
Making Energy Transition Work in Indonesia: Bridging The Gap between Policy and Practice

Policy brief
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EXECUTIVE SUMMARY

- Indonesia serves as an interesting case study to explore energy transition challenges within the Association of Southeast Asian Nations (ASEAN).
- Within ASEAN, Indonesia has the largest territory, greatest potential renewable energy resources, highest Gross Domestic Product (GDP), and highest energy consumption, according to the International Energy Agency (IEA).
- Despite developing policies and frameworks, having abundant renewable energy resources and increasing energy demand, Indonesia and ASEAN require significant additional financing to support the renewable energy transition to achieve its target of 23% share in the total energy mix.
- One of the keys to increase financing and investment in the transition is to attract private sector involvement through profitable mechanisms and increasing business valuation of the renewable energy market. In order to increase investment, it is critical that policies reflect the reality of the experience for businesses in practice.
- To unpack this issue, a dedicated side event was held at the 2023 ASEAN Energy Business Forum, featuring senior policy-makers and private sector voices from Indonesia and the region. This policy brief outlines some of the key takeaways from this discussion, including recommendations for action.
- ASEAN and Indonesia have bright economic prospects in the energy transition, if they can address some of the gaps in policy and practice that remain.

CONTEXT

Financing and investment are proving to be a complex challenge for ASEAN as it pursues its target of 23 percent renewable share in the Total Primary Energy Supply (TPES) by 2025. Despite having policies, frameworks, mechanisms, and socio-economic potential in place there remains a significant gap between financing needs and realization. In this context, Indonesia presents a useful analytical case study on how this problem persists and can be overcome.

In the case of Indonesia, the main challenges of financing and investment lie in the mis-alignment between government's policies, regulations, and frameworks with the concerns of the business sector. E.g. Given the condition of renewable energy price is not competitive with fossil fuel, local content policy become challenge for investor ([KataData, 2023](#)).

URGENCY FOR JUST ENERGY TRANSITION IN INDONESIA

Indonesia's energy transition is crucial to mitigate climate change impacts, ensure energy security, and boost GDP, as outlined in multiple evidence-based reports. According to [ADB](#) (2021), climate change will destabilize economic conditions in Indonesia and Southeast Asia. [IEA](#) (2022) suggests diversifying the energy mix to meet rapidly growing demand for energy. [IRENA](#) (2023) reports that transition in the 1.5% scenario would contribute to 3.4% higher GDP over 2021-2050 than the Planned Energy Scenario.

The country is a prime example of the challenges of renewable energy transition in ASEAN. It has a lot of strengths: the largest territory, substantial natural renewable resources of around 3.686 GW ([MEMR, 2023](#)), relatively high GDP ([World Economics](#), n.d.), but also faces challenges such as diverse and disparate islands, and growing energy consumption of 1.185,56 BOE, ([MEMR, 2023](#)).

Indonesia's transition is also crucial for its development and economic growth. The government expects GDP to increase from Rp 15,400 trillion (USD\$ 1 trillion) to Rp 24,000 trillion (\$ 1.56 trillion) by 2030, with energy consumption increasing from 123 million tonne of oil equivalent (TOE) to 243 million TOE ([Setgab, 2021](#); & [National Energy Council, 2021](#)). The main consumer of energy is expected to shift from transportation to industry according to the [National Energy Council's Energy Outlook](#) (2022).

Based on Investment Realisation for Renewable Energy (\$ 0.58 billion) and Fossil Fuel (\$ 22 billion) in 2022 ([IESR, 2022](#)), Indonesia needs a more effective financing mechanism, increase the business valuation of the RE transition projects, and build a more competitive market for renewable energy. The country has only achieved 20.2% of its renewable energy target for 2025, which requires \$8 billion ([IESR, 2022](#)). Achieving 23% RE by 2025 is essential for Indonesia to meet its climate goals immediately by 2025 and also its longer-term targets.

