

Chapter 4

Challenge Two: Supporting High-Quality Infrastructure

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Chapter 4

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Success in achieving the right electricity mix will be closely linked to how well countries across South and Southeast Asia are able to scale up a wide range of associated power sector infrastructure. High-quality infrastructure (HQI) is economically viable, reliable, and environmentally sustainable infrastructure that utilises the best technology available and follows international safety and efficiency standards. Such infrastructure should advance long-term development goals, have minimal environmental impact, and help build capacity.

This includes new, more reliable transmission and distribution (to enable greater integration of variable energy resources); more advanced thermal-fired power plants (to support cleaner, more efficient consumption of coal and natural gas); and other enabling physical infrastructure (such as receiving terminals, pipelines, transportation, and storage for moving LNG and other supplies to where they are needed).⁷⁰ As suggested earlier, in tandem with upgrading existing systems, overall capacity across much of the region will also need to rapidly expand. The IEA estimates that India, for example, will likely see electricity demand increase 5% a year to 2040, doubling overall demand.⁷¹

In terms of looking at market-based solutions to tackle energy security and climate challenges in South and Southeast Asia, HQI initiatives have proved to be a critical component. The United States and Japan have utilised HQI to further their efforts in establishing a free and open Indo-Pacific, and their joint approach emphasises competitive, transparent, compliant, and environmentally conscious projects from a mix of private and public financial backers.

Since 2015, Japan has led the HQI movement through the Partnership for Quality Infrastructure (PQI), which initially aimed to mobilise \$100 billion for projects in Asia from 2015 to 2020. The PQI encouraged private-sector investment through increased public financing, and in 2016 it expanded the level of investment to \$200 billion for a period from 2016 to 2021.⁷² Outside of partnerships with the United States, Japan has fostered projects with countries in the region. In 2017 a joint statement from India and Japan announced their efforts to increase Japanese investment in India's rail infrastructure, energy, sanitation, and smart city projects.⁷³

⁷⁰ Han, 'The Need for Quality Infrastructure,' 38.

⁷¹ IEA, 'India Energy Outlook 2021,' March 2021, <https://www.iea.org/reports/india-energy-outlook-2021/fuels-and-electricity-in-india#abstract>.

⁷² Hiroto Izumi, 'Quality Infrastructure Investment: Global Standards and New Finance' (speech at the International Economic Forum on Asia, Tokyo, April 14, 2017), <https://www.mofa.go.jp/mofaj/files/000252520.pdf>.

⁷³ Ministry of Foreign Affairs (Japan), 'Japan-India Joint Statement: Toward a Free, Open and Prosperous Indo-Pacific,' September 14, 2017, <https://www.mofa.go.jp/files/000289999.pdf>.

The Japan–US Strategic Energy Partnership (JUSEP) was amongst the first investment collaboration efforts and serves as a model for other regional partnerships such as the Japan–US Mekong Power Partnership (JUMPP) and the Trilateral Viet Nam–US–Japan Commercial Liquefied Natural Gas Forum. JUMPP was announced in August 2019 to promote the enhancement of electricity connections between the Mekong countries. The partnership serves to create a more free, open, and stable electricity market in the region and is part of a larger effort to expand engagement between Mekong countries, Japan, and the United States. The trilateral partnership between Viet Nam, Japan, and the United States was created in December 2020 and aims to develop LNG infrastructure in Viet Nam through the help of Viet Nameese, Japanese, and US private-sector partners.⁷⁴ The initiative will improve energy security for Viet Nam, reduce carbon emissions, and support a transition to a lower-carbon economy.⁷⁵

Yet even though ‘there is a clear need for resilient energy infrastructure in the region, policy measures and actions undertaken to build HQI have varied from country to country,’ as energy specialist Han Phoumin noted in NBR’s 2020 Energy Security Report.⁷⁶ As one explanation for this, workshop participants argued that ‘quality’ infrastructure projects are often better positioned to compete against less sustainable alternatives in more liberalised markets, due to their lower barriers to market entry. Consequently, several participants noted that a range of market-liberalisation steps – such as reducing the monopolies of state-owned enterprises in the power sector, reforming market-distorting subsidies, and ensuring third-party access to distribution networks and other infrastructure – could lower barriers to market entry for quality infrastructure projects.⁷⁷

Along these same lines, participants argued that moving to a greener grid also likely requires the introduction of new business models for infrastructure development. Questions of how to appropriately navigate competing goals for land resource management can be especially complex. As discussed at the 2019 Pacific Energy Summit, one of the largest risks to breaking ground on new energy projects in Asia is related to land acquisition and property rights. By establishing land trusts, owners can retain their land but lease it to infrastructure companies that are interested in building exploration or transmission projects.

