

Power & Renewables Report

**How the power generation and
renewables sector can balance rapid
growth and effective risk management**



Contents

03

FOREWORD

04

KEY FINDINGS

06

01. A RUSH FOR CAPACITY
AND THE RISKS IT RAISES

12

02. A WIDENING RESILIENCE GAP
WEIGHS ON THE BOTTOM LINE

17

03. AN ENGINEERING-LED
APPROACH TO RESILIENCE

22

RECOMMENDATIONS

23

HOW FM CAN HELP

25

FM EXPERTS

27

METHODOLOGY

Foreword



Doug Patterson

Senior Vice President,
Division Manager, Speciality Industries, FM

The global economy needs more energy, and it needs it yesterday.

Around the world, there is an insatiable demand for additional energy capacity. The artificial intelligence revolution, especially, has created an intense need for rapid expansion of generation capacity, and with high standards of resilience.

To meet this need, the power generation sector is turning to a broad mix of new or emerging technologies, often in complex configurations, including battery storage systems paired with renewables, or small modular nuclear reactors, or is using established technologies, such as aeroderivative turbines, in novel operating modes.

But it is doing so under pressure. Equipment supply chains are highly constrained, as manufacturers struggle to meet newfound demand. Skills shortages exist throughout the project lifecycle. Natural hazard exposure is becoming a greater consideration, as more infrastructure is built in hazard-prone regions, and must remain resilient as those hazards evolve over long project lifecycles.

Faced with demanding schedules and intense competition, resilience practices are under pressure. It is proving difficult to make space in schedules for risk analysis, to ensure processes and policies are robust, to build in recoverability, and to think in terms of risk prevention as well as risk transfer.

But speed cannot come at the cost of resilience. Indeed, resilience is what makes speed sustainable.

To investigate how the power generation sector is navigating this fast-changing, high-pressure risk environment, FM surveyed 750 global power generation sector risk decision-makers, 150 insurance brokers, and 150 financiers. This revealed a sector expanding at extraordinary speed—but one where risk is accumulating so fast risk models are struggling to keep pace.

Hidden risks are embedded across the lifecycle of power generation infrastructure assets, from site selection to operations and maintenance. And operators and developers are paying the price in increased construction and insurance costs, and reduced appeal to potential financiers.

For developers and operators of power generation capacity, insurers that combine engineering expertise with significant stable capacity can play an important role in supporting resilient design and supply chains, improving recoverability and helping to reduce total cost of risk (TCOR) throughout the asset lifecycle.

At FM, we work with power companies, equipment manufacturers, and industry certifiers to ensure that we have a deep understanding of critical technologies and processes to mitigate risk, as well as to transfer it.

Our purpose is simple: to help clients build resilience at the pace the market now demands. We help power generation companies build not just quickly, but durably—so that every asset they create is profitable, insurable, and investable across its full working life.

Key findings

To investigate how the resilience of the power generation sector is holding up in the face of rapid expansion, FM conducted a global survey of 750 power generation sector risk decision-makers, 150 insurance brokers, and 150 financiers. Here's what we found:

The power generation sector is rapidly expanding its capacity—but this has led to accelerated location and technology decisions.

2.3 GW

is the **average capacity in development** by developers of power generation infrastructure.

78%

of power companies say **site selection decisions** frequently create downstream exposure that was not anticipated at the time.

59%

identify **new technology adoption** as the leading driver of risk across the asset lifecycle.

Unanticipated risks appear throughout the lifecycle of power generation infrastructure assets.

62%

cite schedule overruns and grid interconnection delays during construction.

61%

identify fragmented ownership and siloed governance at handover between construction and operation.

77%

of power generation companies say outdated O&M models are the most common cause of disruption to operations.

These risks make power generation infrastructure assets less profitable, insurable, and investable.

Power providers say uncertainty over the resilience of assets results in:



Insurance cover alone does not provide adequate resilience.

65%

of power providers say new and hybrid technologies are underinsured.

61%

say business interruption terms are misaligned with real-world recovery timelines.



56%

of respondents believe their insurers prioritise risk transfer over risk prevention.

Engineering insight boosts resilience and investor confidence.

85%

of respondents agree that engineering insight enhances stability, insurability, and investor confidence.

Brokers say insurer-provided risk engineering is most valuable for:



71%

New technologies or first-of-their-kind projects



67%

Construction phase risk management



67%

Projects in severe catastrophe hazard regions

01

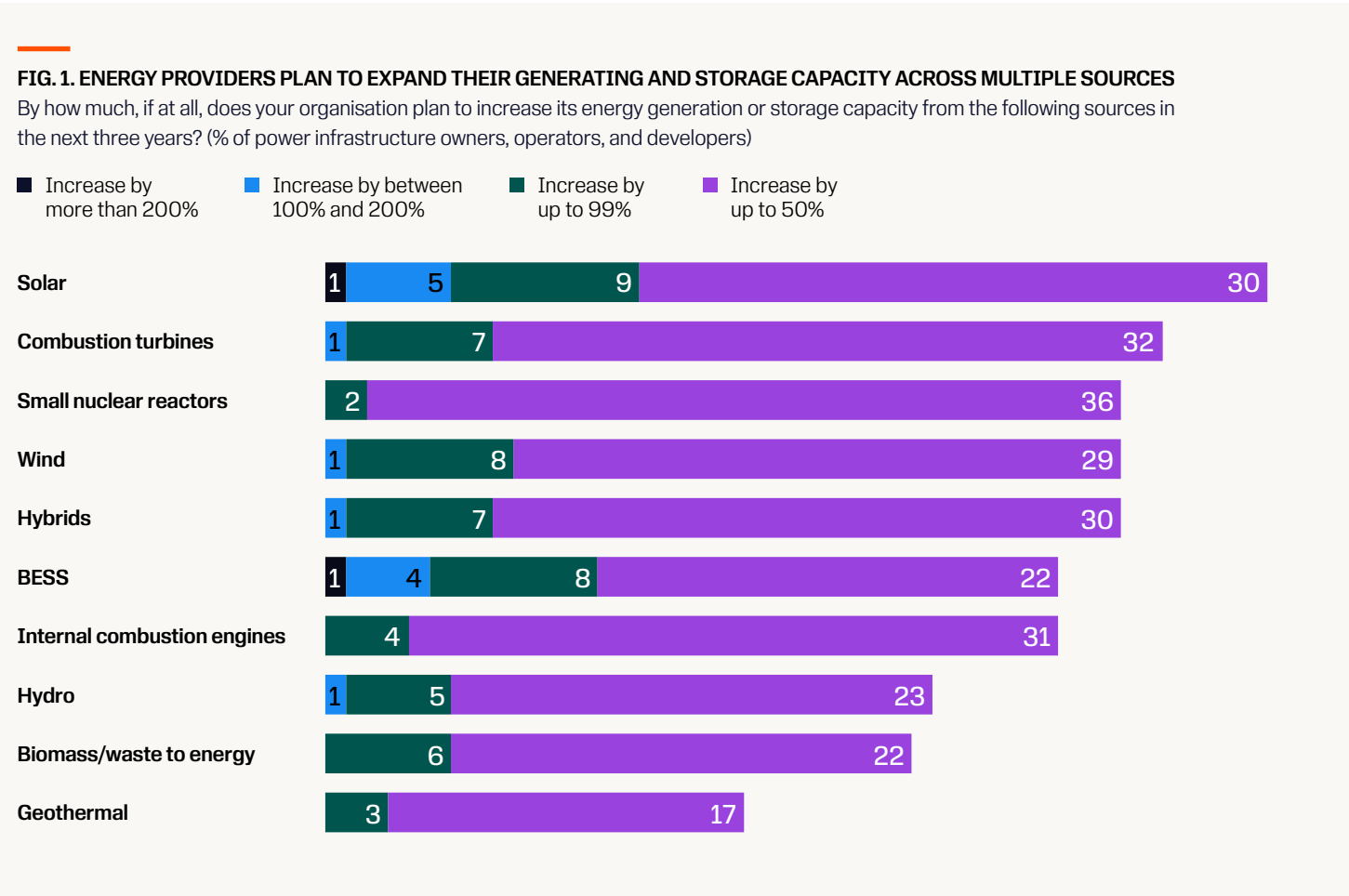
A rush for capacity
and the risks
it raises

The need for energy is skyrocketing. Data centres, electrification, and the energy transition are driving demand for electricity at a pace 50% higher than the previous decade, according to the IEA.¹

And the power generation sector is responding: at the start of 2026, the United States had 252 GW of gas-fired capacity planned, equivalent to 50% of its existing fleet, and three times the pipeline of just a year earlier.²

Our survey captured many of those working to meet this demand: power infrastructure developers responding to the survey have an average of 2.3 GW of power generation capacity in development.

Solar power is the fastest growing source, with 45% of operators or developers planning to increase their solar capacity in the next three years. But ambition extends across all types of power generation: 38% plan to add small nuclear capacity, 38% plan to expand wind, and 35% plan to grow a battery energy storage system (BESS) (see Fig. 1).



1. Electricity 2026 – Analysis - IEA
2. Betting big on data centers, U.S. now leads world for new gas power development | Global Energy Monitor

Early decisions lock in risks

The race to build new capacity, combined with the breakneck pace of technological development in the sector, is forcing developers and operators to move quickly. But early decisions, such as site and technology selection, are the hardest to reverse. And, unless those decisions are made carefully, they can lock in risk from the earliest stages of an asset's lifecycle.

Conversely, the sooner risk is understood, the more options developers have to maximise lifecycle value over the operating life of the asset and manage the TCOR. This is a measure of everything an organisation pays to manage risk—comprising retained losses, the costs of preventing or mitigating risk and administrative costs, as well as the cost of transferring risks, such as insurance premiums.

More than three-quarters (78%) of power companies admit that site selection decisions frequently create downstream exposure in ways that were not anticipated at the time.

The most common of these is extreme weather—encompassing flooding, hail, wildfire, and severe convective storms—with 27% of power generation infrastructure operators or developers identifying it as the number one site-related risk.



This rises to 33% among renewable energy providers, as renewable projects face proportionally greater natural hazard exposure than thermal assets. Solar panels and wind turbines are directly exposed to the elements in ways that enclosed thermal plant is not. Technology selection is another early-stage decision that can embed risk within a project. New and hybrid power generation technologies are advancing faster than the risk frameworks designed to assess them.

Indeed, 59% of power companies identify new technology adoption as their leading cost of risk driver for a given asset, contributing more than 10% of the TCOR—more than any other driver.

Many of the technologies that power infrastructure developers and operators are implementing today are untested at scale. “We don’t have the runtime on many of these technologies,” says Michael Kolodner, Global Renewable Energy and U.S. Energy and Power Leader at insurance broker Marsh Risk. “How those systems will work, and the risks inherent in using them, are new for everybody.”

