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Facilitating the bankability of energy transition projects

Risk management and insurance considerations

Risk Management & Insurance Special Interest Group

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Introduction

The shift towards climate neutrality necessitates a radical transformation of global energy systems. This transition involves large-scale renewable deployment; electrification of various sectors, such as transportation; green hydrogen adoption; and energy efficiency improvements. The capital-intensive nature of this shift requires the ability to raise financing at acceptable leverage, tenor, and cost of capital at a project or investor level.

This whitepaper outlines some of the uncertainties that affect the bankability of energy transition projects and explores the key steps to ensure successful placement of insurance and secure coverage that is most aligned with project risks. It also considers how to anticipate lenders' requirements in terms of risk management and insurance. Finally, it discusses how solutions beyond the traditional insurance market can alleviate identified insurance gaps and contribute towards enhancing the overall bankability of debt-financed transactions.

Uncertainties impacting the bankability of energy transition projects

The identification, allocation, analysis, and management of project risks is a foundation for achieving bankability in non-recourse financings. The preferred outcome is that the project company — the borrower entity holding the debt — retains little to no exposure to risks that are unacceptable to lenders. This is especially relevant when lenders do not have the benefit of financial guarantees from project counterparties and therefore rely purely on the cash flows generated by the asset to service and repay the debt.

Central to the bankability of debt-financed energy-transition projects are lenders' expectations that a project's ability to generate cash flow is both sufficient and adequately protected to survive a range of adverse risk events. Lenders look for evidence that debt servicing can be maintained, and the debt capital repaid.

A project seeking project financing faces varied risk exposures, including macro risks such as country or regional exposures, the creditworthiness of project parties, and/or site-specific exposures, such as those related to climate change or natural catastrophes.

In addition, energy transition projects carry specific risks, including:

- Performance and efficacy risks through the use of prototypical technology/processes, especially for newer types of energy transition projects such as green hydrogen, ammonia, liquid organic hydrogen carriers, or carbon capture usage and storage.
- Serial defects exposures, given the ever-evolving and modular, multi-train nature of large energy transition projects.
- Risks with new, unconventional, and untested contractual structures, particularly in the case of green hydrogen and carbon capture usage and storage projects.
- Liability risks posed by some of the technologies used, for example, to process hydrogen and carbon dioxide. The explosive nature of hydrogen and properties of both carbon dioxide and hydrogen require a careful choice of materials used in construction, high-integrity safety systems, and a high standard of operational hazard management.
- Fire risks associated with battery storage projects.

Whilst managing the project risks remains the most important element in the bankability of energy transition projects, the ability to then be able to transfer fortuitous risk exposures to insurers is key. Two important factors to bear in mind are:

- **Policy Triggers:** The trigger for traditional property insurance remains physical loss or damage to insured property. Insurers sometimes can offer cover for certain non-damage elements; however, such cover would typically need to be customised with insurers to fit the project requirements.
- **Capacity:** Insurer capacity is a function of the perceived risk, underwriting capital, and market experience. Generally speaking, newer technology means insurers have less experience of the specific project risks and as such there will be less capacity in the insurance market, with the greater restrictions on limits and scope of cover. That being said, with insurers' environmental, social, and governance (ESG) commitments to support energy transition, insurance market capacity for these types of projects is likely to continue growing unless the loss experience becomes a deterrent.

Some of the project risks however may remain commercially uninsurable, and if lenders perceive this to be an exposure to their debt payment, this may then mean the project cannot generate sufficient lender interest.

Key steps to successfully placing insurance aligned with project risks

The successful placement of insurance that aligns with the specific risks of a project begins with full disclosure of the project's risk exposures, discussions and negotiations regarding the mitigating factors and preventative measures in place. Such discussions are key to securing the desired coverage. A risk that is poorly understood by insurers will result in policy limitations or a full exclusion. Aspects to bear in mind include:

Contractual structures

The contractual structure and risk allocation within traditional renewable energy projects, such as solar or wind power generation, is well established. The lack of established contractual structures in nascent energy transition sectors — along with dependence on multiple contractors and equipment suppliers — may lead to gaps in insurance coverage. Owner-controlled insurance programmes for project-financed transactions can assist in mitigating these risks.