INDONESIA: A CASE TO BE HIGHLIGHTED IN ASEAN'S RENEWABLE ENERGY TRANSITION

Obstacles faced by Indonesia are common in many other ASEAN countries, such as unequal power infrastructure distribution, ineffective policy frameworks, high production costs for renewable energies and subsidized fossil fuel. These challenges have been highlighted by studies by [Perdana](#) (2022) and [IESR](#) (2023).

Financing the transition to renewable energy is a major challenge in Indonesia and the ASEAN region. In 2023, the Indonesia Financial Sustainability Index ([ISFO](#)), suggested that Indonesia faces a \$6.38 billion deficit to achieve its 23% renewable energy target by 2025, and ASEAN as a whole lacks \$95.5 billion for the regional transition program between 2021 and 2030 ([Abdullah et al.](#)). Both Indonesia and ASEAN heavily depend on limited public and government funding for their transitions.

Considering Indonesia's substantial energy consumption, population, GDP, and resources, greater investment is required to scale up transition efforts. As role model in ASEAN, improvements to Indonesia's renewable energy financing framework would have knock-on effects in the region.

FINANCING AND INVESTMENT CHALLENGES ARE THE TIP OF THE ICEBERG

Indonesia's Government [Regulation \(PP\) NO.79 year 2014](#) obligates the 23% renewable energy share of total domestic energy, and is supported with the [Presidential Regulation No.112 year 2022](#) and Kebijakan Energi Nasional as the framework. Indonesia also has diverse financing supports such as the [Just Energy Transition Partnership \(JETP\)](#), [Accelerating Coal Transition Program](#), [Energy Transition Mechanism Country Platform](#), and [Green Taxonomy 1.0 2022](#) ([ADB, 2019](#); & [OJK, 2022](#)). Some provinces have also made ambitious pledges, such as the Governor of Bali's recent [commitment](#) to achieving Net Zero by 2045, including reaching 100% renewable energy on Nusa Penida by 2030.

At the regional level, Indonesia has engaged with the ASEAN Plan of [Action for Energy Cooperation \(APAEC\) Phase II](#) and [the new vehicle electrification initiative](#). Despite those programs and regulations, only 20.2% of the total \$8 billion annual requirement is confirmed ([IESR, 2022](#)).

The Asian Development Bank (ADB)'s 2019 report shows that the government is the major financier in renewable energy transition in Indonesia, contributing 40% of total funds required. The private sector contributes 30%, followed by development finance institutions and multilateral climate funds. The government is planning to reduce its contribution in the coming years and do more to encourage the private sector to fill the gap.

In order to enhance private sector involvement in financing and investment Indonesia must consider the experience and concerns of the private sectors when designing policies. As IEA and ISFO report in 2023, there are several aspects that hinder the private sector from taking a larger role, including: high upfront fees; lack of bankability; high political risk; weak financial market as the result of low business valuation for the renewable energy market; lack of accountability and lack of clarity in the procurement process; inadequate energy infrastructure in Eastern Indonesia; heavy dependency on subsidised fossil fuels; lack of awareness or unfavorable perspective of renewable energy from the public and stakeholders.

ASEAN also faces similar problems in achieving its renewable energy targets. (Safrina, 2023). Despite the agreement on the ASEAN Plan of Action for Energy Cooperation (APAEC), establishment of various organizations such as the ASEAN Centre for Energy (ACE), Renewable Energy Sub-Sector Network, and Power Grid, ASEAN Member States still face challenges related to regulatory frameworks, finance, integrated approaches, inequality and differing priorities (AEBF, 2023; & IEA, 2023;).

ASEAN experiences a \$95 billion gap in the projected \$159 billion investment needed for 2021-2030 under baseline scenario (Abdullah, et al, 2023). The composition of this investment is dominated by the private sector investment with \$53.4 billion according to the same report. IEA (2023) estimates that the blended finance investment is dominated by ADB with 21 commitments followed by private institutions in Asia.

