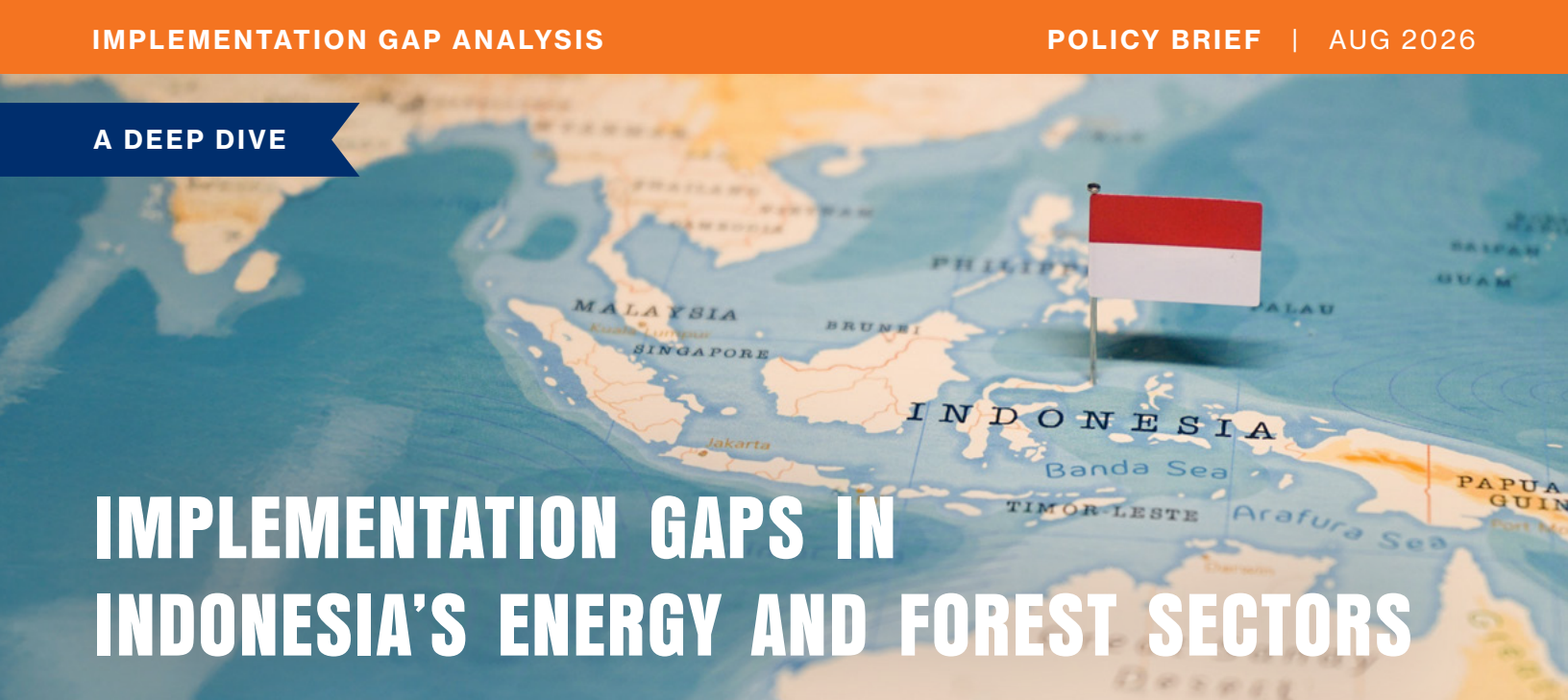


A DEEP DIVE

A map of Southeast Asia with an Indonesian flag pin placed over the Indonesian archipelago. The map shows various countries including Malaysia, Brunei, Philippines, Singapore, and Papua New Guinea. The Indonesian flag is a red and white horizontal bicolor.