78%

OF POWER COMPANIES SAY SITE SELECTION DECISIONS FREQUENTLY CREATE UNANTICIPATED DOWNSTREAM EXPOSURES

Nearly half of our survey respondents (46%) are uncertain how new technologies will perform under real-world stress, particularly in hybrid applications.

The pace of change is especially alarming in the data centre power generation sector, where giant new facilities incorporating novel power technologies are being built at breakneck speed, says Sandy Calvert, Senior Vice President at insurance consultancy Moore-McNeil. “We’re building the plane as we’re flying it.”

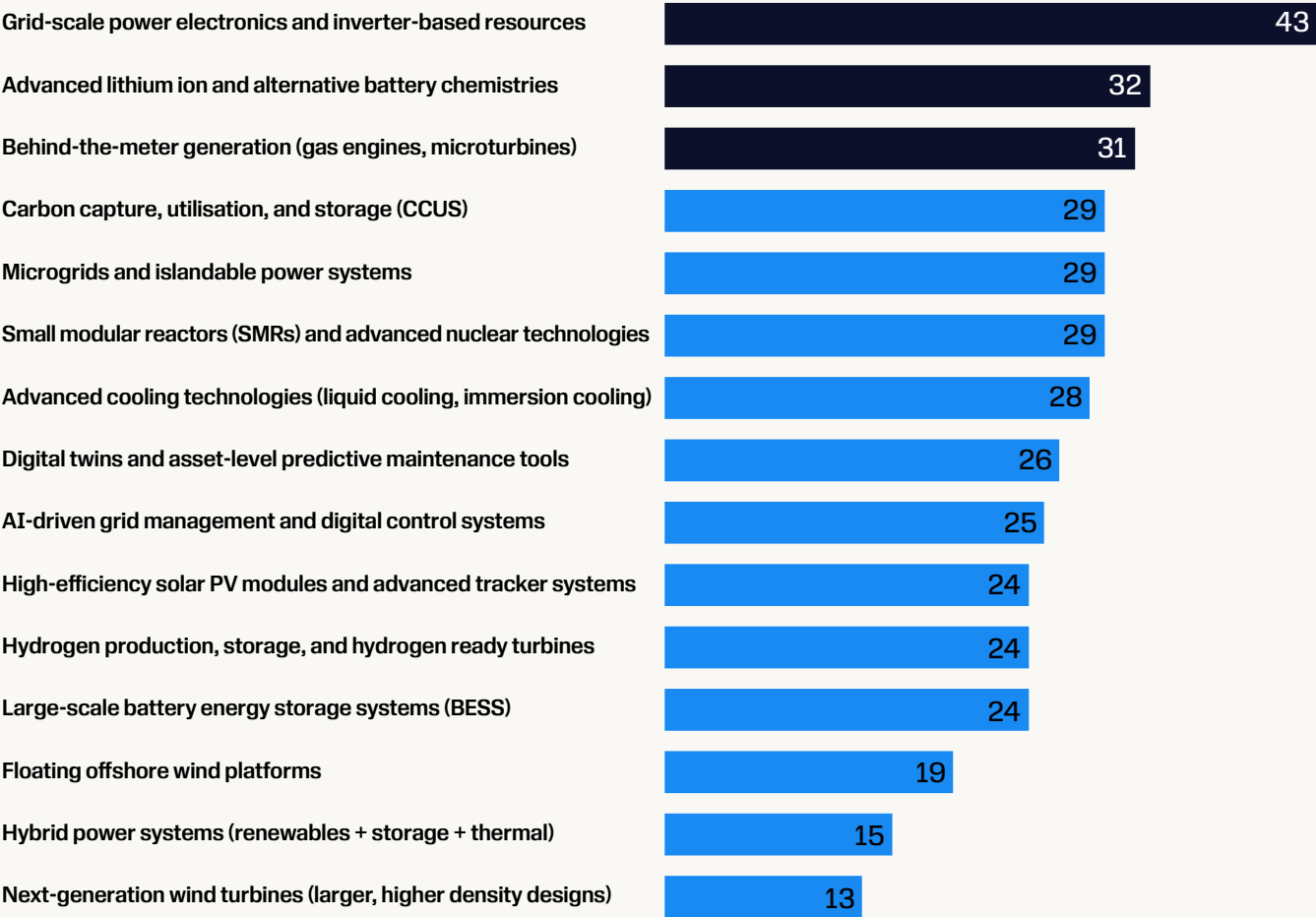
Our survey provides some insight into the most disruptive early-stage technologies. For example, 43% of the power companies that have adopted grid-scale power electronics and inverter-based resources rank them as the most common cause of unanticipated disruption (see Fig. 2). Advanced lithium ion and alternative battery chemistries also rank highly for disruption.

“We don’t have the runtime on many of these technologies. How those systems will work, and the risks inherent in using them, are new for everybody.”

Michael Kolodner
Global Renewable Energy and U.S. Energy and Power Leader, Marsh Risk

FIG. 2. GRID-SCALE POWER ELECTRONICS AND ADVANCED LITHIUM-ION BATTERIES ARE AMONG THE MOST DISRUPTIVE NOVEL TECHNOLOGIES

Which of these are the most common causes of unanticipated disruption to the construction or operation of your energy infrastructure assets? (% of energy providers who have adopted each technology, rank 1)



“Specialised labour availability is a reason why projects get delayed and ultimately fail to meet their goals.”

Eric Purington

Infrastructure Private Equity Investment Director and
Real Assets Portfolio Manager, Aberdeen



Risk stacks throughout the lifecycle

Site location and technology selection decisions are just the start. Our survey reveals how risks can accumulate throughout the lifecycle of a power generation infrastructure asset.

