Chapter 5

Challenge Three: Attracting Critical Investment

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In line with realising the above goals, the ADB estimates that Asia and the Pacific will require $1.7 trillion per year in energy infrastructure investments through 2030, with more than half of the total need in the power sector. Moreover, ERIA projects that investment in ASEAN's refineries and LNG terminals alone will require as much as $226 billion and $28 billion, respectively, between now and 2040.[85] For example, workshop participants noted that for Indonesia alone to meet its 2025 target for 23% renewables in its energy mix, the country needs an estimated $40 billion in clean energy investment.

Bridging the gap between confirmed and necessary investment in regional energy supply and infrastructure has been a long-standing challenge in much of South and Southeast Asia – one that has been further complicated by disruptions brought on by the Covid-19 pandemic. As of early 2021, the pandemic's negative impact on economic activity (and resulting decline in private-sector capital spending) and new demands on public funds for health and social welfare have placed immense strain on the funding available to stimulate investment in energy projects. In its October 2020 assessment, the IEA noted that fuel supply investment has been hit the hardest, with a 35% overall decrease in upstream oil and gas spending and a 25% decline in investment from large oil and gas companies.[86] Additional losses have included a 7% decline in power-generation investment and a 9% decline in energy efficiency improvements, amongst other areas. Such trends have negatively affected the Asian green bond market, in particular, with potential longer-term consequences for when or if planned clean energy projects might be brought online.

Yet as noted by Herberg, there are still many options available to help bridge the investment gap. Pension funds, insurance companies, large investment funds, sovereign wealth funds, and global energy companies continue to look for 'bankable' energy infrastructure investment opportunities. To that end, governments can take several steps to mitigate localised investment risk and improve their country's market fundamentals. These include adopting a more open trade and investment policy in energy distribution, providing a more favorable environment for institutional investors and bond market players, accelerating low-carbon investments through targeted stimulus-package measures, and revisiting the tax structure on cross-border energy infrastructure investment. (See Appendix I for analysis of similar policies in the United States.)

[85] Kimura and Han, 'Energy Outlook and Energy Saving Potential in East Asia 2019,' 44.

[86] IEA, 'Investment Estimates for 2020 Continue to Point to a Record Slump in Spending,' October 23, 2020, https://www.iea.org/articles/investment-estimates-for-2020-continue-to-point-to-a-record-slump-in-spending.

One tool that multiple participants noted could help mitigate risk in power sector investment is a power purchasing agreement (PPA). As part of Thailand's Energy Reform Plan, the Energy Regulatory Commission has established a regulatory sandbox for energy sector innovations, which is intended 'to promote innovations in [the] energy sector by relaxing some rules and regulations within [a] limited area and period' and to help the economy prepare for and navigate technology disruptions.[87] This initiative is currently focusing on six areas: peer-to-peer energy trading, microgrids, battery storage, net metering and billing, new business models for load aggregators, and natural gas trade, distribution, and utilisation. Workshop participants observed that peer-to-peer trading, in particular, holds promise to reduce inefficiencies and increase small-scale renewable energy penetration. Thailand's peer-to-peer trading scheme allows wider utilisation of the Provincial Electricity Authority state grid so that private firms generating renewable energy can sell directly to consumers while prosumers can sell excess electricity from rooftop solar to their neighbors.

In Indonesia, ADB is conducting a study on building incentives and tax structures to increase renewable energy capacity.[88] The study proposes a renewable energy subsidy mechanism that bridges the difference between the cost of a renewable energy project and the cost the Perusahaan Listrik Negara (PLN) would have otherwise paid if the renewable project had not been constructed. Well-designed PPAs play an integral role in ensuring the effectiveness of the subsidies by reducing risk and contract delays, a critical area of focus moving forward. Previous attempts at PPAs have struggled, with less than half the proposed agreements in 2017–18 moving into the construction phase.[89] By developing a production cost model that sets the PPA price, this renewable subsidy mechanism could relieve PLN and the project developer from having to negotiate and thereby speed up the contracting process.

Utilising subsidies as a tool remains a key point of deliberation, however, and participants noted the importance of distinguishing how subsidies can be leveraged to reduce inefficiencies. While some subsidies exist in a magnitude that prevents growth or unnecessarily distorted markets, there are opportunities to reduce or cap subsidies to generate investment in critical sectors. In the case of Indonesia, the country has been working to phase out established subsidies from around $20 billion to $10 billion. However, subsidies dedicated specifically for low-income liquefied petroleum gas consumers remain a successful program, and new efforts to encourage renewable energy development remain in the toolkit. In the case of the plans for reducing risk in PPAs, ADB recommends direct subsidies to PLN. The values can be allocated and delivered during the annual budget process, which both ensures that the cost differences are fully met and

[87] 'Regulatory Sandbox for Energy Sector Innovations (ERC Sandbox),' presentation by the Energy Regulatory Commission of Thailand for the US Agency for International Development (USAID), http://usaidcleanpowerasia.aseanenergy.org/download/3630.

[88] ADB, 'Renewable Energy Tariffs and Incentives in Indonesia: Review and Recommendations,' September 2020, https://www.adb.org/sites/default/files/publication/635886/renewable-energy-tariffs-incentives-indonesia.pdf.

[89] Ibid., 2.

reduces concerns about misuse of funds. These can also be paired with existing tax allowances and holidays.[90]

In addition, fiscal and nonfiscal incentives, such as streamlining licensing processes and providing tax holidays, could be considered to boost the attractiveness of these projects. One recent example includes the Omnibus Law enacted by the Indonesian government in November 2020.[91] In order to stimulate economic growth amid the ongoing challenges posed by the pandemic, this law aims to increase investment and create jobs by simplifying the licensing process and increasing the ease of doing business in Indonesia. As workshop participants noted, such efforts can help streamline government efforts to reduce risk and encourage investment. As recently concluded by the IEA, a focus on value and quick delivery, as well as environmental gains, could provide an opening for utilisation of some cleaner technologies.[92] However, in order to fully integrate and deploy new technologies into existing energy systems, it is necessary to have the right personnel to execute these efforts.

[90] ADB, 'Renewable Energy Tariffs and Incentives in Indonesia: Review and Recommendations,' 12.
[91] UN Conference on Trade and Development, ''Omnibus Law' on Job Creation Has Been Enacted,' November 2, 2020, https://investmentpolicy.unctad.org/investment-policy-monitor/measures/3567/indonesia-omnibus-law-on-job-creation-has-been-enacted.
[92] IEA, 'World Energy Outlook 2020,' https://www.iea.org/reports/world-energy-outlook-2020.