

CROSS-BORDER ENERGY IMPORTATION PROJECT: A SINGAPORE PERSPECTIVE

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Singapore has put forward an ambitious plan to transform itself into a greener and more sustainable city. The Singapore Green Plan 2030 charts concrete targets over the next 10 years, strengthening Singapore's commitments under the UN's 2030 Sustainable Development Agenda and Paris Agreement.

With natural constraints putting a cap on renewable energy generation capacity in the country, a key part of Singapore's transformation lies in the development of the ASEAN Power Grid ("APG").

The region has seen several bilateral cross-border interconnection projects backed by long-term power purchase agreements. However, for the APG to truly resemble a regional power architecture, it has to progress beyond bilateral exchanges of power towards multilateral power interconnections.

The announcement by Lao PDR, Thailand, Malaysia and Singapore of their commitment to initiate multilateral cross-border power trade of up to 100MW of electricity under the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project ("LTMS PIP") in November last year is an important first step in this endeavour.

In addition to the LTMS PIP, Singapore has also announced plans for a two-year trial to import 100MW of electricity from Malaysia using existing interconnections in preparation for a larger scale importation down the road.

With ASEAN governments committed to the development of the APG, it opens up new opportunities for companies in Singapore to partner with other companies in the region, not only to develop new interconnections but also additional renewable energy generation capacity that would go towards displacing fossil fuels.

These projects will require significant new capital. Whilst there is plentiful long-term capital potentially available, bankability issues have historically hampered the deployment of private financing to support the region's infrastructure needs. We explore in this article some of the potential bankability issues that may arise in financing cross-border energy importation projects from a Singapore context.

Merchant electricity market

Singapore has an open electricity market, where generation companies compete to sell electricity into the wholesale electricity market every half-hour, with prices dynamically determined based on demand and supply. Any generation company participating in the Singapore wholesale electricity market would therefore face both price and volume risk which could result in significant volatility in their cash flows. The potential volatility of project cashflows associated with merchant electricity markets is expected to be a key concern for lenders.

Price risk in relation to fluctuating tariffs can be mitigated via additional commercial arrangements such as virtual power purchase agreements ("VPPAs") with corporate off-takers that feature fixed tariffs.

As for volume risk, unlike fossil fuel power plants, renewable projects in Singapore are much less exposed to this risk as they have a much lower short run marginal cost as compared to fossil fuel plants and typically rank well in the merit order curve. For renewable projects that export electricity into Singapore, there will be the additional interconnection fee to be considered in assessing the project's standing in the merit order curve if such electricity is sold into the competitive wholesale market.

Land rights/ Right-of-way

As with any infrastructure project, governments play a key role in facilitating land acquisition. In the case of cross-border interconnection projects, this extends into providing a right-of-way for the power line through state-owned land and seabed. In addition, there are many other regulatory and legal requirements such as development rights, permits, access and interconnection rights and licensing across multiple jurisdictions. Such matters are often managed by separate ministries and other government bodies, hence a sponsor will have to navigate through potentially a myriad of approval processes in order to bring an energy importation project to fruition. It is therefore essential for the relevant governments to work closely together with each other as well as with private sector sponsors to ensure that such requirements are dealt with in a coordinated and timely manner.

Interface/ Project-on-project risk

Power plants and transmission or interconnection projects are typically constructed separately by contractors that specialise in their own fields of expertise. Lenders, however, typically rely on a single lump-sum turnkey engineering, procurement and construction (“EPC”) contract with an experienced EPC contractor as a key mitigant in addressing construction risk. When a project entails distinct components that cannot be undertaken by a single turnkey EPC contractor, there will inevitably be interface risks between multiple contractors during construction with project-on-project performance and delay risks. The assessment of such construction related interface and project on project risk will be a key area of focus for any project finance lender.

If such concerns prove significant, sponsors may need to consider providing a completion support to lenders. Completion support span the range from a full corporate guarantee pre-completion or sponsor support targeting specific concerns. Considering the potentially large scale of energy importation projects, sponsors will understandably prefer to limit the extent of contingent liabilities on their own balance sheet. It is therefore important to engage with lenders early on to ascertain the extent of support needed for the project.

Grid curtailment/ Operation risk

Governments will also need to consider how the cross-border interconnections may impact load and reserve planning on their domestic grids, particularly given the intermittent nature of renewables generation. There is also a host of other technical considerations aimed at preserving the security and stability of each country’s grid system. Any measures by governments to curtail the interconnection will have a flow down impact on the sale of electricity into Singapore.

Energy importation projects therefore are likely to face a degree of grid curtailment risk which is beyond their control. Furthermore, any liquidated damages relating to such curtailment are expected to be limited if any. Such curtailment risk may be reduced once the APG is fully developed with multiple electricity injection and evacuation points; however, this would require each ASEAN country to implement third party access regimes to allow electrons to flow freely within the APG network. Given that the grid is typically owned by the incumbent grid owner/ operator with a strong vested interest in maintaining control over their own grid, the implementation of such third-party access regime will likely require a significant amount of political will and time.

Political/ Regulatory risk

Political risk traditionally relates to expropriation, political violence and the convertibility and transferability of currency, and government breach of contract. However, in the case of energy importation projects within the APG, regulatory risk (i.e., risks arising from unanticipated regulatory changes) is likely to be a much more acute consideration for both sponsors and lenders. The complexity of enforcing security interests also increases substantially considering the regulated nature of such grid assets, especially for those that cut across multiple jurisdictions.

Conclusion

Singapore's willingness to import significant amounts of renewable energy to match its long-term green ambitions could help catalyse new investments into the APG; several Singapore-based project sponsors have already reached out to their ASEAN counterparts to jointly explore developing various segments of the APG. However, the energy importation projects that could form the initial phases of the APG roll out are complex projects themselves that entail numerous bankability considerations – both for procuring governments as well as project sponsors. Early engagement and collaboration across public and private sectors are essential. ASEAN governments must also first demonstrate a strong collective commitment to address some of the political risk concerns that will arise from these projects, and in making the APG a reality.