Start with construction—more than half of power operators and developers say the construction phase contributes over 10% of TCOR. The primary concerns are related: supply chain strain (62%) and schedule overruns (62%). This reflects severe constraints on the supply of critical equipment.

“The biggest thing we’re seeing is supply chain risk, where the pace of growth, ambition, and Capex doesn’t line up with the availability of parts,” says Robert Colver, AGRC Industry Lead for Natural Resources at insurance broker Aon.

It’s not just equipment that is in short supply: more than 60% cite contractors’ capability gaps as a construction-phase risk. “Specialised labour availability is a reason why projects get delayed and ultimately fail to meet their goals,” says Eric Purington, Infrastructure Private Equity Investment Director and Real Assets Portfolio Manager at financial services group Aberdeen.

Once construction is complete, risk can leak in during handover to operations: 45% say this phase accounts for more than 10% of TCOR. The top causes of these handover risks are fragmented governance (ranked in the top three by 61% of respondents) and incomplete commissioning, testing, or documentation (61%).

“The biggest thing we’re seeing is supply chain risk, where the pace of growth, ambition, and Capex doesn’t line up with the availability of parts.”

Robert Colver

AGRC Industry Lead for Natural Resources, Aon

“Handover is one of the most consequential risk transitions in an asset’s life,” says Michael Perron, Renewable Energy Market Lead at FM. When commissioning is accelerated or documentation is incomplete, he explains, critical failure modes can go undetected: control systems undertested under real-world load, protective relays misconfigured, or fire suppression systems unverified. Any of these can lead to equipment failures or fires within months of commercial operation.

Donovan dos Santos, FM’s Data Centre and Power Generation Lead for Asia-Pacific, points to misaligned incentives: “As a project team, if you can get a project signed over to the operational team, it stops being your problem. You’ve not necessarily got healthy incentives motivating people all through that handover phase.”

Another significant contributor to risk is the shortcomings in risk management throughout the lifecycle of the asset, with 77% of respondents citing operations and maintenance models that have not been adapted to new technologies.

“One of the biggest risks in the industry is operating new technology using old assumptions,” says Perron. A key risk factor currently is that “many O&M programmes were developed for a different generation of assets,” he explains. “The challenge becomes larger when you’re dealing with battery storage, solar arrays, geothermal, and new battery chemistries.”

These systems are increasingly deployed at unprecedented scale or density, or in new and complex configurations. This can create new reliability and resilience challenges that may not be reflected in existing risk frameworks.



02

A widening resilience gap weighs on the bottom line

As investment pours into power generation, risk accumulates quickly but risk models struggle to keep pace. Our survey finds a widening gap between emerging risks and the comprehensiveness of insurance cover.

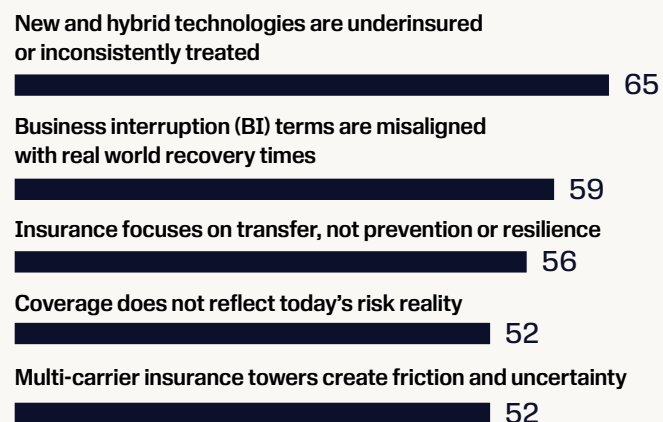
Although most power stakeholders are happy with the availability of insurance cover—78% of power companies and 85% of brokers say they can secure cover for energy infrastructure assets—there are doubts whether their insurance provides real resilience. More than half of respondents (56%) believe insurance prioritises risk transfer over risk prevention.

Part of the challenge is risk maturity and timing. Organisations with more developed risk management practices tend to spend more time on risk identification, resilience planning, and risk engineering analysis before deciding how much risk to retain or transfer. “Less sophisticated buyers jump straight to insurance,” says Kolodner at Marsh Risk. “The more risk-mature the client is, the more they’re willing to spend time on risk identification and analysis.”

Another concern, shared by 61% of all respondents, is that the business interruption terms of their insurance are not well aligned with real-world recovery timelines. This is especially evident to brokers: 73% cite business interruption misalignment versus 59% of energy providers, suggesting the latter might be underestimating it (see Fig. 3).

FIG. 3. INSURANCE ALONE IS NOT PROVIDING ADEQUATE RESILIENCE FOR ENERGY INFRASTRUCTURE ASSETS

What are the greatest challenges your organisation faces when insuring its energy infrastructure assets?
(rank 1/2/3) (% energy infrastructure owners, operators, and developers)



“The more risk-mature the client is, the more they’re willing to spend time in risk identification and analysis.”

Michael Kolodner

Global Renewable Energy and U.S. Energy and Power Leader at insurance broker Marsh Risk





The issue is not simply whether insurance is available. It is whether insurance, engineering, operations, and finance are aligned around the actual risk profile of the asset. When that alignment is missing, risk is not eliminated but is pushed into construction budgets, operating assumptions, financing terms, or underinsured recovery gaps.