Technology

Maintaining dialogue with insurers on risk exposures is important, communicating technical reports on the viability of the relevant "new" technology to address their concerns will assist to narrow proposed defects exclusions or restrictive conditions for the project. Insurers scrutinise the technology employed for a project; however, not all technology has been fully proven. In such instances, insurers expect to see information regarding reference plants that are the same or very similar, typically with an operating record of about one year.

Insurers may limit the extent of cover for damages arising out of defects. The lack of technology type certification can result in insurers seeking to impose restrictive conditions, such as an onerous series loss clause that may apply to all projects worldwide that use the same technology, as opposed to restrictions being limited to the project.

With respect to newer technologies, with sound operating and maintenance practices such as for hydrogen embrittlement — insurers may be willing to ease defect restrictions for prudent and knowledgeable operators.

Discussions with lenders earlier in the process would allow them to consider the risks of restrictive defects conditions applying to the project. Type certification should ideally be secured prior to financial close of the transaction, and at the latest before the beginning of testing and commissioning, this may then be a condition of the financing.

Creditworthiness and track records of project counterparties

A project involving counterparties that have the relevant expertise in continually delivering on similar projects, without prior incidents of defaults on transactions would be the preference to both insurers and lenders. This may not be available for newer technologies but equity participation and performance warranties would evidence the financial commitment of the counterparties to the success of the project.

In addition to the balance sheet of the project counterparties, consideration must be given to the availability of the relevant project counterparties and original equipment manufacturers (OEMs) to deliver the equipment in the required period. Some equipment suppliers, such as manufacturers of electrolysers for green hydrogen projects, may have a lower creditworthiness. Several insurance solutions are available to support performance warranties, which can assist in addressing lender concerns relating to counterparty reliability.

Likewise, a creditworthy and reliable offtaker is likely to be key mainly in regions where the grid is not mature and where developers would be penalised to the extent deemed electrical capacity which cannot be offloaded into the grid is not remunerated.

Supply chain

In the renewable energy field — for example in the offshore wind and in the green hydrogen industries — delays to procuring turbines or electrolysers following loss or damage can be lengthy, potentially extending well beyond the original procurement timeframe due to constrained worldwide capacity. Insurers and lenders will both want to understand how the supply chain process and procurement timescales could impact the availability of replacement or spare parts.

Natural catastrophe

Natural catastrophe events often represent the greatest losses for insurers, and the development of multiple projects in proximity can create an accumulation of risk. Depending on the severity of the losses in a specific region, insurance capacity may be limited to a value that is lower than the replacement value of the financed asset - Lenders traditionally have preferred the insurances placed on a full replacement value basis. Carrying out estimated maximum loss studies in support of a lower insured value enables lenders to get comfortable on insured limits.

Natural catastrophes pose significant risk to projects and are becoming more difficult to predict due to the shift in average weather patterns seen across the world. Lenders often look to ascertain whether such events will likely remain insurable throughout the term of the loan. A deteriorating loss experience could result in limitations on coverage and capacity offered by insurers, and/or to insurance premiums being or becoming prohibitively expensive. In turn, this may materially impact the project cash flows and the borrower's solvency and capacity to service and repay the debt. Climate assessment to determine the risk of increased severity and frequency of natural catastrophe losses over the loan term and periodic estimated maximum loss studies will continue to assist in understanding the differential between the available insurance cover and the maximum value of the projected loss event, this differential to be managed through solutions other than insurance, as highlighted later in this paper.

