

Empowering Partnerships India's Energy Engagements in Southeast Asia.

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Abstract—The region of Southeast Asia is of immense significance for India in all realms. As the demand for energy accentuates across the world, India's approach to establish energy cooperation in the region remains significant. The paper will delve into India's strategic initiatives aimed towards investments in renewable energy, natural gas supply chains, and technology transfer aimed at enhancing energy security and resilience. India has been investing in South-East Asia in terms of Cross-Border electricity trade, Oil and Gas Cooperation, Renewable energy projects and has carried out various capacity development projects through training programs. These aim to strengthen India's energy engagements in the region to enhance India's economy. As both ASEAN and India are committed to realizing the Sustainable Development Goals (SDGs), they seek to increase their energy resources to provide affordable, reliable and sustainable energy for all by 2030. With significant potential and complementary strengths in accessing both conventional and renewable energy resources, this article explores the current state of energy cooperation between South-East Asia and India and outlines future opportunities for collaboration. In Addition, it offers a set of policy recommendations to enhance energy security between the two regions. The limitation of the paper is that it focuses on energy cooperation and doesn't take into consideration the other aspects.

Index Terms—India, South-East Asia, Energy Cooperation, Sustainability, Regional Cooperation.

I. INTRODUCTION

Energy in all its forms has been the key to human growth. Since ages, mankind has progressed and achieved success due to the discoveries in the energy

sector. (Zou, Zhao, Zhang, & Xiong, 2016) From the discovery of fire to nuclear power, the world has traversed a long journey. The developments in the energy sector remain crucial due to the ever-increasing need. (Laffan, 2024) As the consumption of energy increased with the growth in population, the non-renewable sources remained insignificant to fulfill the demands. The discoveries in renewable sources of energy acquired significance to bridge the gap in energy requirements. (Dey, Sreenivasulu, Veerendra, & Rao, 2022) India, faces the world's highest population today thereby accentuating its energy demands. Moreover, India, also the third largest economy in the world, has emerged as a global leader. India's engagements across the world in all areas remains crucial for its progress. (Gutta & Kedia, 2024) India's geographical position in the Indian Ocean Region facilitates connectivity and trade with the Southeast Asian regions. The ASEAN countries are crucial for India's growth as they offer varied dimensions of cooperation in multiple sectors. (Observer Research Foundation, 2017)

India has been emerging as a prime exporter of energy to the Southeast Asian countries, primarily in terms of the renewable energy supply. Driven by the need for energy security, economic growth, and regional cooperation, India's energy engagements in Southeast Asia have become significantly important in recent years. (International Energy Agency, 2020) As one of the fastest-growing economies in the world, India recognizes the importance of diversifying its energy sources and strengthening its relationships with neighboring countries. This research explores the various dimensions of India's

energy engagements in Southeast Asia, focusing on renewable energy, electricity trade, natural gas and strategic partnerships. (Kumar & Majid, 2020) These remain crucial for India to enhance not only its ties with the ASEAN nations, but also to tap the available market and emerge as a prime exporter of renewable energy sources. In January 2018, India and ASEAN issued the 'Delhi Declaration', which marked the 25th Anniversary of ASEAN-India Partnership. (Ministry of External Affairs, 2018) The declaration stated, "Continue to enhance cooperation for ensuring long term food and energy security in our region through strengthening cooperation in agriculture and energy sectors; work together to promote the development of renewable energy technology through international platforms including the International Solar Alliance (ISA) where applicable." (Ministry of External Affairs, 2018)

With the signing of this declaration, India-ASEAN relations have received a boost in the dimension of renewable energy sources. While India wants to reduce emission intensity by 33–35 percent by 2030 and have 40 percent of its power capacity derived from non-fossil fuels, ASEAN wants to secure 23 percent of its primary energy from renewable sources by 2025. (Birol, 2022) These common agendas make the India-ASEAN partnership in the energy sector crucial.

II. RESEARCH OBJECTIVES

To understand the energy engagements India has with Southeast Asia.

III. METHODOLOGY AND SOURCES

For research, both primary and secondary sources have been used. Books, magazines, journals, and newspapers have been extensively referred to along with Online referencing. Websites of important ministries such as Ministry of New and Renewable Energy, Press Information Bureau, Atomic Energy Agency have been referred to.

IV. LIMITATIONS

The study focuses on the energy engagements of India with Southeast Asia only and thus is not

concerned about other engagements or other geographical regions.

V. INDIA'S ENERGY ENGAGEMENTS IN SOUTHEAST ASIA

India's relations with Southeast Asia are ages old, however the last two decades have seen a surge in relations. India has traversed on the path from 'Look East' to 'Act East' since the 1990s reforms in India. The region of Southeast Asia assumes significance for India due to its geographical proximity as well as its historical ties. India aims to emerge as a regional player in the Indo-Pacific, as a result of which it aims to bolster regional cooperation (Kesavan, 2020). While India has been at the forefront of fostering cooperation on multiple levels, India has realised the urgency to target investments in the energy sector. As the global energy landscapes undergo huge transitions, the demand for electricity has surged across necessitating allocations in areas of network development, digitalisation, cyber security as well as inter-regional strategizing (Shankar & Saxena, 2022). India has been a votary of renewable energies, and in that regard has initiated initiatives such as the International Solar Alliance. Keeping in mind its aspirations, India envisions ramping up its renewable energy capacities, undertaking exports on a large scale thereby leading to energy diplomacy (Jha, 2023).