This leaves businesses exposed to equipment failure, given the long lead times for replacements. “Lead times for some of these critical pieces of equipment, such as transformers, turbines, and ancillary equipment, are now ranging up to five years,” says Calvert at Moore-McNeil.

“Insurance isn’t going to cover that gap when the policy itself indemnifies at a maximum of 24 months, and 90% of the market is for 12 months,” she adds. “There’s a big gap in what can be covered and what the risk is.”

Cover for technology risks is also falling short: 65% of power generation companies and 75% of brokers say new and hybrid technologies are underinsured or inconsistently treated, the most-cited cover challenge.

This problem is compounded by a lack of standardised certification frameworks. Without independently verified performance data for nascent technologies, insurers struggle to price risk accurately and operators struggle to demonstrate their risk profile.

“You’re making pricing and cover decisions based on very limited data,” says Calvert. “That’s why the carriers who invest in engineering expertise and proprietary testing rather than relying solely on third-party certification are better positioned to serve this market.”

And while insurance coverage is widely available today, some argue this might not always be the case. “We haven’t seen a catastrophic event yet that has wiped out multiple assets,” says Purington at Aberdeen. “When that happens, there will be a reckoning on insurability.”

65%

OF POWER COMPANIES SAY NEW AND HYBRID TECHNOLOGIES ARE UNDERINSURED OR INCONSISTENTLY TREATED

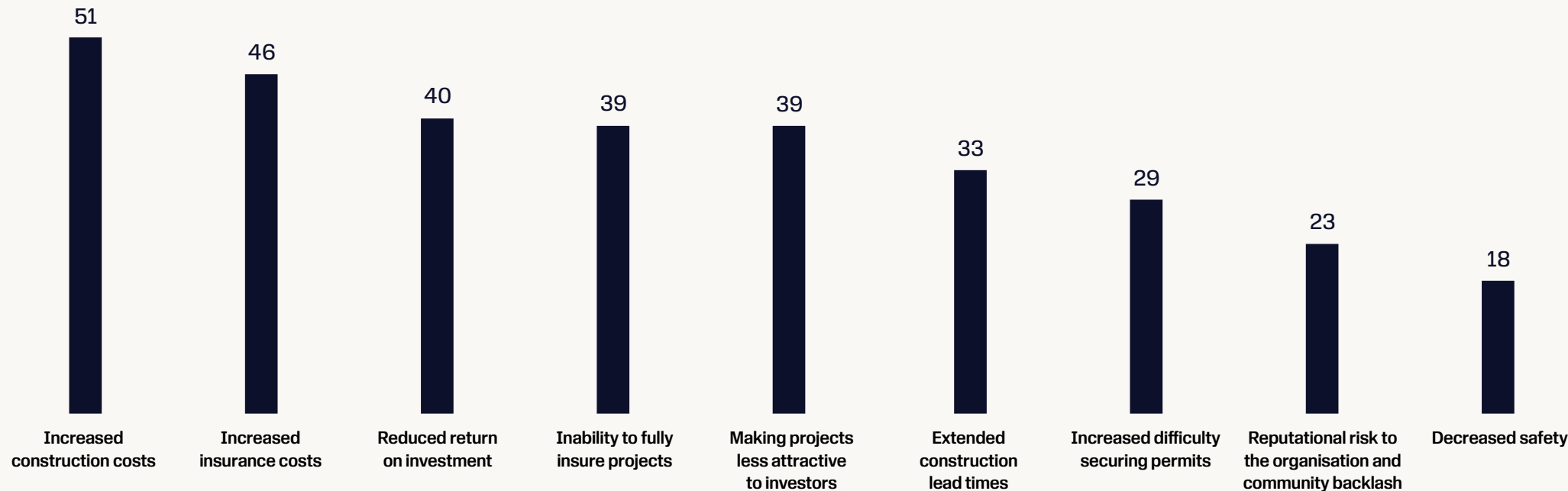
Resilience questions threaten project finance

Resilience gaps threaten the profitability of power generation infrastructure assets. Uncertainty over resilience leads to increased construction (51%) and insurance (46%) costs, power providers report, and reduced return on investment (40%).

But resilience gaps also undermine how attractive a project is to investors (39%), jeopardising providers' expansion ambitions (see Fig. 4). When developers can demonstrate that assets are designed, tested, commissioned, and operated to withstand known risks, they give insurers, lenders, and investors greater confidence in long-term performance.

FIG. 4. UNCERTAINTY OVER RESILIENCE JEOPARDISES THE BOTTOM LINE AND THE ABILITY TO RAISE INVESTMENT

What are the impacts of uncertainty about the resilience of an energy infrastructure asset? (% of energy infrastructure owners, operators, and developers)



Our survey shows that financiers are, if anything, more concerned about the impact of these risks on project economics than the owners, operators, and developers themselves.

For example, they consistently estimate the TCOR to be higher than power companies across all five risk drivers: site selection, new technology adoption, construction phase risks, disruption during handover, and lifecycle gap risks (see Fig. 5).

This risk perception gap has direct consequences for lending terms. “Financiers often lack direct operational visibility,” explains FM’s Perron. “As a result, they see uncertainty and they price it.”

FIG. 5. FINANCIERS ESTIMATE THE TCOR DRIVERS TO BE HIGHER THAN ENERGY PROVIDERS

What percentage of TCOR of an energy infrastructure asset do you believe is typically due to [risk driver]? (Average of estimates)



03

An engineering-led approach to resilience



85%

OF RESPONDENTS AGREE APPLYING
ENGINEERING INSIGHT EARLY
MAKES PROJECTS MORE PROFITABLE,
INSURABLE, AND FINANCEABLE

Many of the challenges faced by developers and operators can be addressed by building in resilience and effective loss-prevention measures at every stage.