IMPLEMENTATION GAPS IN INDONESIA'S ENERGY AND FOREST SECTORS

Authors: Michael Kurniawan, Soyoung Oh, and Agus Sari



Key Insights

- Indonesia's implementation gap in energy and FOLU sectors is primarily driven by persistent financial, institutional, and political economy constraints that limit the ability of existing policies to deliver intended outcomes.
- In the energy sector, PLN's fiscal pressures, fossil-fuel subsidies, and electricity tariffs constrain the transition away from coal and increase risks for renewable energy investment.
- In the FOLU sector, financing gaps are compounded by fragmented land governance and competing land-use priorities. Rehabilitation and conservation programs face insufficient long-term funding, fragmented land data, and tensions among forest restoration, agricultural production, and economic objectives.
- Community-based approaches (cooperative solar, social forestry) offer an avenue for translating national policies into local outcomes, but viable operating and financing models are needed to scale them.

Methodology

This brief draws on 10 semi-structured interviews conducted across Indonesia's energy and forestry, land use, and other land use (FOLU) sectors, with interviewees from government, industry, and civil society. This deep dive is part of the Implementation Gap Analysis (IGA) project at Climate Policy Lab, which examines the gap between climate policies and the outcomes they are intended to achieve.

This analysis focuses on selected policies in the energy and FOLU sectors and examines why existing policy interventions have not consistently produced outcomes at scale. Each interview was assessed through three recurring diagnostic lenses: institutional capacity, incentive misalignment, and financial constraints to identify where reforms would close the implementation gap fastest. These lenses identify the mechanisms contributing to implementation gaps and potential reforms that could improve policy implementation.

Country Context

INDONESIA'S CLIMATE AMBITION AND POLICIES

Indonesia has set ambitious targets and developed a broad portfolio of policy instruments, but implementation outcomes remain uneven and inconsistent across sectors. Under President Prabowo Subianto, who took office in October 2024, climate policy has increasingly intersected with broader priorities around energy security, food security, and economic growth.

Indonesia's climate agenda sits inside a dense set of overlapping policy frameworks, including a 2025 Second Nationally Determined Contribution (SNDC) that sets separate targets for forestry, food/agriculture, and energy without formally linking them; a 2060 net-zero target; and a 2025–2029 National Mid-Term Development Plan built around food-energy-water self-sufficiency (“Asta Cita 2”).

A [previous implementation gap analysis](#) for Indonesia conducted by Climate Policy Lab in 2025 identified that the energy and forestry

sectors face political economy and interest-based barriers, such as insufficient political will, competing goals, and industry lobbying or resistance. The 10 additional interviews conducted for this brief suggest that these political economy constraints interact with financing and institutional capacity constraints, limiting the outcomes of policies already being implemented.

