

BIMSTEC @ 20

Energy Cooperation Under BIMSTEC: Are Techno-Economic Rationales Sufficient?

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ABSTRACT Despite a compelling techno-economic rationale for BIMSTEC nations, regional cooperation in the field of energy has not moved beyond the drawing board. This brief argues that inadequate investment in regional infrastructure, and the lack of political will to invest in shared infrastructure, are the consequence of inadequate cooperation between countries in the region, and not its cause. The electricity industries of BIMSTEC countries are being gradually liberalised and this could lead to greater regional cooperation. Until then, the absence of a powerful narrative for cooperation is likely to limit the role of BIMSTEC to that of an instrument for the pursuit of energy interests of the region's dominant national actors, rather than that of an architect of regional energy security.

INTRODUCTION

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a “regional organisation comprising of seven member states, five from South Asia and two from South East Asia¹ lying in the littoral and adjacent areas of the Bay of Bengal, constituting a contiguous regional unity” and also a “sector driven cooperative organisation” that is “unlike many regional groupings”.² BIMSTEC prioritised energy and included it among the six sectors

chosen for cooperation when it was initiated in 1997.³

The techno-economic rationale for energy cooperation through groupings such as BIMSTEC is that regional trade in energy resources would enhance energy security in this sub-region.⁴ Trade would link supply of diverse primary energy sources such as natural gas in Myanmar and Bangladesh, hydropower in

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Bhutan and Nepal, and coal in India, with demand from energy consumers in the region. This would increase energy security at the regional, national and household levels. Despite such a compelling narrative, cooperative energy initiatives under BIMSTEC have not moved beyond the drawing board or the conference platform.

A large section of the literature on why regional energy cooperation remains elusive in Asia—invariably originating from international funding agencies—highlights the lack of investment in hard infrastructure such as trans-border electricity transmission lines and natural gas pipelines. They also point to the lack of soft infrastructure such as common governance and operational guidelines as a reason for the slow progress in regional energy cooperation. Various scholars have also highlighted the lack of mutual trust, and political will, as impediments to stronger cooperation in the area of energy.⁵ This brief argues that the lack of investment in hard and soft regional infrastructure, or the lack of political will to invest in shared infrastructure, is the consequence of inadequate cooperation between countries in the region, and not the cause.

ENERGY SECTOR INITIATIVES OF BIMSTEC

Various initiatives have been taken by BIMSTEC countries on energy development. Myanmar, for instance, which leads these initiatives, has focused on the development of regional hydrocarbons and hydropower, energy infrastructure development (particularly for electricity and natural gas), the setting up of an energy information centre, as well as developing an energy trading network between members.⁶ India, Thailand and Myanmar, for their part,

have hosted a number of ministerial meetings on energy and organised workshops on themes such as the development of hydropower, and that of traditional energy sources. Thailand hosted a regional workshop and study visit on biomass gasification for power production in 2008. With emphasis on remote area electrification, India hosted a workshop on sharing experience in developing hydro projects in 2006.⁷

In the early 2000s, shared infrastructure for natural gas received top priority in the BIMSTEC forum. Thailand conducted a feasibility study for a trans-BIMSTEC gas pipeline project in 2004 and organised a task force meeting to decide terms of reference for a detailed study on the proposed trans-BIMSTEC gas pipeline.⁸ The convergence of the energy security interests of key BIMSTEC countries was behind the push for a BIMSTEC gas grid. The expectation of strong growth in natural gas demand from India, Bangladesh and Thailand—along with the need for natural gas revenue for Myanmar—made a strong case for a cross-border gas grid.⁹ In the early 2000s, there was an industry-wide belief that natural gas would emerge as the bridge fuel to take India from a coal-reliant economy to one that was less so.¹⁰ The discovery of gas reserves in the east coast of India in 2002, which were believed to be significantly large at that time, strengthened the case for increasing the share of gas in India's energy basket.¹¹ Around the same time, India's Oil and Natural Gas Commission (ONGC) invested in the development of the Shwe natural gas field off the coast of Arakan in Myanmar.¹² India's investment in a gas field in Myanmar was interpreted as a victory for India in its energy access contest with China.¹³ The thrust on the construction of a trans-border pipeline from the Shwe field to India across Thailand and Bangladesh was seen as the next step, if the race with China for gas flows from

Myanmar was to be won.¹⁴ BIMSTEC became a means to carry this ambition forward.