This requires engineering expertise, as our survey respondents understand: 85% of respondents agree that using engineering insight to identify and eliminate hidden vulnerabilities early, rather than reacting after losses occur, brings stability to power generation infrastructure projects, making them more profitable, insurable, and financeable.

Engineering expertise can also help minimise the cost and other impacts of resilience measures. FM's Perron shares an example from battery storage installation:

"Some in the insurance community believe battery containers need to be stored 20 to 25 feet apart," he explains. "But we found that if you work with certain vendors who have developed strong programmes to mitigate thermal runaway, the spacing can be much smaller, well below 10 feet.

"That matters because these projects operate on very thin margins. Saving space on battery storage can free up capital."

Building resilience requires integrating risk management throughout the lifecycle, from planning and design through construction, handover, and O&M. By the time insurance is placed, many of the most important resilience decisions have already been made. "They're made when sites are selected and equipment is procured," says Perron.

“It is vital that clients evaluate evolving risks, particularly hail, flood, wildfire, severe convective storms, and long-term, climate-related hazard changes before they become permanent features of the project.”

Cassian Walker

Renewables Engineering Manager, FM

A thorough assessment of potential sites for current and future risks is therefore essential. “It is vital that clients evaluate evolving risks, particularly hail, flood, wildfire, severe convective storms, and long-term, climate-related hazard changes before they become permanent features of the project,” explains Cassian Walker, FM’s Renewables Engineering Manager.

Developers need to apply those insights into natural hazard risks to decisions around technology selection and design criteria. To ensure the resilience of the project’s assets, they need to ensure that mitigation measures, operational strategy, and recovery planning are appropriate for the natural hazard exposures posed by a specific location.

But it is not sufficient to design an asset to be resilient: increasingly, developers, insurers, brokers, and investors are asking how that resilience can be demonstrated, measured, and maintained throughout its lifecycle. “Engineering insight is most valuable when it turns uncertainty into something measurable. Research, testing, and operational data help organisations make decisions based on evidence rather than assumptions,” says Michael Andler, Senior Vice President, Global Market and Product Relations at FM.





Tapping into expertise

With developers under extreme schedule pressure, it can be difficult to prioritise prevention and resilience. And many do not have the required expertise themselves: only a third of power companies surveyed are using engineering risk data to assess emerging exposures, for example.

Risk managers can plug this gap by drawing on outside expertise, including from insurers. “A risk manager is always looking for services that will help educate their company about resiliency and engineering issues,” agrees Moore-McNeil’s Calvert.

Insurers are well-placed to provide this insight, given their visibility into multiple clients’ sites and operations. “Because we’re in so many different plants, we can identify bad practice and help disseminate best practices,” explains Brian Palmer, Principal Engineer, Thermal Energy at FM.

“A risk manager is always looking for services that will help educate their company about resiliency and engineering issues.”

Sandy Calvert

Senior Vice President, Moore-McNeil

According to brokers, insurer-provided engineering is most valuable when choosing new technologies (71%), during construction (67%), or when projects are in high-risk locations (see Fig. 6).

Engineering expertise also helps buyers secure more favourable insurance coverage. For example, renewable energy providers that can show that their solar trackers stow correctly, reducing hail losses by 90% or more, are increasingly rewarded with better terms, Calvert says.

FIG. 6. INSURER-PROVIDED ENGINEERING INSIGHT IS MOST VALUABLE WHEN HIGH-RISK DECISIONS ARE BEING MADE, BROKERS SAY

In which of the following circumstances is insurer-provided risk engineering most valuable to you/your clients? (% of brokers)



Insurance can only protect project economics up to a point. In many cases, it is the duration of the recovery from an initiating event that drives the severity of the loss. The availability of replacement transformers, turbines, inverters, battery equipment, specialised contractors, and transportation resources can have a much larger impact on project economics than the initial physical damage itself. Identifying these pinch points early can help support recoverability.

Given the scale and pace of the power generation sector's expansion ambitions, misplaced decision-making today could have far-reaching consequences for risk in future. No provider—or investor—can afford to take those decisions without the benefit of engineering-led risk insight.

Developers and operators also need to look at risk across the project lifecycle. In many cases, the key decision is not the lowest initial cost, but the choice that minimises TCOR and maximises lifecycle value over the operating life of the asset.

“The organisations that can bring engineering insight into site selection, procurement, design, operations, and workforce planning before risk gets locked into the asset will ultimately have the strongest projects, the lowest TCOR, and the greatest long-term success,” explains Perron.





Recommendations

Build resilience at every stage of the asset lifecycle.

1. Plan:

Assess future natural hazard exposure, technology risk, and recoverability before locations and designs are finalised.

4. Operate:

Continuously adapt operating and maintenance programmes to evolving technologies, changing hazard conditions, and emerging failure modes.

2. Build:

Strengthen construction resilience through engineering review, supply chain assessment, quality assurance, and disciplined commissioning.

5. Recover:

Prepare for disruption by planning for replacement lead times, critical dependencies, workforce constraints, and business continuity.

3. Transfer:

Use engineering insight to inform insurance, financing, and risk-transfer decisions rather than relying on insurance alone.

6. Optimise:

Measure success through lifecycle value and TCOR, not initial capital cost alone.