For instance, at the regional level, Singapore faces potential energy crisis due to lack of renewable energy sources. Meanwhile, Laos with abundant hydro and wind power has difficulty marketing its renewable energy due to lack of integrated power grid (Soukaloun, 2023; Andres, 2023). These concerns are in line with similar findings from IESR (2023), IEA (2023), Huda (2023), Sambodo (2023), and EU-ASEAN Business Council (2023) regarding the challenges in RE transition in Indonesia and ASEAN.

INSIGHTS FROM ASEAN ECONOMIC BUSINESS FORUM (AEBF) SIDE EVENT: BRIDGING THE GAP BETWEEN POLICY AND PRACTICE

The event involved two panel discussions: the first bringing business leaders together to share their challenges, and the second to hear policy-makers' responses. From business the panels consisted of representatives from Quantum Power Asia, Suncable, PT TML Energy, and the Indonesia Biofuel Producers Association. From government we heard from representatives of PLN, the Governor of Bali, the Ministry of Energy and Mineral Resources, and the Coordinating Ministry for Maritime and Investment. Here is some insight:

Progress identified included:

- The Government has national programs to support development of solar power in remote areas and outer islands, and replacing diesel generators with solar energy
- Bureaucratic and regulatory hurdles were easier than they used to be, although there is still more to be done to smooth the process. As one business leader put it “the money is out there, that’s not the problem. It’s about the risk management now.”
- Acknowledgement significant technological advances in recent years, saying it is no longer a case of proving the technology works, but about removing financial disincentives and other barriers.
- The Government of Indonesia presented a plan to accelerate renewable energy transition notably in RPJMN 2020-2024 highlights several guidelines including energy efficiency, diversification, funding and financing, expanding supply services, and electricity governance.
- The government is also planning to provide a framework of policies and financial de-risking in RPJPN 2025-2045 final draft (Mardiana, 2023).

Challenges include:

- Lack of integrated power infrastructure, especially distribution networks, which is a particular challenge in archipelagic countries like Indonesia, which has over one thousand separate island grids.
- Competing agendas at the national and regional level can sometimes work at cross-purposes, or fail to link up to harness collective benefits.
- Lack of implementation and enforcement of failure to reach targets and roadmaps. If it is seen as not having consequences, there will not be an incentive to scale up implementation.
- Oversupply of the Java-Bali grid due to a high number of take-or-pay agreements. Lack of coordination between procurement and systems planning departments.
- Distortions in the market created by fossil fuel subsidies which make it hard for renewables to compete on a level playing field.
- Absence of regional regulatory framework to cover subsea cable systems. The current systems mostly relate to fiber optic cables, which have different technical requirements.
- Need for flexible, intermittent energy and improved transmission.

RECOMMENDATIONS

Indonesia needs to revolutionize their renewable energy transition financing and investment target by acknowledging the concerns from business sectors and transforming the AEBF 2023 insights into practical solutions. Otherwise, not only will the 2025 target be unachievable, but also the country's environmental, energy, and economic future will also be in danger. In particular, we recommend:

- Engaging a diverse set of stakeholders is essential. A robust process should be established, creating a continuous feedback loop that involves businesses, governments, and local communities. This process allows for valuable insights to be gathered about challenges faced on the ground. Policy development in renewable energy should be firmly rooted in field assessments. These assessments provide a clear picture of the true potential and obstacles faced when implementing renewable energy projects across varied regions. Before rolling out policies on a national scale, it's crucial to launch pilot projects to test these policies under real-world conditions.
- Regarding regulatory frameworks, there's a need for simplicity and transparency. The bureaucratic procedures associated with renewable energy projects, such as obtaining permits, land acquisitions, and grid connections, should be streamlined. Furthermore, the regulatory framework should present guidelines on policy implementation in a clear and easy-to-understand manner, minimizing any ambiguity during the implementation phase.
- Moreover, fostering public-private partnerships should be actively encouraged. Such collaborations between the government and the private sector can efficiently pool resources, knowledge, and expertise in the renewable energy domain.

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