

EXECUTIVE SUMMARY

This study reviews the current status of, and policy initiatives toward energy market integration (EMI) in the EAS region with focuses on five policy issues: trade liberalization, investment liberalization, cross border linkage of energy infrastructure, energy pricing reform and liberalization of domestic energy markets. It also attempts to demonstrate the economic and environmental impacts of these five policy initiatives. The two main issues that have been highlighted by the EAS Energy Ministers Meeting (EMM) and the ECTF -i.e. removal of trade and investment barriers- are the crux of this study, alongside brief analyses of the remaining 3 issues. The review of status and initiatives has been fruitful for all five areas, though estimations for two of these policy initiatives, viz. linkage of energy infrastructure and energy pricing reform, were not fully accomplished due to data and modeling limitations. Among successful simulations of the other three initiatives, results are encouraging. A summary of this review and estimations of five different initiatives possible under the integrated energy market is present in the Table ES1.

The study finds that general trade and investment liberalization has been covered in the existing bilateral/multilateral free trade agreements. The remaining task is to make sure that energy goods and services, as well as investments in the energy sector, are covered in the scope of these agreements. More broadly, current agreements could be harmonized and simplified into fewer agreements with broader coverage. A detailed review of energy trade and investment in the current regional agreements and frameworks will provide background for policy discussions on potential areas for improvement in these existing agreements.

Perhaps due to geographical proximity, ongoing and proposed energy infrastructure projects have been limited to the ASEAN plus China region. Though India could establish potential linkages with other EAS countries, no feasible plans have yet been discussed. With the development of more comprehensive infrastructure, such as

oil/gas pipelines and the introduction of advanced and efficient marine transportation systems, the networks of energy infrastructure may be expanded across the region, such as enhanced LNG trade between Singapore and Australia. The development of energy infrastructure projects should conform with current regional plans, such as the Comprehensive Asia Development Plan.

Table ES1 Overview of initiatives covered in this study

Policy Issue	Status	Estimation	Outlook
Trade liberalization*	Trade and investment has been broadly covered in the existing bilateral/multilateral free trade agreements	EAS as a whole will gain in real and in nominal GDP, but CO2 emissions will increase as well. The distribution of economic benefits is not balanced, but the magnitude of negative impact in most countries is close to zero.	The remaining task is to make sure that the energy sector is not restricted or excluded by these agreements. Current agreements could be harmonized and simplified into fewer agreements with wider coverage.
Investment liberalization*		Real GDPs for the investing country reduce, but rise for all the recipient countries. The overall negative impact to the EAS region could due to factors such as productivity gains which cannot be captured by the model.	
Linkage of energy infrastructure	Currently proposed energy infrastructure projects have been limited to the ASEAN + China region only, though India has the potential to link	No detailed data	With the development of more infrastructure, such as oil/gas pipelines and marine transportation, the networks of energy infrastructure may be expanded. The development of energy infrastructure projects should conform with current regional plans, such as the Comprehensive Asia Development Plan.
Energy pricing reform	Price restrictions and subsidies for energy commodities are often used in many EAS countries	No variable can represent energy subsidies due to the aggregation of subsidies and taxes in the global GTAP dataset.	Phasing out subsidies is very difficult and politically sensitive. Member countries need to have a comprehensive roadmap which integrates economic, political and social issues.
National market liberalization	Market liberalization has been attempted in some countries, but lot more remains to be done	Double benefits demonstrated: overall economic growth and reduction of CO2 emissions.	Cooperation on these common challenges could be a valuable topic for EAS energy cooperation.

Note: * indicates the task is required by the ECTF; the rest are researchers' additional attempts.

Compared to regional agreements and physical energy infrastructure development, much more work is needed at the national level. Prominent challenges at the national level are to create national competitive markets and to remove inefficient fossil fuel subsidies. Market liberalization has been undertaken in a number of EAS member countries, but there remains substantial work to be done in many countries. For example, price restrictions and subsidies for energy commodities are used in many EAS countries. Phasing out subsidies is difficult and politically sensitive, but this is a key step towards establishing a competitive and sustainable energy market. As such, it would be imperative for EAS members to look at policies for phasing out energy subsidies as part of their long-term domestic planning process. The development of a comprehensive long-term roadmap which integrates economic, political and social issues, so as to achieve market-oriented energy pricing mechanisms, is crucial for progress in regional energy market integration. Cooperation on these common challenges could also achieve traction and progress as part of the EAS energy cooperation framework.

While the outcome of the study indicates that the benefits of energy market integration generally outweigh the costs, there were unique situations for one or two EAS members who may reap fewer benefits from a specific market integration initiative. However, this is based on the assumption that energy market integration initiatives are undertaken on a national basis, which would be piecemeal compared to taking a regional approach. With a broader base for common regional market liberalization initiatives, EAS members can ensure that the benefits of these initiatives are broadly distributed. At the initial stages, adjustment mechanisms may be required to offset the costs of the EMI initiatives, including immediate impact on less competitive industries, consumer dependencies on energy subsidies, and even the potential environmental effects of increased economic growth. These adjustment mechanisms should be implemented bearing in mind the long-term advantages of a regional energy market.

In particular, good investment policy and governance should be implemented to facilitate energy market integration, through initiatives such as strengthening the investment regulatory framework and improving national competitiveness. To deepen the integration of energy markets, it is also necessary to improve the regional political trust among the member countries. Specialized regional architectures, such as

specialized forums for EMI and institutions like International Energy Agency (IEA), might be able to facilitate policy dialogue for progress toward EMI.