How FM can help

FM sets out to prevent loss, not just transfer it. With around 1,500 dedicated engineers among its 6,000 employees, FM is, at its core, an engineering company that offers technical depth with long-term capacity to support clients from site selection to operations.

FM works to ensure our clients in power generation and renewables infrastructure can not only build capacity at the pace that their customers demand but can build in resilience and engineer out risk so assets are profitable, insurable, and investable.

Hazard insight before the first shovel

FM's publicly available Natural Hazard Toolkit gives developers and operators an early view of location-specific exposures, helping them screen potential sites and understand how climate and natural hazards may affect long-term asset performance. FM's field engineers can then build on those insights through project-specific reviews, assessing how hazard exposures interact with technology selection, design decisions, supply chain considerations, and recovery strategies. By identifying vulnerabilities and mitigation opportunities before construction begins, clients can make more informed decisions that improve resilience, support recoverability, and reduce TCOR over the life of the asset.

Testing and certification that others cannot match

FM operates its own research and testing laboratories and FM Approvals, an internationally recognised third-party testing and certification organisation. Recent milestones include the first FM hail-certified solar panel, an approved BESS off-gassing detector, and BESS spacing guidance that substantially influenced the NFPA 855 standard.

FM's Property Loss Data Sheets translate research and engineering findings into practical guidance that clients, brokers, and risk professionals can apply throughout the asset lifecycle, helping organisations make resilience decisions based on proven standards.

Learn more about FM's science-backed loss prevention tools:

[FM Approvals](#), [Natural Hazard Toolkit](#) and [property loss data sheets](#).

Portfolio-scale insight, distilled to what matters most

Insuring thousands of turbines, hundreds of solar farms, and power stations across more than 145 countries, FM sees failure modes that individual operators rarely encounter. That cross-portfolio view is distilled into technology-specific risk shortlists and expected loss curves that show clients exactly how technology choices shift their exposure, tied directly to underwriting terms.

Seamless cover from construction through handover

FM has built a dedicated team of construction risk engineers and underwriters to ensure resilience measures are in place before handover. At the point of acceptance, FM's engineers work through 10 to 20 critical checks including relay settings, suppression commissioning, and load testing.

Operator training

FM provides scenario-based operator training programmes tailored to each plant's specific failure modes and delivered over six to eight months. Clients are then equipped to run their own refresher sessions independently.

From site to boardroom—breaking the silos that create risk

FM's account engineers work at corporate level across multi-site portfolios, surfacing inconsistencies in risk practice that client teams may see from within. The same cross-portfolio visibility extends to supply chain analysis, identifying vulnerabilities from flood-exposed storage yards to single-transformer designs that translate directly into lower TCOR over an asset's lifetime.

Bridging the gap between operators and financiers

Financiers price energy risk higher than operators not because they see more risk, but because they see less information. FM's engineering validation, loss prevention documentation, and resilience evidence closes that gap, and its stable, long-term capacity ensures clients have a partner they can rely on for the life of the asset.



FM experts

This report draws on the experience and insight of the following FM experts.



Doug Patterson
Senior Vice President, Division Manager,
Speciality Industries

Patterson is responsible for the development, coordination, and execution of FM's renewable energy strategy. He provides the strategic guidance to ensure that FM is positioned to achieve market leadership along with long-term, profitable growth, and inspires marketplace loyalty in this important and rapidly evolving space. Having joined FM in 1987 as a loss prevention consultant, Patterson has served in several roles including most recently as operations senior vice president for Dallas operations.



Michael Andler
Senior Vice President, Global Market
and Product Relations

Andler is responsible for strengthening relationships with brokers, clients, and market partners worldwide while supporting the development and positioning of FM's products and services. His work centres on market strategy, business growth, innovation, and helping organisations build greater resilience to risk.



Donovan dos Santos
Data Centre and Power Generation Lead
for Asia-Pacific

Dos Santos leads FM's account engineering team across Asia helping clients identify, prioritise, and manage complex property risks to strengthen operational resilience and support business continuity. He works closely with multinational organisations, engineering teams, and brokers to develop risk improvement strategies and deliver technical insights that support effective risk management decisions.



Brian Palmer
Principal Engineer, Thermal Energy

Palmer plays a pivotal role supporting engineering and underwriting in the power generation sector at FM. His work involves collaborating across teams, with efforts centred on troubleshooting complex systems and optimising energy efficiency. With more than a decade of experience at FM, his focus is on advancing engineering solutions aligned with industry standards and ensuring operational excellence.



Michael Perron
Renewable Energy Market Lead

Perron oversees the development and execution of renewable energy solutions, particularly focusing on onshore wind, onshore solar, and battery energy storage systems. His expertise encompasses various renewable technologies that FM insures, ensuring optimal protection and performance through effective risk management strategies.



Cassian Walker
Renewables Engineering Manager

Walker leads the delivery of FM's engineering products and services to its clients developing and operating renewable power generating assets. He also works closely with its research and approvals team to advance strategic research and increase product knowledge.

