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China's Expanding Green Investments in Indonesia: A Catalyst for Energy Transition?

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SYNOPSIS

Green energy has become a key pillar in the Sino-Indonesian economic partnership. China's advancements in renewable energy technology and strong construction capabilities position it as a crucial partner in Indonesia's energy transition. While China's growing green investment and renewable technologies can act as a catalyst for Indonesia's energy transition, their overall impact should not be overstated as Indonesia's internal challenges loom large.

COMMENTARY

During Indonesian President Prabowo Subianto's visit to China in late 2024, China and Indonesia agreed to strengthen cooperation in green energy and technology, including new energy vehicles, lithium batteries, and photovoltaic products. The Green Mineral Resources Partnership and two strategic mineral-related Memorandums of Understanding focused on sustainable mineral supply chains and clean energy investment further reinforced this collaboration.

These agreements, along with financial commitments, underscore the strength of this partnership. Key financial support includes a US$10 billion deal, signed at the 2024 Indonesia-China Business Forum, and 11 deals worth US$12.6 billion in 2023, primarily directed towards renewable energy projects and electric vehicle (EV) batteries. Indonesia's recent accession to BRICS, where China remains a key driving force, is also expected to bring new economic opportunities and attract more foreign investment in this emerging sector.

This unfolding collaboration is driven by Beijing's commitment to a greener Belt and Road Initiative (BRI) and Jakarta's ambitions for an energy transition. While China's expanding green investments and cutting-edge clean technology have the potential to

accelerate Indonesia's renewable energy development, their impact should not be overstated.

China's Renewable Energy Engagement in Indonesia

Indonesia, a major global coal producer and consumer, is actively working to reduce its carbon footprint. The government aims to generate 34 per cent of its electricity from renewables by 2030 and gradually phase out coal-fired power plants as part of its commitment to achieving net-zero emissions. Reaching these goals will require an estimated US$1.3 trillion in investments across various technological sectors.

While domestic investment is essential, foreign capital and technology transfers can drive innovation, expand infrastructure, and help bridge funding gaps. China, Indonesia's second-largest investor, is viewed as a crucial partner for Indonesia's renewable energy development.

Over the past 17 years, China has invested around US$35 billion in Indonesia, with around 25 per cent directed toward the energy sector. Its investment focus has recently expanded into clean energy sectors, including solar panels and hydropower.

Notably, Chinese companies play an important role in Indonesia's EV battery supply chain by leveraging the country's abundant nickel reserves. Despite the challenges associated with nickel production, particularly its high energy consumption and environmental impact, the dominance of Chinese companies in Indonesia's nickel industry means their role in the country's broader energy development cannot be overlooked.

Meanwhile, bilateral agreements have facilitated technology transfers, financing, knowledge sharing, and capacity building in renewable energy research and development. Since the Jokowi era, Indonesia has actively sought Chinese investment and strengthened bilateral ties in this sector. China's increasing focus on green finance and technological expertise enhances its appeal as a green investor. Within a greener BRI framework, Indonesia may attract greater Chinese capital and technical expertise in renewables.

The Limits to China's Green Push in Indonesia

Despite China's expanding role in Indonesia's renewable energy sector, its overall impact remains limited. First, while China has increased its focus on renewables, a substantial 86 per cent of its energy investments were directed towards fossil fuel projects. Although China has pledged to cease building new overseas coal-fired plants, phasing out existing Chinese-backed coal infrastructure remains a long-term challenge, partly because these facilities are crucial in powering industrial operations.

Second, the continued operation of existing coal plants could undermine the potential benefits of new green investments. China's previous involvement in coal projects has raised local concerns about their environmental and social consequences. While Chinese green investments can drive progress in clean energy development, their impact may be diluted by the ongoing operation of coal infrastructure.

Third, Indonesia may remain cautious about over-reliance on a single market which could increase economic vulnerabilities and weaken domestic industries. Jakarta has actively diversified its partnerships with developed economies to support its energy transition. For example, the US- and Japan-led Just Energy Transition Partnership (JETP) pledged US$20 billion to accelerate Indonesia's renewable development, although implementation delays remain a concern. Growing investment interest from other economies, such as the European Union and Australia, further diminishes China's competitive edge.

Indonesia's Challenges Loom Large

Beyond the abovementioned factors, Indonesia faces domestic challenges that complicate its energy transition.

A major obstacle is Indonesia's heavy dependence on coal-fired power plants, which currently account for 66 per cent of the country's electricity. By September 2024, a significant portion of the country's coal plants – specifically 93 out of 201 – operate as captive facilities and serve industrial sectors such as mining and smelting. Because these facilities are essential for industrial development and economic growth, phasing them out entirely in the short term remains challenging.

Second, the energy transition is further complicated by an energy paradox. While traditional energy is essential for processing key materials in clean energy technologies, it is also a major source of greenhouse gas emissions. As the IEEFA notes, Indonesia's rapid nickel production could lead to a surge in emissions. This inherent tension creates a paradox where high-emission energy sources sustain industries crucial for decarbonisation efforts.

Finally, policy and regulatory hurdles hinder Indonesia's energy transition. For instance, subsidies for gasoline and diesel, mainly reimbursed to the state-owned company, keep consumer prices below market rates and strengthen demand for fossil fuels. Meanwhile, policy inconsistencies, missed targets, and weak regulatory implementation discourage progress and hinder the country's ability to attract long-term renewable investments.

Conclusion

Energy transition is a complex process that cannot be achieved overnight. While China's climate finance and renewable technologies can catalyse Indonesia's energy transition, their impact is also constrained by ongoing coal reliance, local resistance, and geoeconomic competition. Moreover, Indonesia's internal challenges loom even larger, further complicating its energy transition. Overcoming these obstacles requires a comprehensive approach beyond merely attracting investment in renewables.

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