

Renewing the approach to financing renewable energy projects



As more organizations embed climate change and sustainability efforts into their business strategies, the demand for renewable energy will continue to increase. Actions such as the recent federal [Inflation Reduction Act](#), which provides financial incentives in terms of tax credits, is expected to accelerate the demand for and inflow of capital to finance assets, particularly in the independent power sector.

A substantive headwind to the efficient, effective, and otherwise accelerating deployment of capital into new projects involves the requirements for insurance coverage purchased by project sponsors to cover their risks and those of their lenders. The challenge often stems from the way project sponsors identify and analyze risks related to their own projects and present them to their lenders. These methods often result in insurance requirements that do not consistently reflect the risks that might be reasonably insured or retained.

As the demand for renewable energy increases, project sponsors and their lenders should explore options that enhance their risk management processes. Investments in risk management — in particular the ways in which risk identification and risk analysis are performed and communicated with stakeholders — may improve their financial partners' confidence that risk is managed effectively. This can help reduce the cost and the time required to get to financial close, as well as a project's cost of risk over its lifecycle.

☐ — **Lenders' insurance requirements** ✗ — **don't always align with risk realities**

In the past decade, many renewable energy project sponsors have been subject to insurance requirements that do not align with their exposures, their risk appetite, or even the marketplace for available insurance. The application of what, in many cases, amounts to excessive requirements and the subsequent introduction of untenable volatility in operations and management costs has often undermined the financial viability of the projects themselves. Said plainly, the management of insurance has challenged the efficient and effective development of renewable energy assets.

One result is that project stakeholders often commission multiple reviews by lenders' consultants and risk advisors to attest that recommended insurance programs sufficiently cover their risks, whether these are self-proposed or market-driven. Another result is that the underwriting community looking to insure clean technologies has been asked to do so inconsistently, which may undermine underwriting effectiveness and the efficiency of insurance capital deployment for insurers and insureds.

In addition to the absence of acknowledged standards, many of the new entrants to the sector have various levels of risk management maturity. This means that lenders and other project finance stakeholders — such as lender consultants and law firms — must often prioritize requirements that are “customary,” “market,” or “similar” for the type of project. However, while these approaches may be viewed as both conservative and efficient, they frequently fail to account for critical differences in risk identification and analysis methods employed by project sponsors that have a mature risk management approach. This means that they may inadvertently impede efforts to professionally manage insurable risk; or worse, divert investment capital from projects where risk has been effectively managed to those where it has not.

Employing suboptimal risk identification and analysis methods — which may include either a deterministic or probabilistic assessment on their own, rather than combined — or failing to acknowledge where specific methods have been employed — threatens the sustainability of projects themselves. This is particularly the case when the end result is the design of an insurance program with more stringent requirements than normal and subsequent over-exposure of operations and maintenance budgets to insurance market volatility. Conservancy often leads to dedicated per-project capacity requirements in lieu of portfolio-based requirements that could generate efficiencies at scale, further magnifying this overexposure. In some instances, cost of insurance could exceed 25% of annual operating and maintenance expenses in such cases, adversely affecting asset values.



Portfolio-wide approach can diversify risk exposure

At a macro level, excessively conservative insurance limit requirements, such as per-project underwriting, may lead to higher rates for these projects. Consider a renewable energy developer with 10 projects in different locations. One area is susceptible to multiple catastrophic (CAT) weather events — including hail, windstorm, and flood — and requires excess insurance limits due to the inherent risk of loss. If the project sponsor was able take a portfolio-wide approach when bringing this risk to market, the risk would be spread across all 10 locations, 9 of which are not subject to the same level of CAT risk. Including the risk in a portfolio can improve the value of the overall submission in the marketplace, such that an individual CAT-exposed project may become more attractive to underwriters.

A significant concern is that many lenders today require projects to be insured for 150% of the modeled 1-in-500 year catastrophic loss expectance. These levels typically are well beyond those that can reasonably be insured in the absence of data of sufficient quantum and quality to produce statistically reliable outputs. Additionally, these insurance requirements

may not consider how the 1-in-500 year catastrophic loss expectance modeling was performed. One reason this has become an industry norm is the lack of consistency in how risks have been historically identified, analyzed, and communicated by project sponsors. In the absence of consistent, mature risk management processes, the industry has adopted a standard of conservancy, which is at best costly and at worst may undermine the continuous growth of the industry as measured by the value of renewable energy projects.

This practice fosters a faulty perception of consistent conservancy, eroding the rationale for lender/consultant reliance on similar industry transactions as part of their sufficiency assessments. Note that 150% of a 1-in-500 year loss on one curve does not equate to the same probability of loss on another, and may vary significantly. This means that when project sponsors insure to levels that vary considerably, they undermine consistency and with it the credibility of any sufficiency assessments which may have relied on it. From a project sponsor's perspective, the uncertainty associated with not being able to rely on “comps” as a result of this practice can be material, turning insurance into a challenge that needs to be solved instead of the enabler of investment that it should be.

Acceptance of a one-size-fits-all approach, like the above practice, should be avoided. Each project's risks should be analyzed individually, using credible methods. And when presented as part of a portfolio, risks should be analyzed collectively. Further, project lenders should be able to efficiently differentiate projects that made use of credible modeling methods from those that did not.

While excessively conservative insurance requirements may create efficiencies for some, they have been shown to materially increase fixed operating expenses. This means even predictable volatility in insurance rates can diminish reserves that were established to support foreseeable major maintenance and debt service, and undermine asset valuation assumptions. Indeed, many project sponsors and developers have faced these issues over the last three years as insurance markets became more challenging.