The gas grid initiative lost momentum after a series of setbacks to the expectation of growth in supply and demand for natural gas. The cost of the project escalated to unviable levels when India decided to bypass Bangladesh, which was demanding a higher than expected transit fee, and instead build the pipeline through India's northeastern states.¹⁵ By the late 2000s, questions also arose on demand growth of natural gas in India based on the competitiveness of imported natural gas as a fuel for power generation.¹⁶ Uncertainty on the quantity and affordability of domestic natural gas also contributed to lower expectations on gas demand growth in India. Overall, by 2010, the prospect of a regional gas grid among BIMSTEC countries diminished substantially. Though the concept of a BIMSTEC gas grid has been revived occasionally since then, the probability of progress is low without significant material changes in growth prospects for demand.

After 2010, the integration of the electricity grid received greater attention from BIMSTEC.¹⁷ Thailand was assigned leadership in coordinating a task force to prepare the terms of reference for grid integration.¹⁸ After a series of meetings by the task force, a draft memorandum of understanding (MoU) for the establishment of BIMSTEC grid integration was finalised in March 2015.¹⁹ In 2016, the Indian Cabinet approved the proposal for signing the MoU on the establishment of the grid.²⁰ This has revived prospects for regional energy cooperation among BIMSTEC nations. Adding to the optimism is India's success in establishing bilateral electricity trade with Nepal, Bhutan and Bangladesh, along with the global pursuit of low carbon growth that privileges electricity as the primary energy carrier.

PROSPECTS FOR COOPERATION

Despite such confidence, the probability of broader and deeper cooperation remains low. Techno-economic considerations that showcase efficiency gains and consequent reduction in costs through exploitation of primary energy resources in the region that complement one another should, in theory, appeal to markets that provide energy goods and services. There are similar complementarities in demand as well, thanks to climatic, seasonal, spatial and temporal differences between the countries. Working together would also lead to economies of scale, especially of the transmission network. The absence of investment in trans-border energy transport infrastructure that would have enabled market participants to pursue these goals, demonstrates that narrow technical and economic considerations have failed to appeal to them.

Viewed through the lens of regional energy cooperation, the absence of transnational energy infrastructure such as pipelines and transmission lines in the BIMSTEC region is the result of market failure. This is not an unexpected outcome. Markets have always been unable to provide public goods such as energy security. The benefits of energy security accrue to the nation and not to market participants, and so there is little incentive, if at all, for market participants to invest in cross-border energy infrastructure. Market participants also have a tendency to depend on states to secure their interests, primarily by reducing risk and uncertainty. In trans-border projects, the cost for market participants to manage risk and uncertainty is higher than the benefits that may accrue from techno-economic efficiencies. In the absence of state participation that would reduce risk and uncertainty, trans-border infrastructure is unlikely to materialise. States

are likely to intervene only if there is a strategic case for deeper political cooperation.

This goes against narratives on regional energy cooperation drawn from the history of the European Coal and Steel community (ECSC), the formation of which preceded the birth of the European Union (EU). The suggestion is that just as the formation of the ECSC facilitated the emergence of the EU, bilateral and regional energy linkages in Asia are likely to lead to higher political cooperation in the region. But history contradicts this thesis. One of the many reasons for the creation of the ECSC is said to be that of preventing Germany from becoming a military threat to France and of alleviating the concern that Germany's dominance in coal and steel could become a threat to the rest of Europe.²¹ This is true even in South Asia, where bilateral geo-political objectives enabled bilateral electricity trade between India, Bhutan, Nepal, and Bangladesh and to a lesser extent Myanmar, and not the other way around.

CONCLUSION


There is reason to be optimistic about the dominance of electricity as the primary energy carrier—in an era of low carbon growth—leading to integration of national and regional grids. The generation, transmission and delivery of electricity has different cost economics compared to that of other industries, primarily because the generation and consumption of electricity has to be simultaneous unlike other industries.²² Centralised generation, transmission and distribution of electricity is capital intensive. These attributes increase the attractiveness for regional cooperation to expand the grid for exploiting scale economies and primary resource complementarities for efficiency and cost reduction.

However, electricity by its peculiar nature entails transaction costs that are higher than those of either natural gas or oil in the process of integration. This is among the many reasons why electricity industries across the world remain fragmented. There are lessons from the experience of countries and regions that have established national or regional electricity grids with varying degrees of integration such as the UK, Scandinavia, and the US. Participants in the electricity industry that were historically vertically integrated were first de-integrated into distinct generation, transmission and distribution segments. These changes created new regulatory and institutional configurations. Competition was introduced at the retail and generation ends. Wholesale market activity moved to federal and regional levels while reform at the distribution end was carried out at the national and sub-national levels. Generation assets over a number of national and sub-national control areas were cost optimised and dispatched jointly. The introduction of competition at the regional level yielded improvement in consumer welfare largely through harmonisation of prices through the network. This was followed by the phase of recovering stranded assets created in the previous monopolistic era. All this involved hidden transaction costs that were deflected to public funds and took several decades to complete. The dominant logic of the electricity sector was slowly changed from one of technical system building to one of market facilitation.