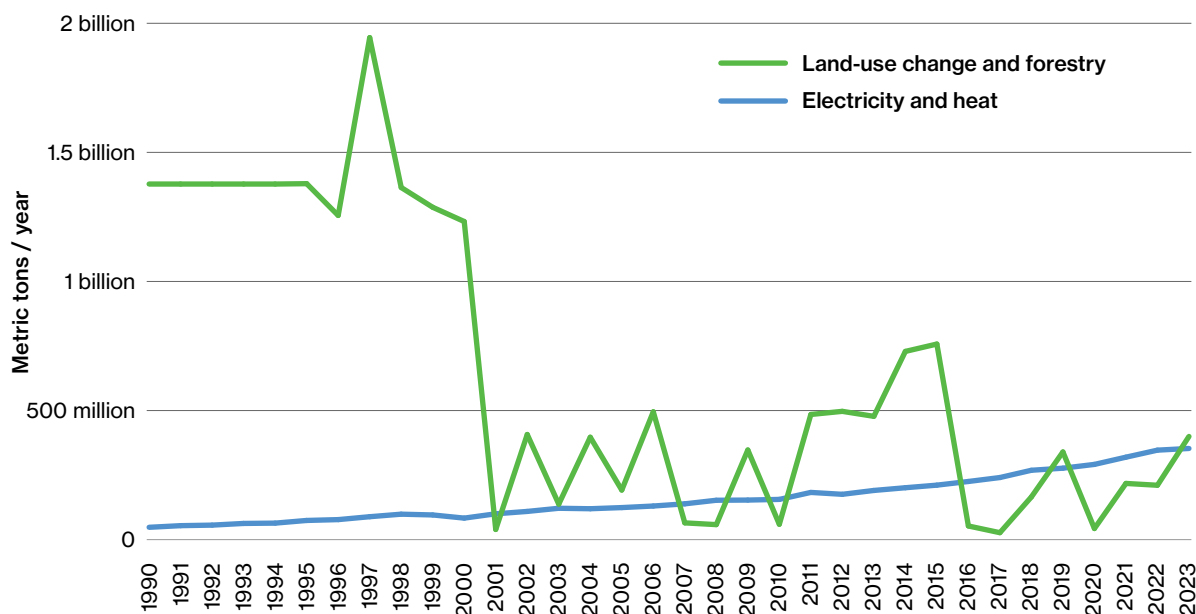
ENERGY SECTOR CONTEXT

This brief examines three areas of Indonesia's energy sector transition:

1. Phase-down and potential early retirement of coal-fired power plants;
2. 100 GW solar village solar initiative announced in 2025; and
3. Reforms to the structure and regulation of the power sector.

These policies illustrate the tension between Indonesia's growing renewable energy ambition and financial and institutional structures of a power system that remains heavily dependent on coal. The current Indonesian power strategy favors a gradual phase-down of coal rather than early retirement, given the financial

Figure 1. Emissions from land-use change & forestry and electricity & heat in Indonesia (tCO₂e)



Source: Climate Watch (2026)

unattractiveness of shutting down power plants ahead of schedule. The government instead plans to reduce coal-related emissions by co-firing biomass and transitioning to hydrogen or green ammonia. The 100 GW village solar initiative, announced in 2025, envisions 20 GW of centralized solar and 80 GW of decentralized solar across 80,000 villages nationwide.

The government's 100 GW village solar initiative envisions distributed solar deployment, but only an initial portion of this ambition has been incorporated into electricity planning ...

However, none of this has been incorporated into the national electricity supply plan (RUPTL), with the first 17 GW planned to be announced in this year's upcoming plan. The operating model of the remaining capacity is still under development. Energy sector reform efforts center on structural bottlenecks stemming from the national electricity company's monopoly, aiming to create a more predictable environment for private investment in renewable energy.

PLN, the state-owned electricity utility, sits at the center of this implementation challenge. Its fiscal position depends heavily on government support within a system of administered electricity tariffs and energy subsidies. At the same time, Indonesia is pursuing a major expansion of solar power. The government's 100 GW village solar initiative envisions distributed solar deployment, but only an initial portion of this ambition has been incorporated into electricity planning, while the operating models for wider deployment remain under development.

FORESTRY (FOLU) SECTOR CONTEXT

The brief examines three dimensions of Indonesia's FOLU policy:

1. Forest-land rehabilitation under the FOLU Net Sink 2030 strategy;
2. Financing for national parks and conservation; and
3. Coordination across the food-energy-forest nexus.

The FOLU Net Sink 2030 strategy aims to make Indonesia's forestry and land-use sector a net carbon sink by 2030 by rehabilitating roughly 12 million hectares of degraded and critical land, though current funding covers only a small portion of this target every year. Financing for national parks and conservation includes newer mechanisms such as carbon credit "land-adoption" schemes, a new national carbon registry (SRUK), and a pilot Innovative Financing Task Force to close a financing gap currently allocated in the state budget. Coordination across the food-energy-forest nexus is anchored in the 2025 Water-Energy-Food (WEF) Nexus Roadmap, which seeks to align land-use decisions across forestry, agriculture, and energy at the national level.