The following remain the key points in India's energy engagements with Southeast Asia:

Natural Gas: In Southeast Asia, natural gas has become a vital part of India's energy policy. India has positioned itself as a provider of liquefied natural gas (LNG) in response to the region's increasing need for cleaner energy sources. In order to meet their energy needs, nations like Vietnam, Thailand, and Singapore are becoming more interested in importing LNG (NITI Ayog, 2024). To support this commerce, India has been attempting to develop its LNG infrastructure, such as pipelines and terminals. Enhancing natural gas's accessibility and connection both domestically and for export is the goal of government programs like the National Gas Grid (Ministry of Petroleum and Natural Gas, 2023). Additionally, partnerships with Southeast Asian businesses for LNG supply contracts demonstrate

India's dedication to supplying its neighbors' energy needs while maintaining energy security.

Initiatives towards Renewable Energy: India's efforts in Southeast Asia are enhanced by its goal of becoming a leader in renewable energy. India has set the ambitious goal of reaching 500 GW of renewable energy capacity by 2030, with a particular emphasis on solar and wind energy (Ministry of Power, 2024). The region's increasing focus on sustainable energy methods is in line with this goal. Collaborations with Southeast Asian nations have been facilitated via the International Solar Alliance (ISA), which India co-founded. By giving nations a forum to exchange best practices and information, the ISA seeks to advance the transfer of solar energy and technology (Oguntuase, 2023). India has partnered with countries like the Philippines and Indonesia to improve their solar energy capacities, opening the door to a more environmentally friendly energy future.

Trade in Electricity and the Development of Infrastructure: In addition to the above, India is looking into potential cross-border electricity trade with countries in Southeast Asia. The possibility of interconnected power grids presents a solution to improve resource efficiency and energy security. India has started talks to create power exchange agreements with nations like Thailand and Myanmar, which would enable the sharing of excess electricity and lessen regional energy shortages. (The Economic Times, 2023) Building infrastructure is essential to enabling the commerce of power. For Southeast Asian nations to update their energy systems, collaborations with India can lead to development of crucial and strong power infrastructure. India and its Southeast Asian allies stand to gain from increased efficiency and dependability through investments in transmission lines and smart grid technologies (Plummer, 2016).

Strategic Alliances: Strategic alliances serve as the foundation for India's energy engagements, which extend beyond commerce and infrastructure. Through energy cooperation agreements, India has attempted to improve bilateral relations in the region. Collaborations with Vietnam in oil exploration and Indonesia in the coal industry, for example, represent a diverse approach to energy cooperation (Gupta &

Dey, 2024). These collaborations cover research and development in cutting-edge technologies including hydrogen fuel and battery storage in addition to conventional energy sources. India and Southeast Asian nations may collaborate to overcome shared energy concerns and advance sustainable development by pooling their resources and skills.

VI. RECOMMENDATIONS

Indian and ASEAN should aim to foster research and development, technical advancement and collaboration pertaining to increasing energy efficiency (Suryadi, 2022). To attain a low-carbon growth path, trading in clean and green energy is crucial. There should be a renewed focus on Public-Private partnerships wherein Indian companies such as Indian Oil should expand their footprint throughout ASEAN (Indian Institute of Management Ahmedabad, 2023). India-ASEAN should analyse the frame operational protocols along with the legal and business prerequisites for cross-border trading. The two nations ought to determine if the various cross-border connections are technically and financially viable to enhance the investment climate for power transmission and generation. In addition, an Energy Charter Treaty should be signed to secure investments and transactions pertaining to cross-border energy transfers, and for regulatory frameworks to govern cross-border trade (Wijayatunga & Fernando, 2013). Another area that provides a wealth of learning possibilities is training and capacity building, especially in the sphere of renewable energy. For ASEAN nations, India may be a significant source of energy services training and capacity building. A number of investment opportunities in energy pipelines and energy-related infrastructure demonstrate the potential for additional P2P cooperation between India and ASEAN (De & Kumarasamy, 2020). Projects to promote sustainable energy and livelihood may be undertaken by India and ASEAN nations. ASEAN and India should ponder about establishing an ASEAN-India Energy Forum (AIEF), which would initiate an annual conversation at the secretary level about energy cooperation and amongst ASEAN's energy think tanks. Additionally, the ASEAN-India Network of Energy Think-Tanks (AINETT) was established (Phoak, 2022).

VII. CONCLUSION

A diversified approach to improving energy security, stimulating economic growth, and encouraging sustainable practices is reflected in India's energy engagements throughout Southeast Asia. India is establishing itself as a major force in the energy landscape of the area by exporting natural gas, promoting renewable energy, exploring the trade of electricity, and forming strategic alliances. The future of energy in Southeast Asia will probably be greatly influenced by India's proactive attitude, which will support both regional stability and sustainable development as the region grows and changes. India is dedicated to the Sustainable Development Goals, as is ASEAN. The need for closer energy cooperation between ASEAN and India is demonstrated by their efforts to guarantee universal access to modern, affordable, dependable, sustainable, and sustainable energy by 2030 and to lower global warming emissions by encouraging various forms of renewable energy sources. If we take into account the nations' obligations under the ASEAN-India POA (2016-2020), the energy cooperation between ASEAN and India seems more promising. India and ASEAN ought to collaborate on energy-related research and development. Potential areas of collaboration include green management, cleaner deeper management, and grid stability. There are commercial prospects for the private sector in the fields of conventional and renewable energy in India and ASEAN.

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