

Harnessing Indonesia's Geothermal Potential through M&A Investment

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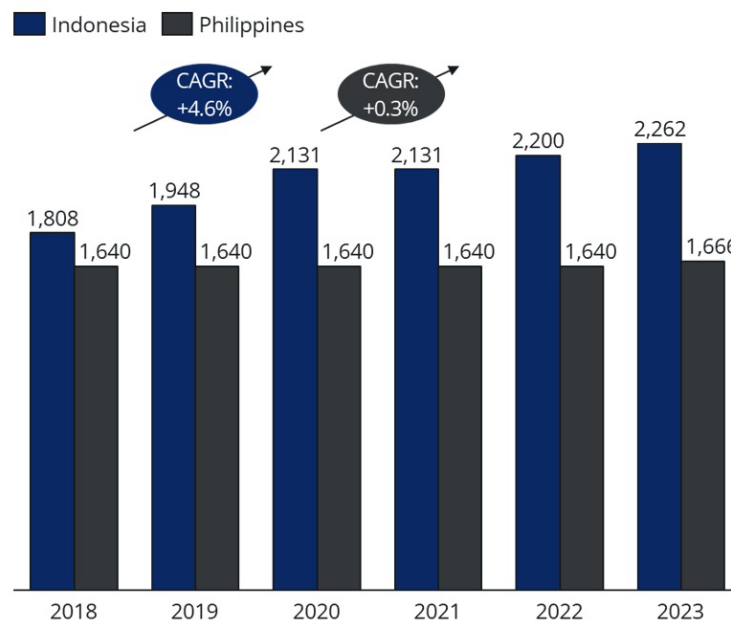
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The world is actively seeking energy transition options to address growing concerns over climate change and dwindling fossil fuel reserves. As a rapidly developing nation, Indonesia is taking a strong stance in this transformative energy revolution, with the government committed to achieving net-zero emissions by 2060 through a slew of decarbonization initiatives. A key strategic thrust is renewable energy development, with a goal for renewables to contribute 75% of the country's electricity capacity by 2040¹. Among these renewable resources, Indonesia's geothermal potential stands out, with abundant resources located at 362 sites throughout Indonesia². This potential is particularly promising for supporting the nation's decarbonization goals, as geothermal energy offers a reliable and sustainable source of power.

This article will explore Indonesia's geothermal potential, the challenges of greenfield development, opportunities for Mergers and Acquisitions (M&A) investment in the sector, and how IGPI can support private and public companies to capitalize on these opportunities.

Southeast Asia's Geothermal Leaders: Indonesia's Rise

ASEAN Geothermal by Installed Capacity 2018 -2023 (Unit: MW)



Within ASEAN today, two countries lead in geothermal capacity: Indonesia and the Philippines. While both nations boast abundant potential, Indonesia's geothermal potential has seen

¹ Business Plan for Electricity Supply (RUPTL) PLN 2024-2033

² Center for Mineral, Coal, and Geothermal Resources (PSDMBP)

more rapid growth in this area over the last five years. However, despite this potential, the development of geothermal energy in Indonesia is fraught with significant challenges, especially during the exploration phase, which presents obstacles to sustained greenfield development.

Exploring Indonesia's Geothermal Potential

In ASEAN, the total geothermal potential capacity amounts to 34 gigawatts (GW), concentrated primarily in Indonesia and the Philippines. Over the past five years, Indonesia has emerged as the leading developer of geothermal power in the region, achieving an annual growth rate of 4.6% compound annual growth rate (CAGR) from 2018 to 2023, while the Philippines has seen minimal growth at just 0.3% CAGR over the same period³.

As of 2023, Indonesia has installed about 2.28 GW of geothermal capacity, representing only around 8% of its total geothermal potential of 30 GW. According to the General Plan for National Energy (RUEN), Indonesia aims to achieve 7.24 gigawatts of geothermal power by 2025, requiring an investment of approximately US\$15 billion, and to reach 9.3 gigawatts by 2035. This plan highlights significant opportunities for future development in Indonesia's geothermal potential.

Challenges in Greenfield Geothermal Development in Indonesia

Yet, two key obstacles hinder the development of greenfield geothermal projects in the country: high exploration risks and challenges in securing licensing and land clearance.

1) High Exploration Risk

The primary challenge in developing new greenfield geothermal projects is the substantial risk associated with exploration, requiring substantial investments ranging from 3 to 5 million USD/MW⁴ and carrying considerable uncertainty in finding viable geothermal sources. The government has implemented measures to mitigate these risks, including support for drilling, soft loans, and exploration funding through initiatives such as the Geothermal Sector Infrastructure Financing Scheme (PISP) and Geothermal Resource Risk Mitigation (GREM)⁵. However, these incentives have seen limited uptake due to a combination of factors, including insufficient tariffs on electricity produced and high-interest rates that increase the required return on investment.