The electricity industries of BIMSTEC countries are also being gradually de-integrated, liberalised and, to some extent, also privatised. However, this is likely to progress at a much slower pace because all BIMSTEC member countries exhibit high levels of energy poverty that makes state presence necessary in the

energy sector. This means that the dominant logic of the electricity sector is likely to remain one of technical system building rather than market facilitation for the foreseeable future. If so, efficiency gains promoted by techno-economic rationalities for grid integration may not be fully realised in the near term.

BIMSTEC is still relatively young and its strategic rationale will continue to evolve over

time. The electricity sectors of BIMSTEC states will mature, much like those in other integrated markets—to accommodate broader and deeper integration and cooperation. Until such a time, the absence of a powerful strategic and intellectual narrative for regional cooperation is likely to limit the role of BIMSTEC to that of an instrument for the pursuit of energy interests of dominant national actors, rather than that of a master architect of regional energy security. 

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ENDNOTES

1. Bangladesh, India, Myanmar, Sri Lanka, Thailand, Nepal, Bhutan
2. <http://bimstec.org/>
3. Ibid.
4. Priyantha Wijayatunga, D. Chattopadhyay and P. N. Fernando, "Cross Border Power Trading in South Asia, A Techno-economic Rationale", South Asia Working Papers, Asia Development Bank, 2015
5. RupaChanda, "Regional Integration in Services in South Asia: Prospects and Challenges", UNDP RCC South Asia Economic Summit, New Delhi, December 10-12, 2009
6. Sampa Kundu, "BIMSTEC at 17: An Assessment of its Potential", India Quarterly, A Journal of International Affairs, Vol 70, Issue 3, August 3, 2014
7. <http://bimstec.org/>
8. <http://www.bimstecenergycentre.org/mayanmar.html>
9. Government of India, "Natural Gas in India: A Report", Ministry of Petroleum & Natural Gas, Petromin, September 2005
10. International Energy Agency, "Gas Fired Power Generation in India: Challenges & Opportunities", IEA, October 2005, Paris
11. BBC, "Gas giants fight for India field" <http://news.bbc.co.uk/2/hi/business/4349062.stm>
12. Mautilus, "Burma and Its Neighbours: The Geopolitics of Gas", APS Net Policy Forum, August 24, 2006, <https://nautilus.org/apsnet/0630a-kolas-tonnesson-html/>
13. Stein Tønnesson & Åshild Kolås, "Energy Security in Asia: China, India, Oil and Peace", Report to the Norwegian Ministry of Foreign Affairs, International Peace Research Institute, Oslo (PRIO) April 2006
14. The Hindu, "BIMSTEC nations plan to enhance energy co-operation", October 5, 2005
15. Centre for Science and Environment, "India to bypass Bangladesh on Myanmar-India gas pipeline, <http://www.downtoearth.org.in/news/india-to-bypass-bangladesh-on-myanmarindia-gas-pipeline-8344>
16. Mike Jackson, "Natural Gas Sector Reform in India: Case Study of Hybrid Market Design," Working Paper No 43, Stanford Programme on Energy and Sustainable Development, 2005
17. BIMSTEC News Letter, Volume 41, August 2010
18. BIMSTEC Energy Sector Cooperation, <http://www.moi.gov.mm/moi:eng/?q=content/bimstec-energy-sector-cooperation>
19. RIS, "BIMSTEC: The Road Ahead", Research & Information Systems for Developing Countries, New Delhi, 2016
20. Press Information Bureau, "Cabinet approves the Signing and Ratification of MoU for Establishment of the BIMSTEC Grid Interconnection", PIB, New Delhi, 12-April-2017
21. Karan J Alter & David Steinberg, "The Theory & Reality of the European Coal & Steel Community", Buffett Centre for International and Comparative Studies Working Paper Series, Working Paper No. 07-001, 2007
22. Electricity has to be consumed as it is produced as storage of electricity (such as in batteries) is not only expensive but also involves additional transaction costs. Other energy sources such as oil or coal need not be consumed as and when they are produced as these can be stored easily and inexpensively.



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