

Built for Tomorrow: Risk & Insurance Strategies for Construction Leaders Powering the Renewable Future

An actionable playbook for construction firms integrating solar, battery storage and sustainable materials.



The construction industry is undergoing a significant transition as the shift toward more sustainable building projects reshapes design priorities and introduces new materials and technologies.

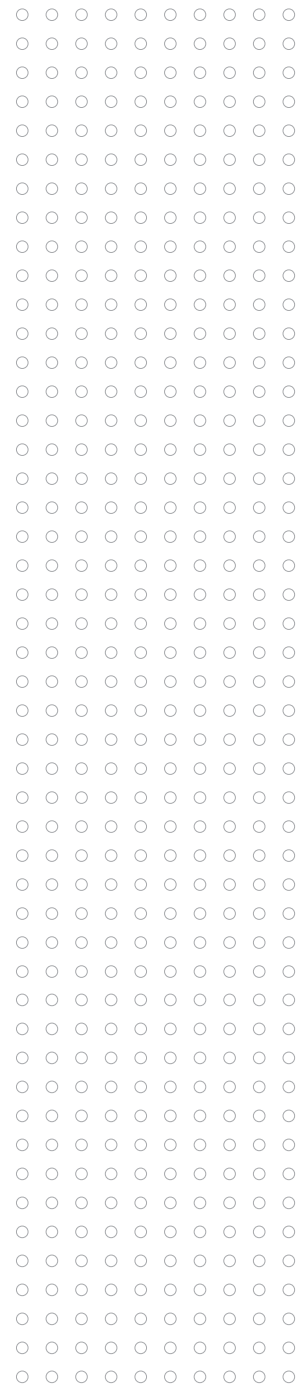
To succeed in this evolving environment, construction leaders must not only adapt their business practices but also adjust their insurance and risk management strategies to account for the unique exposures that come with the integration of emerging energy technologies and sustainable materials.

Understanding the Complex Risks of Green Building

Green building and renovation projects using more sustainable materials, such as mass timber, energy-efficient building facades and rooftop solar, have become increasingly common. In emerging market cities alone, investments in green construction projects are projected to hit \$24 trillion by 2030.¹

The materials, technology and even expertise needed to safely and effectively carry out these projects – in combination with strict project timelines – creates many challenges for construction leaders, particularly while navigating an emerging and complex risk landscape.

For example, integrating solar panel systems to optimize a building's energy usage requires various structural design and construction considerations to maintain the integrity of the roof and mitigate potential fire hazards. Similarly, while battery energy storage systems (BESS) can be a great vehicle for tapping into renewable energy sources, they also come with serious fire and/or explosion risks due to thermal runaway.



¹Icf.org, "Green Buildings: A Financial and Policy Blueprint for Emerging Markets," Dec. 2, 2019.

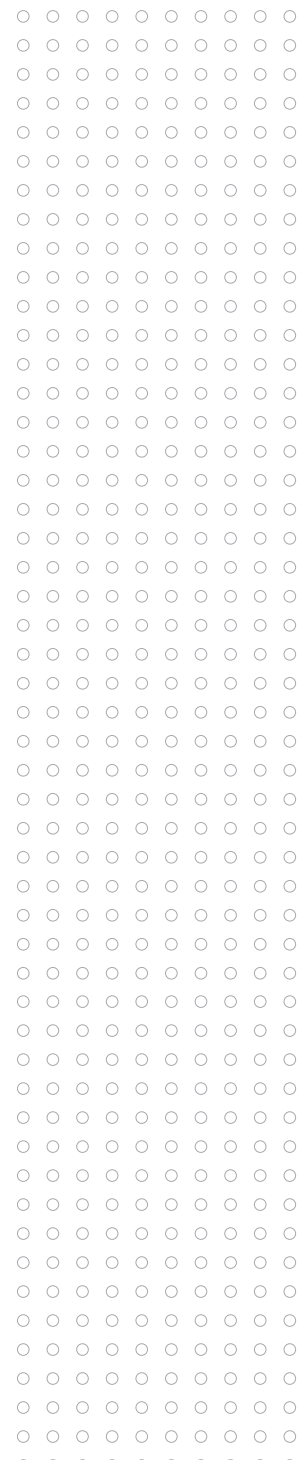
These risks are closely monitored by insurance underwriters, who may deny or limit coverage or charge additional premium if project owners fail to meet specific safety, documentation and risk control requirements.

Construction leaders must also contend with an evolving liability landscape around project timelines, cost overruns and regulatory compliance. Professional liability exposures can be heightened in green construction due to the complexity of these projects.

Emerging External Challenges

In today's highly uncertain economic and environmental climate, there is an increasing variety of complex threats that can amplify the risks associated with sustainable construction projects, including:

- **Challenges in sourcing materials** – Tariffs on certain solar technology imports could force the rapid implementation of new supply chain strategies across the American construction industry.
- **Equipment procurement delays** – Increased lead times for essential equipment like specialized HVAC systems, transformers and electrical panels needed to support sustainable building could result in underwriters imposing delay in start-up (DSU) coverage terms to protect against subsequent project delays and interruptions.
- **Storage site exposures** – Sustainable and high-cost materials stored in laydown yards are highly vulnerable to theft or weather damage. Traditional risk policies may not provide coverage for these losses, so project owners may need to renegotiate or procure additional coverage designed specifically for green construction projects.
- **Severe weather disruptions** – After 28 climate-driven catastrophes resulting in at least \$1 billion in damage in the U.S. in 2023,² and with CAT seasons only expected to become more severe, insurers are tightening policy terms and raising premiums for projects in disaster-prone regions.