Site considerations: Risk mitigation and preventative measures

Heightened risks can result in insurers imposing requirements that technical preventative measures be implemented before offering capacity. One example is flood risks, where drainage and flood mitigations are often required within the project design to a level which is aligned to the risk of a flood within a set return period, for example protections to be sufficient to protect the site against a 1 in a 100 year flood event. Negotiating these requirements to meet the project's technical aspects is important to avoid insurance gaps and scenarios of unbudgeted capital expenditure imposed by insurers.

Impacts of ESG on insurance

Many insurers have pledged ESG commitments to support the energy transition as insurance market capacity has shifted from the oil and gas industry to carbon neutral technologies.

The incorporation of ESG factors into insurance underwriting is evolving, and practices may vary across insurers and jurisdictions. However, the growing recognition of the link between ESG and risk management is driving the integration of ESG considerations into underwriting processes, leading to more sustainable and resilient insurance practices.

For example, assessing how climate change might impact a site in the future is related to minimising losses in the long term. A project's design that factors in the potential impacts likely would be viewed positively by insurers and lenders.

While there has been a strong focus on the 'E' in ESG, addressing the social aspects can also further increase the overall attractiveness of insuring such projects, assist in insurance pricing, and help to comply with lenders' increasingly strict environmental and social requirements.

Lenders' requirements

Engaging in proactive discussions with the insurers is key to obtaining insurance that aligns with the requirements outlined in the loan documentation.

Anticipating lenders' risk management and insurance requirements

The tolerance level in terms of the residual risks borne by the borrower will differ depending on the lender.

Identifying the residual risks that are not otherwise contractually transferred or transferred to insurers via insurance policies is a first stage to discussing and understanding whether the identified residual risk is within the tolerance level of the specific lender. These risks can range from low-risk exposures to higher-risk exposures including geopolitical force majeure and natural catastrophe events (where exposure would apply to the extent the risk cannot be transferred to insurers for the full value of the project); pandemic risks; carbon pricing risk; technological risks; technology scale-up risks; delays related to permits and other exposures.

Establishing and possibly managing lender expectations at the outset of any discussion as to lender requirements for the insurance placement sets the parameters for the discussion on the required insurance program. For example, a lender may expect full value reinstatement for earthquake for a project in California, yet this may not be possible. Discussing insurer risk appetite for specific perils or otherwise the risk mitigants is important so lenders are able to understand and the borrower is able to maintain a robust, market reflective, available and realistic minimum required insurance position for a project.

If the potential costs of these retained exposures are significant, and not otherwise contractually addressed, lenders may look to explore risk transfer mechanism beyond traditional insurance, as will be discussed below.

Key concerns for lenders include:

Geopolitical risk exposures and mitigants

Political risks such as abrupt policy changes, political unrest, changes in government, currency exchange rate fluctuations, and changes in regulatory frameworks can create a volatile investment climate and discourage lenders from providing financial support.

These risks can be mitigated through the involvement of export credit agencies within a transaction, negotiation of provisions around political force majeure events within offtake agreements, and purchase of political risk insurance. Political Risk insurance covers a number of different causes of loss including but not limited to inability to convert and/or transfer local currency into hard currency to make payments to Lenders/Investors.

Over the past years, political risk insurance arranged with commercial insurers has grown in importance specifically in the context of energy transition projects as insurers' willingness to commit to carbon neutral projects has grown.

Geopolitical risk could further exacerbate supply chain tensions in critical materials and impact the overall capex for renewable energy projects, triggering a rise in cost. insurance solutions could address the increased cost of construction and additionally, solutions could be explored beyond the traditional insurances as further detailed below.

Lenders are also concerned about political violence risks and their potential damages to the insured assets. This concern rises with the increase in worldwide conflicts. In certain regions, political violence insurance covering a broad spectrum from war risks to malicious damages may be required by lenders.

Insurance and reinsurance structure

Given the importance of insurance as a risk transfer mechanism, lenders look to the creditworthiness of the insurers providing cover, often having their own minimum requirements to be met. To the extent that the insurer does not hold the desired financial strength rating (typically S&P A- equivalent or better), lenders may also require facultative reinsurance with reinsurers that hold sufficient financial strength ratings from international credit rating agencies.