2) Challenges in Licensing and Land Clearance Procedures

Despite the government's introduction of a one-stop licensing system and the designation of geothermal projects as National Strategic Projects (PSN), practical challenges remain. Exploration and subsequent development often overlap with, and potentially conflict with,

³ IRENA, Geothermal Energy Data

⁴ API – Indonesia Geothermal Association

⁵ API – Indonesia Geothermal Association, Webinar - Geothermal Added Value Creation Strategy as a Supportive Measure for NZE 2060

other environmental legislation, such as protected land/forest areas. Deconstructing and organizing these policies will take time; until then, many exploration permits will require long waiting periods for approval or may fail after multiple rounds of submission and clearance.

Opportunities for Japanese Entities to Tap into the Potential of Geothermal Energy in Indonesia through Brownfield Investment

Given the challenges associated with greenfield projects, a brownfield approach—specifically via geothermal M&A—has become an attractive entry option for many developers and investors seeking to enter this sector. This strategy has particularly resonated with Japanese entities; to date, there are 7 Japanese entities involved in geothermal projects in Indonesia, with 5 of these entering via M&A. Between 2007 and 2023, there were approximately 15 [M&A transactions in Indonesia's geothermal industry](#)⁶, 8 of which were executed by Japanese entities.

Among the 5 Japanese players in the market today, INPEX stands out. Since its entry in 2011, the company has primarily employed a brownfield strategy to rapidly expand its geothermal business in Indonesia. Through INPEX Geothermal Ltd., which primarily focuses on geothermal activities, the company has successfully completed four acquisitions⁷.

In 2015, INPEX made its inaugural brownfield investment by acquiring a 49% stake in Medco Power Indonesia, which in turn owns a 37.25% interest in the Sarulla Geothermal Project, joining a consortium that oversees one of the world's largest single-contract geothermal power projects. To date, INPEX holds an 18% stake in the project.

In 2021, INPEX further expanded its portfolio by acquiring a 33.3% share from PT Supreme Energy Sumatera, which in turn owns a 30% interest in the Supreme Muara Laboh Geothermal Project, bringing the company's ownership in this project to 10%. In 2022, INPEX further increased its stake from 10% to 30% by acquiring an additional 20% from another project shareholder, ENGIE SA. That same year, INPEX also completed an investment in the Supreme Energy Rantau Dedap Geothermal Project by acquiring a 27.4% stake from ENGIE SA.

Most recently, in 2023, INPEX joined the Supreme Energy Rajabasa Geothermal project in Lampung, acquiring a 31.45% stake from PT Supreme Energy Raja Basa. Through these strategic investments, INPEX is solidifying its position as a key player in Indonesia's geothermal energy sector, contributing to the country's efforts toward sustainable energy development.

Japanese entities have already begun their foray into the geothermal sector. The combination of a fragmented market landscape, characterized by numerous operating entities and relatively young geothermal facilities (with 60% being under 16 years old⁸), along with the apparent interest from local entities in seeking strategic partners to enhance technology and

⁶ Merger Market

⁷ INPEX Corporation

⁸ Global Geothermal Tracker

expand operations, highlights a market primed and ready for foreign private capital to spur growth.

How Can IGPI Support?

IGPI Singapore specializes in [supporting clients with M&A projects](#), conducting market research, and developing market entry strategies, particularly within the renewable energy sector.

To address these challenges, IGPI offers [comprehensive M&A assessment services](#), including (not limited to):

- Target Screening (Pre-Due Diligence): We conduct thorough primary research to identify potential investments and shortlist viable targets.
- Due Diligence: Our team performs detailed commercial due diligence to gain a deeper understanding of potential targets, covering market analysis, business models, synergies, investment risks, and more.

These solutions are tailored to empower clients to make informed decisions and navigate complexities in their investment initiatives, ensuring strategic and successful market entries.

To find out more about how IGPI can provide consulting support for businesses, browse through [our insight articles](#) or [get in contact with us](#).

About the Author

Mr. Febrizal is the Associate of IGPI Singapore. Prior to joining IGPI, Febrizal worked at YCP Solidiance and PwC Indonesia, where he successfully completed a range of consulting projects, including market entry strategy, growth strategy, and business model identification, across diverse industries such as Agriculture, Automotive, and Industrial. He has extensive experience in M&A activities, including conducting commercial due diligence, valuations, and providing deal advisory services (connecting buy-side and sell-side). Febrizal holds a degree in Economics from Binus University.

About IGPI

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strategic business needs and hands-on support across a wide variety of industries. IGPI group has ~7,500 employees on a consolidated basis.

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