² Climate.gov, "2023: A historic year of U.S. billion-dollar weather and climate disasters," Jan. 8, 2024.

Addressing Common Insurance Gaps

Even the most experienced construction firms can be unaware of or overlook coverage gaps for green building projects.

Key coverage areas to review include:

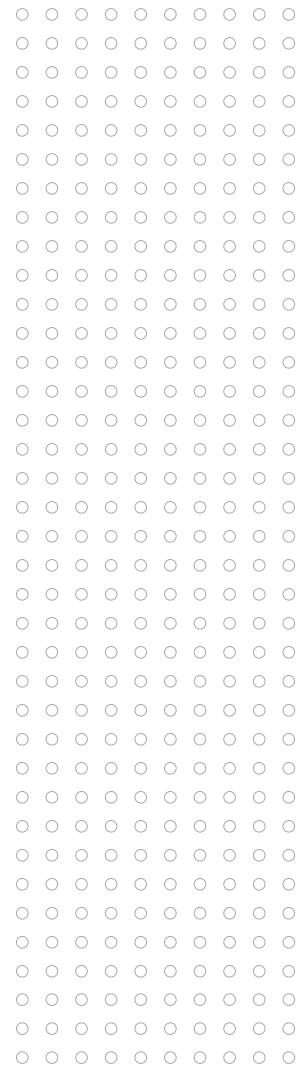
Builder’s risk, cargo and stock throughput policies. Traditional [builder’s risk](#) policies may not cover delays and additional costs for green building practices and the use of renewable materials and technology.

Environmental liability and pollution. Pollution and contamination exposures are generally excluded by standard policies, which is why contractors’ pollution liability coverage is a critical coverage for any construction project. Contractors should evaluate if they need extensions to builder’s risk coverage, particularly those working with higher-risk sustainable BESS and HVAC components.

Contractors professional liability (CPL) and errors and omissions (E&O).

Sustainable building projects often require the involvement of multiple outside consultants and contractors during each phase, increasing the risk of costly design and installation errors. Specific endorsements, as well as CPL and E&O policies, can protect against errors by third-party contractors.

Deductible buybacks and exclusions. As weather-related damage claims continue to increase, policies will become more restrictive or exclude coverage of micro-fractures impacting specialized, high-cost glass and solar panels. Review policy deductibles and buyback options carefully.



Best Practice for Reducing Risks

Many green construction risks can be successfully mitigated with a proactive and strategic insurance strategy. Here are four best practices project owners can take:

1. Consult with your broker early and throughout the project lifecycle

Working with a specialized construction broker during the design and procurement phases can go a long way toward preventing costly coverage gaps, timeline complications and compliance concerns that could arise. And, as the insurance market for sustainable building evolves, coverage needs and availability can shift, so it is critical to regularly communicate with your broker.

2. Define and allocate risk in contracts

Working with multiple third parties, including various design and installation specialists, is typical in green construction. But if roles and responsibilities aren't clearly defined, it can be difficult to determine where the liability rests in the event of a project delay or loss. Each party's role in the project should be clearly communicated and documented during each stage of a green building construction project.

3. Obtain roof manufacturer approval before solar installation

To protect the roof warranty, solar systems should not be installed without written approval from the roof membrane manufacturer and the original roofing contractor if under warranty. This ensures that installation design proposed including anchors and/or roofing isolation is acceptable and won't compromise the roof warranty.

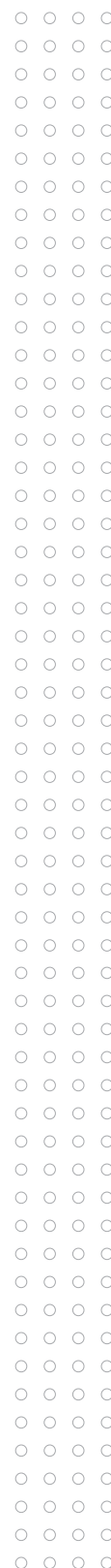
Consult building asset insurers:

Before going ahead with an installation, building owners should also consult their property insurer to ensure the design meets the requirements, should the insurer have any, for acceptable installation practices so as not to negatively impact coverage on the overall asset.

4. Utilize quality control technology

Drones and thermal imaging can detect issues early and provide documentation to support claims or coverage negotiations. Pre- and post-CAT inspections are especially valuable for protecting high-cost materials like solar panels.

For example, whether it's a wildfire or severe hail or windstorm, conducting a flyover drone inspection of a property before and after a major CAT event allows contractors to identify and attribute a cause to any micro-fracturing damage to solar arrays or thermal insulation systems.

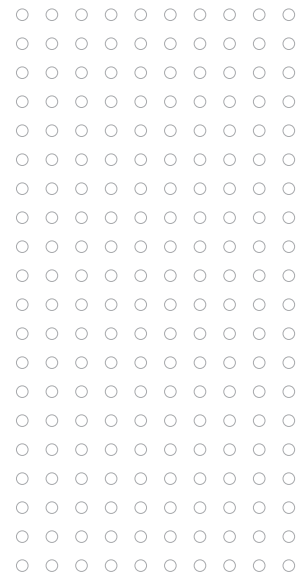


Work with the Right Broker

The success of any sustainable building project hinges on the ability of construction leaders to protect their projects from beginning to end, which involves working with a broker with proven experience and expertise in the realm of renewable energy.

HUB's specialized construction and renewable energy risk team works with leading green building developers across the U.S. and Canada, engaging at the earliest stages of design and procurement. Our advice and hands-on support both optimize building performance and mitigate emerging profitability threats.

[Connect with HUB today](#) to help you navigate the evolving insurance landscape around green construction.



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