⁷⁴ US Embassy in Burma, ‘Mekong-US Partnership Joint Ministerial Statement,’ September 15, 2020, <https://mm.usembassy.gov/mekong-u-s-partnership-joint-ministerial-statement>.

⁷⁵ US Department of State, ‘The United States and Japan Join with Viet Nam to Advance Shared Energy Goals,’ December 3, 2020, <https://2017-2021.state.gov/the-united-states-and-japan-join-with-vietnam-to-advance-shared-energy-goals//index.html>.

⁷⁶ Han, ‘The Need for Quality Infrastructure,’ 40.

⁷⁷ For further discussion, see Jeanne Choi, ‘Developing Free and Open Markets: Gas Market Reform in Japan and South Korea,’ in ‘Developing Free and Open Markets: Gas Market Reform in Japan and South Korea,’ NBR, NBR Special Report, October 2019, <https://www.nbr.org/publication/developing-free-and-open-markets-gas-market-reform-in-japan-and-south-korea>.

It is worth noting that China has also played a large and steady role in infrastructure development in South and Southeast Asia through the Belt and Road Initiative. Although this initiative has aimed at investment in energy and power infrastructure, it so far has largely focused on coal power, in contrast with the aforementioned HQI initiatives.

As an example, the government of Pakistan has reported that over half of China's projected \$39 billion investment in the China–Pakistan Economic Corridor has been focused on electricity generation, with three-quarters of that capacity coming from coal-fired power plants.⁷⁸ In Indonesia, 43% of the financing for coal-fired power plants commissioned from 2016 to 2019 came from China.⁷⁹

The scope of the Belt and Road Initiative is vast, covering areas across Eurasia, South Asia, and Southeast Asia. Since 2013, China has invested more than \$27 billion in energy projects in Southeast Asia.⁸⁰ Its economic and political power have given the country a large amount of regional influence, often with goals that do not align with US interests. As Herberg writes in the 2020 Energy Security Report, the increased clout of China has also presented a challenge for Japan's long-standing position as the major economic power in Asia and the key partner of the United States in the region.⁸¹

Although there is good evidence that China has favored supporting coal projects over other technologies, it also typically responds to local government requests and the immediate economic needs. For example, China invested largely in coal projects in Pakistan because that is what the Pakistani government had prioritised.⁸² Despite the large sums of money invested from China, estimates have found that Chinese companies built less than 20% of the coal-fired plants in Asia from 2013 to 2022.⁸³ This is a testament to the affordability and convenience of coal for regional countries.

The rise in China's influence and economic power prompted concerns in the United States about China's differing views on South and Southeast Asia's economic development. The United States' and Japan's aligned initiatives for a free and open Indo–Pacific are meant to provide alternatives to the Belt and Road Initiative and to improve energy security by diminishing reliance on any one country for financial support. As noted by Herberg, 'the FOIP [free and open Indo–Pacific] concept has developed as a counter to China's expanding influence by bringing together the United States, Japan, Australia, and other regional partners to offer an alternative vision.'⁸⁴ As the United States returns to an emphasis on promoting multilateralism and combating climate change, there is an opportunity for growth in HQI in South and Southeast Asia as regional countries continue their plans toward low-carbon or carbon-neutral societies.

⁷⁸ Herberg, 'High-Quality Infrastructure and the Free and Open Indo-Pacific Vision,' 26.

⁷⁹ Tsafos, 'The Outlook for Power Generation in Southeast Asia and the Geopolitics of the Indo-Pacific,' 7.

⁸⁰ Herberg, 'High-Quality Infrastructure and the Free and Open Indo-Pacific Vision,' 26.

⁸¹ *Ibid.*

⁸² Tsafos, 'The Outlook for Power Generation in Southeast Asia and the Geopolitics of the Indo-Pacific,' 7–8.

⁸³ IEA, 'Chinese Companies Energy Activities in Emerging Asia,' April 2019, <https://www.iea.org/reports/chinese-companies-energy-activities-in-emerging-asia>.

⁸⁴ Herberg, 'High-Quality Infrastructure and the Free and Open Indo-Pacific Vision,' 26.