Indonesia's forest estate, managed by the Ministry of Forestry, encompasses the protection, conservation, and production of forests, each serving distinct policy objectives and historically managed through separate administrative and data systems. A significant share of the 12 million hectares officially classified as "critical land" for rehabilitation may reflect classification mismatches.

Interview Findings

ENERGY

Coal Transition

The interviews point to a more fundamental constraint on coal phase-down. An interviewee from the Ministry of Energy and Mineral Resources mentioned that early retirement is not currently pursuing widespread early retirement of coal-fired power plants because compensation for plant owners, stranded assets, and fiscal implications for PLN make early closure financially unattractive. Instead, the current strategy emphasizes continued operation combined with a gradual reduction in emissions through cofiring – initially biomass and potentially hydrogen or ammonia in the future.

Industry respondents similarly questioned whether early retirement remains an active policy priority. Several emphasized that coal subsidies continue to weaken the commercial case for

replacing coal with renewable electricity, even as solar costs decline.

International coal-retirement finance could offset some of the costs, but respondents identified a credibility challenge. Emerging carbon credit methodologies such as Verra and the Gold Standard generally require a forward commitment to stop building new coal plants, which is incompatible with PLN's plans to keep building coal plants through 2035.

100 GW Solar for Village

Indonesia's 100 GW solar program for villages illustrates the challenge of moving from an ambitious capacity target to a financially and institutionally sustainable deployment model. The program is beginning to be incorporated into the national electricity supply plan (RUPTL), but only 17 GW has been included so far, with later phases expected to be incorporated in subsequent revisions. A government respondent indicated that private investment is expected to finance a substantial share of the program.

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Across interviews, the unresolved issue was not primarily solar technology, but who will own, operate, maintain, and pay for distributed systems over their lifetime. Respondents pointed to earlier village solar projects that were installed but later abandoned due to technical issues, as local communities lacked access to trained operators or maintenance services. Several interviewees therefore cautioned that expanding installed capacity without establishing long-term operating responsibilities could reproduce earlier implementation failures.

Further, demand also varies across villages. Experts cautioned against treating the target as a uniform allocation of roughly 1 MW across

approximately 80,000 villages, particularly in lower-demand areas of Kalimantan, Maluku, or Papua. Matching system size to actual electricity demand and productive activities is therefore critical to avoiding underutilized assets. For large, centralized projects, land availability is an additional constraint, prompting some developers to explore alternatives such as floating solar.

Energy Sector Reform

On market reform, respondents identified broader power market conditions that affect the outcome of renewable energy policies. A solar developer highlighted a concrete regulatory bottleneck: applications for grid-connected solar projects are processed only twice a year. The respondent characterized it as a legacy of an earlier period of electricity overcapacity that now delays otherwise viable projects.

More broadly, PLN's financial and institutional position emerged repeatedly as a barrier to implementation across interviews. Respondents identified administered electricity tariffs, subsidies, PLN's growing fiscal exposure, and uncertainty surrounding PLN-linked projects as significant barriers to investment. One interviewee noted that PLN may require substantially greater government support in the coming years, while another described PLN-linked transactions as difficult to underwrite because investors must price political and regulatory risk alongside project risks.

Blended finance, guarantees, and a published de-risking roadmap can mitigate some project-level risks, but respondents stressed that these instruments cannot fully compensate for structural challenges. Fossil-fuel subsidies and administered tariffs continue to weaken the economic case for renewables, while uncertainty over tariffs and licensing raises financing costs.

FORESTRY AND OTHER LAND USE (FOLU)

Forest Rehabilitation

Interviews revealed that financing is a core bottleneck for forest rehabilitation. Indonesia has identified approximately 12 million hectares of critical land for rehabilitation, but current

public resources allow rehabilitation of only a small fraction of this area annually. Government financing currently covers only the first three years of a roughly ten-year establishment period, while successful establishment can require full-length maintenance. An estimated \$9 billion is required for forest rehabilitation, while interviewees estimated annual financing needs for national parks at approximately Rp75 trillion, compared with Rp8–10 trillion currently provided through the state budget.