— Insurance requirements — challenge companies' risk management strategy

For non-recourse financed projects, the quantum and breadth of insurance coverage that a project sponsor actually needs at closing is determined by their analysis of the identified risks and stakeholders' confidence in its accuracy. However, the methods used to analyze risks vary considerably among project sponsors, and depend heavily on the maturity of their risk management programs. Newer modeling techniques, for example, may provide more accurate and higher confidence risk estimates, and are typically used by renewable energy organizations with a higher level of risk management maturity. Carrying out insufficient analysis of an individual project's risk appetite can undermine the ability of qualified projects to optimize their risk appetite and assume more risk in areas where they can most confidently manage it.

The experience and expertise of the professionals performing the analysis for project sponsors — often a resource provided by their agent or broker — also varies extensively. While many use accepted CAT risk models, such as those from RMS or AIR, many do so without the support of qualified risk engineers and actuaries who are experienced in the appropriate use of secondary modifiers, multi-point coordinates, or other modeling methods. This means that stochastically modeled outputs of project risks can be dramatically inconsistent, making it difficult for lenders' insurance consultants to determine the adequacy of risk financing techniques proposed by project sponsors, and encouraging the tendency to deploy excessive conservatism, such as the 150% of 1-in-500 year loss standard.

It is therefore critical for project sponsors and developers to work with experienced risk modeling professionals who can help them improve the credibility of their outputs and as they engage with lenders.



5 actionable solutions for project stakeholders

For the renewable energy industry to continue growing and support societal efforts toward sustainability, it is critical to educate all stakeholders — including project sponsors, lenders, investors, lenders' insurance consultants, insurers, agents, and brokers — in best practices and standard processes.

As the portfolio sizes of aggregators grow, the approach to risk management and insurance should adjust accordingly. Project sponsors deserve improved transparency, lenders require education on changing insurance market standards, and lenders' insurance consultants need a seat at the table with the agent or broker to access the data needed to support the agreement and the purchase of fair and sustainable insurance programs.

While industry-wide change can be slow, there are actions that all project finance stakeholders can take now to improve the risk management and financial strength of individual projects in the development pipeline, as well as those already operating.

1. Identify credible risk identification and risk analysis techniques as inputs to insurance program design, making them the gold standard for submissions.

Changing the scope of lender requirements in regard to insurance limits starts with a list of expected documentation that can demonstrate the need to validate "standard" insurance limit purchasing. To achieve this, renewable energy companies should take steps including:

- Put together a list of secondary characteristics as part of their data-gathering process and leverage the additional information to more accurately model the exposure.
- Provide multiple GPS coordinates for large-scale operations to best map out actual exposure to catastrophic weather events.

- Leverage the ability of an agent's or broker's in-house modeling and analytics team to strengthen the argument for more appropriate insurance limits based on the actual exposure and not simply on peer benchmarking.

Qualified lender's insurance consultants typically cannot attest to the sufficiency of optimized insurance programs without evidence of a credible risk analysis. Providing the additional inputs that allow for enhanced modeling can also improve confidence in the presented data.

The outputs can be analyzed and presented by risk engineering professionals to educate lenders on actual probable maximum loss (PML) and maximum foreseeable loss (MFL), particularly for projects with significant natural catastrophe exposures. Objectively assessing per-project risk appetites can minimize the risk of over-insured and under-insured projects being financed and improve the efficiency of their sufficiency assessments.

2. Employ a certified risk management professional within your organization.

Risk management professionals generally are the most qualified to manage all aspects of the risk management and insurance purchasing processes. Having a risk manager on the team can help renewable energy companies in a number of ways, including to:

- Identify credible risk identification and risk analysis techniques for the project sponsor to carry out, and efficiently manage, such programs.
- Better collaborate with independent third parties trained in the efficient and effective deployment of risk assessment techniques.
- Provide an increased level of risk management confidence for all involved during the project financing process by ensuring the information being provided to run enhanced models — which is key to achieving improved outputs — is credible.

A qualified risk manager understands the implications of data accuracy and appreciates the impact of over- or under-insurance to their projects' bottom line.

3. Reflect on potential agent or broker conflicts of interest and incentives on each project's — or portfolio of projects' — risk management strategy.

There are numerous proven methods to assess risk capital. Renewable energy companies should:

- Consider the pros and cons of different approaches to remuneration and how each method aligns with the company's values, goals, and practices.
- Understand, formally assess, and monitor the perspectives of your risk advisors on remuneration.
- Ask your peers for feedback on industry participants, gathering information to make an informed decision.
- Review the credentials of potential advisors, considering notable publications and/or awards.

4. Consider the importance of the insurance sufficiency assessment associated with financing strategies that are presented to lenders and investors and the unique role of the lender's insurance consultant.

Project volumes have increased substantially in the last 24 months. The same period has seen significant changes in ownership, staffing levels, and the complexity of risk assessments undertaken by project sponsors. Renewable energy companies should, among other things:

- Explore the increasingly diverse and competitive field of independent and broker-affiliated options.
- Regularly consider the pros and cons of each, and constantly assess and monitor results.

5. Perform annual sensitivity analyses.

Buying more insurance through the use of deductible buy-downs, excess catastrophic risk coverage, and other specialty coverages can mean the difference between finding sponsors to finance a project or having them walk away. Used correctly, insurance products can improve a project's attractiveness. The length of a renewable project's life cycle often means that regular reviews will be needed to assess whether the coverage remains adequate and efficient.

The path toward more sustainable project financing

As renewable energy development in the US continues to gather momentum, project financing is expected to remain front and center. The many requirements for insurance coverage can pose a significant barrier to the efficient development and financing of these projects.

The way forward depends on creating a roadmap that allows for education, open dialogue, and willingness to change, allowing all stakeholders in renewable energy project financing to close deals more efficiently and with the right amount of insurance being purchased on a per-risk, merit basis.

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