targeted the renewable energy shares in power generation to reach 23% by 2025 and 25% by 2038. To be able to integrate higher shares of renewable energy into the system, the RUKN 2019-2038 drives the development of smart grid infrastructure. Renewable energy utilization is also being prioritized for rural electrification through off-grid, small-scale power plants sourced from micro-hydro, wind, and solar power.

Indonesia has made progress in providing legal instruments to accelerate renewable energy deployment. However, the RUKN 2019-2038 has not provided clear rules and regulations to meet the policy objectives through credible means. The government expects increased private sector participation in renewable energy development, but no specific provisions in the RUKN are made to incentivize this participation. For example, the negotiation process of power purchase agreement often lacks transparency and put IPPs in a disadvantaged position, since PLN will have the final say on the tariff. Incentives for RE project developers, such as feed-in-tariffs (FIT), are also not being regulated in the RUKN or other supporting policy instruments. The absence of clear, streamlined, and consistent policy hinders the advancement of renewables into Indonesia's electricity system.

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The policy instrument outlines the necessary investment in electricity infrastructure from 2019-2038, with the majority (USD 217 billion) directed towards power generation. The financial implications of developing electricity infrastructure will be handled through multiple channels; including loans, bond issuance, and government funds. For IPPs, the selling price of electricity generated from renewables is regulated under Ministerial Decree 4/2020, where IPPs will negotiate with PT PLN before entering into a power purchase agreement.

For the fiscal year 2023, the government has allocated around USD 57.6 million, which is less than 1% of the total budget for infrastructure development, toward rural electrification through solar and micro-hydro power plants. This number is small when compared to the MEMR calculations, where USD 28.5 billion would be needed annually (until 2060) for power sector transition. Due to this lack of fiscal capacity, private sector investment is prioritized for renewable energy development, as a result of the high upfront cost. To access resources from the private sector, incentives for renewable energy development are also offered, such as tax holidays, allowances, and investment allowances, as outlined in Presidential Regulation (PR) No. 112/2022.

However, due to the pricing regulations, the investment attractiveness of RE projects is still low compared to fossil fuel projects. The key regulation governing RE pricing is MEMR Decree 50/2017 on Utilization of Renewable Energy Resources for Electricity Supply, as amended by MEMR Decree 53/2018. In that regulation, the electricity purchases from IPPs are measured against average cost of generation, which is artificially lowered by the coal purchase subsidies limit. The government regulates the fuel cost of utility

through a domestic market obligation price cap for coal and natural gas, with maxima of \$70/ton and \$6/MMBTU, respectively. This regulation was imposed to ensure the affordability of the electricity tariff. However, it caused a mismatch between the agreement of developer and PLN, as the purchase price cap limits the potential revenue of the project. For renewable projects not subject to BPP price caps, PLN is reluctant to agree to renewable prices that could later be perceived as resulting in “state losses”. The PR No. 112/2022 already regulates a new pricing scheme for RE. More time is required to observe the effectiveness of the regulation in attracting investors and shortening the negotiation period, since the implementation of this regulation was started j

The MEMR has identified several challenges within PLN for the implementation of RUPTL, such as the internal budget limitation of PLN, the delay in preparing project feasibility and risk studies, and the lengthy price negotiation process. The company’s internal budget is currently limited because PLN’s income is decreasing due to an increase in average cost of generation without any increase in tariffs since May 2017. The preparation of templates for project feasibility and risk studies for RE projects is essential to make the process more seamless, but such documents are not available and cause project delays. As the number of RE projects in Indonesia is limited, there is a lack of human resources with sufficient expertise to formulate such documents. PLN can learn from other countries and adjust this example to Indonesia’s context. The lack of simplified and clear administrative process for RE procurement, as well as low investment attractiveness for IPPs, hinder the progress of renewable energy target achievement in Indonesia.

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The MEMR provides a publicly available annual performance report that contains the realisation status of RE shares. At the implementation level, PLN provides finance reports on the RUPTL target, which provides monitoring reports for the status of renewable energy projects in Indonesia.

This current monitoring system is already adequate in terms of tracking the progress of RE development and sharing in the PLN's system. However, only PLN's RUPTL is available on the Directorate General of Electricity's website. Meaning, that the RUPTLs of other business areas are not publicly available, and neither are their monitoring reports. Since the RE target share should be imposed on all electricity business areas, the public access of all business areas' monitoring reports is essential to track the development progress.

Through the existing monitoring reports, it can be seen that RE development has fallen below the MEMR's target of 15.7% by 2022, and only reached 12.3%. Historically, the yearly RE share target has not met the MEMR target since 2018. Several RE projects have been delayed and moved to a new Commercial Operating Date (COD) year. Off-track projects, such as these, has several implications, including unserved energy (except for the Jawa-Bali case) and high utilization of expensive old fossil plants, such as diesel.

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Table 1. Yearly RE share target and realisation

Year	RE share	
	Target (%)	Realization (%)
2018	11.6	8.6
2019	12.2	9.2
2020	13.4	11.2
2021	14.5	12.2
2022	15.7	12.3