Emerging financing mechanisms, including carbon-based “land adoption” schemes and a new registry (SRUK), are intended to close this gap. However, a respondent cautioned that there is also uncertainty about where rehabilitation should occur. Legal forest classification does not always correspond to actual land cover: significant areas legally designated as forest no longer contain forest, while actual forest cover also exists outside the formal forest estate. Respondents questioned how the approximately 12 million hectares designated as critical land intersect with other programs, including the roughly 12.7-million-hectare Social Forestry Program.

Technical capacity creates another constraint. Ministry respondents highlighted Indonesia’s limited network of large-scale nurseries and the cost of moving seedlings across an archipelagic country. Expanding distributed nursery capacity across geographic areas could reduce logistics costs, improve the availability of suitable planting material, and ultimately enhance seedling survival.

The interviews suggest that the rehabilitation gap arises from a mismatch between the scale and duration of financing, the quality of underlying land information, and the biological and logistical requirements for successful restoration.

Financing for national parks and conservation

Regarding national park financing, a presidential decree has created an Innovative Financing Task Force to pilot a semi-autonomous revenue model (BLU) across 13 priority parks, alongside an emerging biodiversity-credit instrument. The two biggest risks mentioned in the interviews are a

two-tier system in which only high-tourism parks become self-financing while ecologically critical, low-revenue parks stay budget-dependent, and the multidimensional, harder-to-standardize nature of biodiversity (versus a single CO₂ unit for carbon), which could let credits become a reputational instrument without rigorous, independently verified outcomes or community benefit-sharing.

Food-energy-forest nexus

The food-energy-forest nexus illustrates an institutional implementation gap. Indonesia now has a national Water-Energy-Food Nexus Roadmap, but respondents distinguished between national coordination and the actual resolution of competing land-use claims. At the site level, forestry, agriculture, food security, renewable energy, and other development objectives can compete for the same land and water resources. Respondents identified no

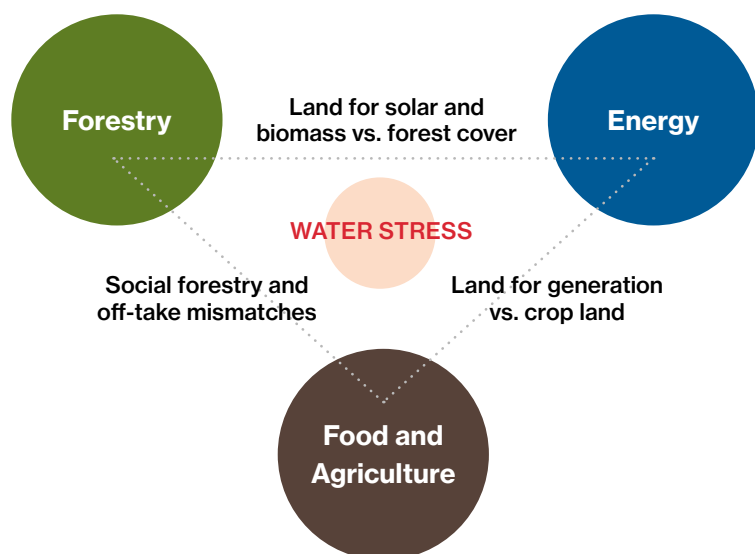
Water availability was highlighted as an especially important missing dimension.

single institution with clear authority to arbitrate these trade-offs. As a result, sectoral programs can each be implemented according to their own objectives.

Water availability was highlighted as an especially important missing dimension. Respondents argued that land-use planning for food, energy, or forestry cannot be credible without incorporating water stress from the outset, particularly where agricultural expansion and energy development create additional water demands.

