

## Executive Summary

The eight states in India's North Eastern Region (NER) and their neighbouring countries (including Southeast Asia) are experiencing significant economic growth and forging close ties in the energy sector. This process has been fueled by such factors as greater infrastructure connectivity, expanding production networks and supply chains, a commodity boom, and heightened demand for clean and green renewable sources of power. These have been complemented by significant advances in the energy trade, investment, and financial flows between the NER and its neighbours; however, progress has been hindered by bottlenecks and gaps in energy generation and transmission infrastructure, financial markets, and trade facilitation, as well as trade barriers and limited regional cooperation.

The recent economic and energy sector reforms in Myanmar, a key land bridge between the NER and the Association of Southeast Asian Nations (ASEAN), make possible a level of connectivity and energy trade integration that was previously unfeasible. The pro-business Government of India has renewed efforts to deepen domestic economic reforms, furthering India's Look East Policy and enhancing cross-border infrastructure investments. The move towards an ASEAN Economic Community, which was begun in 2015, provides a large and more integrated market with notable purchasing power and scale economies. Since the signing of the Paris Agreement, it has become clear that the NER states and neighbouring economies need to focus more on domestic and regional energy security to ensure sustainable growth. Against this backdrop, the Economic Research Institute of ASEAN and East Asia conducted this study to determine how improved energy connectivity and associated soft infrastructure (including such critical areas as the financing of infrastructure, trade and investment reforms, and institutions for coordination) can foster closer economic ties amongst the NER, South Asia, and Southeast Asia.

This study provides a framework for thinking about strategic cross-border infrastructure investments and policy reforms by (i) mapping evolving economic ties in trade, foreign investment, and finance between the NER and Southeast Asia; (ii) analysing the current state of cross-border energy infrastructure (using an energy demand supply model), and identifying bottlenecks and priority investment projects that could relieve those bottlenecks; and (iii) assessing the environment

for investing in cross-border energy sector development mechanisms and private sector partnerships.

This study led to several interesting findings with relevance for policymakers. Improving energy connectivity is crucial for building greater economic integration between the ASEAN countries and the NER. Given the region's diverse geography and wide range of clean energy portfolios, a subregional trade perspective offers a way forward for strategic energy security planning and the economic development of the NER. There are critical technical, policy, and financial barriers to cross-border energy trading (CBET) in India, Bangladesh, and Myanmar; and the NER, Bangladesh, Nepal, Bhutan, and Southeast Asia do not currently trade energy with each other, other than conventional shipments of coal, gas, and other fuels. Thus, there is much unexploited potential to be tapped. This study uses an energy supply and demand model to estimate the potential for CBET. The main opportunities for CBET lie in hydropower and gas pipelines, in addition to pooling and the interconnection of electric power grids. Myanmar has an important role to play in the energy trade, given its substantial reserves of potential hydropower and natural gas, in addition to its critical location as a gas pipeline corridor. Various impediments to energy trading include technical barriers related to grid synchronisation, grid codes, and electric power and natural gas pipeline technology, as well as regulatory barriers and distorted energy pricing and/or tariff regimes.

There are substantial investment costs associated with projects to enhance CBET. Due to high costs and the necessary multiplicity of projects as well as human capacity constraints, a sequenced approach based on priorities is required. However, financing CBET projects remains challenging. Cross-border financing vehicles do not exist, as risk-averse private investors are hesitant to cross borders on their own. Public sector funding plays a major role in financing infrastructure projects but is becoming increasingly subject to fiscal constraints in NER states. In neighbouring countries, commercial banks are major sources of infrastructure financing. Investment-grade projects and related initiatives need to be developed to facilitate the energy trade across the borders of the NER states, the rest of India, and the ASEAN countries. Infrastructure funds, both domestic and international, are essential. Public-Private Partnerships (PPPs) provide an important top-up for infrastructure funding, but are not a panacea. India's experience shows that the PPP model can be a useful part of the solution for financing energy sector development. Furthermore, support from multilateral development banks and international coordination for cross-border projects can help ensure that PPPs

succeed. Increasingly, multilateral development banks may be required to play multiple roles in a project's financial lifecycle, particularly in the NER and Myanmar.

There are sizable economic, environmental, and social benefits to be gained from greater energy connectivity amongst the NER, its South Asian neighbours, and Myanmar. To close coordination gaps amongst the NER, its South Asian neighbours, and ASEAN, it may be necessary to retool existing institutions and create new ones to facilitate economic links. This study used a modern energy supply and demand model to explore the potential economic effects of alternative energy trade schemes involving NER state economies. The results show that most participating states and countries will experience significant gains from CBET. The analysis in this report suggests that the benefits of greater energy market integration far outweigh the costs, especially since the benefits of economic development will spread to isolated areas of the NER. This will require cooperation at the subregional level.