The placement of such reinsurance would need to comply with the governing laws and regulations of the country where the project is located.

When considering these requirements, it is important to understand the reinsurance placement structure. In many instances, a facultative arrangement will be required providing a separate project specific reinsurance programme, allowing tailored coverage specific to the project, inclusion of the lenders' desired protection clauses and facilitating lenders to take security over the reinsurance, as further detailed below.

Lenders' rights in relation to insurance and reinsurance

As part of project financing, lenders typically expect to have certain rights in relation to the insurance.* They might include:

- Allocation of insurance proceeds: Beyond a certain claim threshold, lenders often expect to be involved in the insurance decision-making process; above a significant threshold, they could look for insurance to be applied to early debt repayment.
- Notification regarding the insurance: Lenders often expect to be kept informed following a claim, when there are changes to the insurance terms and conditions, and/or when insurance are likely to be cancelled or renewed.
- A form of broker undertaking.

* Note: Lenders' protection clauses and security over insurance are discussed in detail in the second whitepaper of our 2-part white paper series.

These aspects of the financing to lenders are equally as important as the limits of coverage purchased, particularly in the context of international non-recourse financings.

Given the involvement of numerous parties (including insurers, reinsurers, and reinsurance brokers), it is advised to begin discussion on these aspects at an early stage of the transaction.

Lenders' requirements and rights are driven by the non-recourse aspects typically associated with project-financed transactions. Having reputable insurance, legal, and financial advisors on both the borrower's and the lenders' sides who are familiar with these requirements helps the insurance process run smoothly.

Beyond traditional insurance

Insurance policies are subject to limitations, terms, conditions, and exclusions, meaning some risk exposures and potentially those associated with newer technologies or climate risks may therefore remain with the borrower.

As new risks emerge, the insurance market has also evolved in response to provide more sophisticated products catering to the new exposures associated with the energy transition, including:

- Alternative risk transfer mechanisms: a general term encompassing insurances which have bespoke or unusual triggers, policy periods or structures.
- Parametric solutions: fast-paying financial protection triggered by the movement of a pre-defined index (rather than a physical event in itself), usually with pre-calibrated payouts based on the movements of the trigger index.
- Technology performance risk insurance: a particular insurance aimed at protecting risk arising from the long-term performance of (usually partially-proven) technology used in the energy transition. For example, the financial risks associated with unexpected solar panel degradation or battery under-performance.
- Carbon Capture: Providing protection against loss of CO2 credits.

Specific transaction features can also reduce the level of residual risk in projects considering non-recourse structures:

- Project completion guarantees.
- Cash equity commitments and/or significant cash reserves.
- Sponsor financial guarantees and/or debt service undertakings.
- Government support packages for more strategic/large scale energy transition projects.

Such additional features, where available, can support the successful close of prototypical/or first-of-a-kind energy transition project and we anticipate that this trend will continue over the coming years in the energy transition sector as countries shift towards achieving a net zero target and as the currently nascent sectors mature.

Conclusion

A proactive and comprehensive approach to risk management and insurance is key to promoting the bankability of energy transition projects. The assessment of risk, program design, and insurer negotiation processes are lengthy, especially for newer technologies so it is vital that the process begins as early as possible, with typical timeframes to be planned and allowed in advance of financial close date of six months or longer.

Depending on the number of insurers and reinsurers involved in the placement, meeting insurance conditions precedent to financial close can be an intensive and extended process. It is important to anticipate these requirements and share them with the relevant parties involved early in the process, in advance of the loan documentation insurance requirements being finalized to ensure compliance with insurance conditions precedent to financial close.

By addressing risks and expectations early; engaging with brokers, insurers, and lenders; and exploring alternative protection mechanisms, project stakeholders can improve the bankability and resilience of these important projects in the evolving energy landscape.

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