At the same time, interviews identified examples of more integrated local implementation. In East Nusa Tenggara, community-managed solar irrigation enabled previously water-constrained communities to expand year-round agriculture, aquaculture, and income-generating activities. Respondents contrasted this bottom-up model with more centralized approaches based on predetermined commodities and land allocation.

Figure 2. Indonesia's food-energy-forest nexus: three competing land claims and one shared water constraint



Recommendations

Across the ten interviews, respondents consistently pointed to a gap between the expected and actual outcomes of policies being implemented. Three main constraints appear across the energy and FOLU sectors: financial constraints, political economy incentives, and institutional capacity and coordination. These factors often reinforce one another. Financing is harder to mobilize when revenue models or institutional responsibilities remain uncertain, while fossil fuel incentives can make reforms politically difficult.

CROSS-CUTTING

- **Align financing to implementation needs, not just initial investments.** Public and blended finance could be designed for long-term operation, maintenance, and performance.
- **Prioritize transparent, publicly disclosed data, including land classification, monitoring, reporting, and verification (MRV), and licensing decisions,** as a precondition for scaling any of the financing instruments described above, since credibility gaps are what keep institutional capital on the sidelines in both sectors.

- **Treat institutional silos as the common root cause.** Creating a single cross-ministerial body to arbitrate land-use and financing trade-offs that currently fall between energy, forestry, food, and finance ministries could help fill the gap.

ENERGY

- **Establish a clear delivery model for the 100 GW village solar program.** Anchoring the 100 GW target in the 2027 update to the SNDC would give firmer legal footing than a ministerial regulation and broaden the political coalition behind reform.
- **Increase grid-connection licensing rounds beyond twice a year and publish a PLN de-risking roadmap** (tariff certainty, guarantee structures, transparent licensing) to unlock the private-sector pipeline currently sitting idle.
- **Pair distributed solar with productive economic uses and guaranteed off-take,** and fund the local operator/maintenance capacity needed to prevent installations from being abandoned.
- **Align coal policies with transition objectives.** Reducing policy incentives that favor continued coal generation and establishing a credible pathway for coal phase-down can unlock international transition finance.

FOLU

- **Resolve land-classification mismatches (forest area vs. actual land cover)** before allocating further rehabilitation spending, and publicly disclose location, methodology, and MRV results for both the 12-million-hectare program and BLU-financed parks.
- **Shift rehabilitation cost-sharing toward a polluter-pays model for landscapes with documented corporate deforestation footprints,** reducing reliance on state budget alone.
- **Build cross-sectoral, site-level authority to arbitrate competing land-use trade-offs for forestry, food, and energy,** with water-stress data built in from the start, and fund

community-controlled models (solar irrigation, social forestry-linked business development) alongside top-down commodity planning.

- **Replace discretionary, case-by-case forestry approvals** with clear management guardrails and continue building technical/commercial capacity inside the Ministry of Forestry.
- **In the near term, relax export restrictions on round logs and sawn timber** for high-performing Sustainable Forest Management operations and rationalize logging royalties, to raise industry activity and overall government revenue even at a lower rate. ●

FOR ACADEMIC CITATION:

Kurniawan, M., Oh, S., & Sari, A. (2026, August). *Implementation Gaps in Indonesia's Energy and Forest Sectors* (Policy Brief). Climate Policy Lab, The Fletcher School at Tufts University.

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ACKNOWLEDGEMENTS:

The authors gratefully acknowledge the 10 interview respondents across Indonesia's government, industry, and civil society organizations for generously sharing their time, insights, and expertise in this deep dive. We also thank other implementing partners referenced in these interviews, and colleagues who contributed to the earlier country-level IGA policy brief on which this work builds.

FUNDING FOR THIS RESEARCH:

Research for this policy brief was supported by Climate Policy Lab's core funders, including the Rockefeller Brothers Fund and the William and Flora Hewlett Foundation.

Any errors or misrepresentations are the sole responsibility of the authors.