External contributors

We would also like to thank the following for their insights into this report:

- **Michael Kolodner**, Global Renewable Energy and U.S. Energy and Power Leader, Marsh Risk
- **Eric Purington**, Infrastructure Private Equity Investment Director and Real Assets Portfolio Manager, Aberdeen
- **Sandy Calvert**, Senior Vice President, Moore-McNeil
- **Robert Colver**, AGRC Industry Lead for Natural Resources, Aon

Methodology

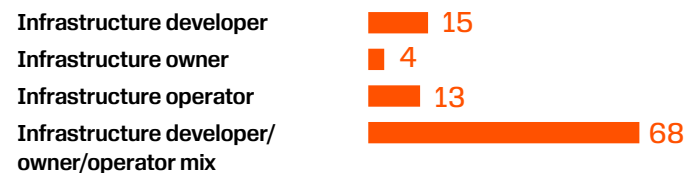
In June 2026, FM conducted a double-blind survey of 750 risk decision-makers at power generation infrastructure owners, developers, and operators, 150 insurance brokers who serve the power generation sector, and 150 financiers that support power generation infrastructure projects. Their demographic profile is as follows:

Power generation infrastructure owners, operators, and developers

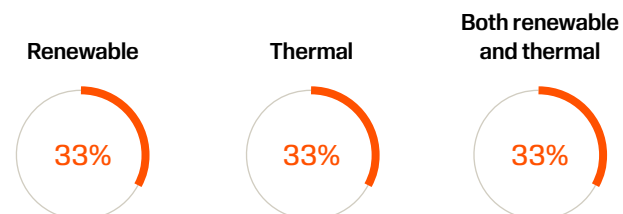
PRIMARY COUNTRY OF OPERATION



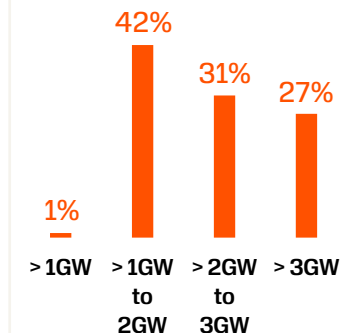
ORGANISATION TYPE



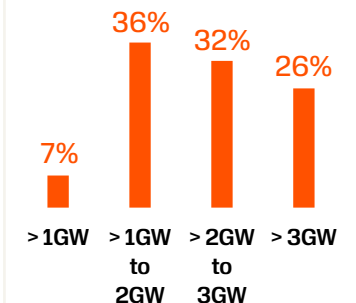
INFRASTRUCTURE TYPE



CAPACITY IN DEVELOPMENT (DEVELOPERS ONLY)



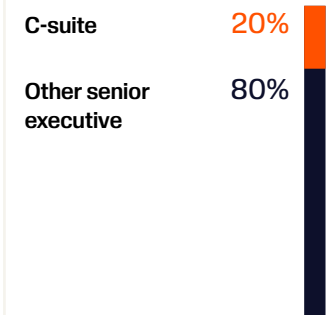
CAPACITY IN OPERATION (OWNERS AND OPERATORS ONLY)



FUNCTION

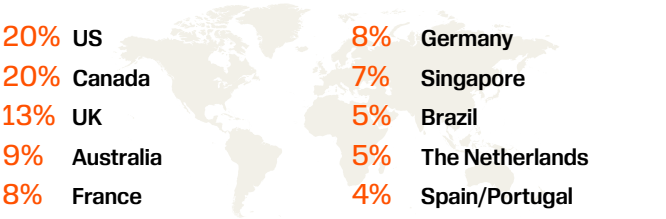


SENIORITY



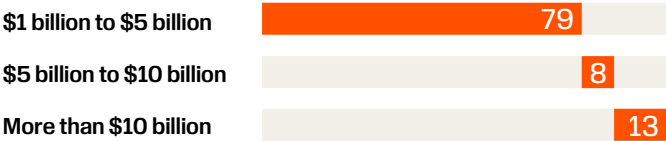
Insurance brokers

PRIMARY COUNTRY OF OPERATION



COMPANY SIZE (ANNUAL REVENUE)

All currency figures shown in US dollars



BROKER TYPE

19% Commercial real estate insurance
81% Commercial insurance



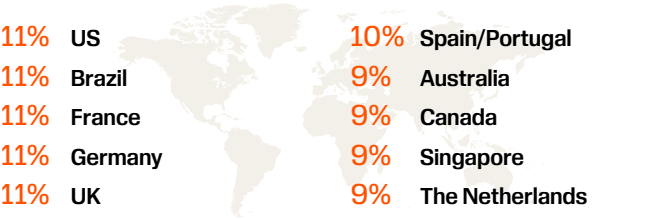
SENIORITY

20% C-suite
80% Other senior executive



Financiers

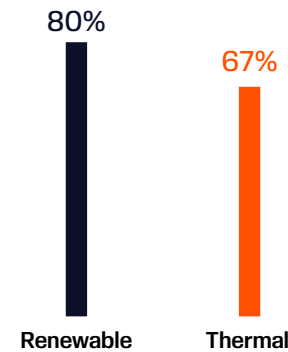
PRIMARY COUNTRY OF OPERATION



ORGANISATION TYPE



INFRASTRUCTURE TYPE FINANCED

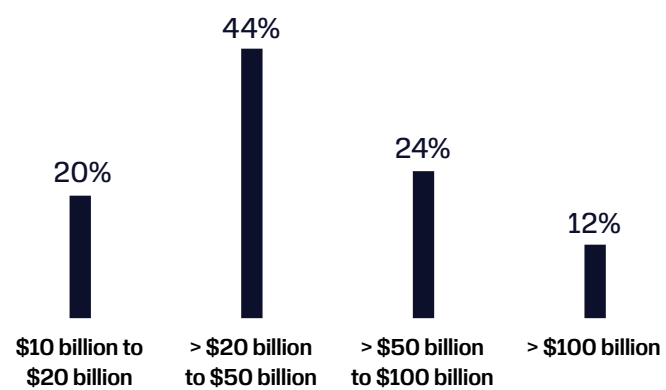


SENIORITY

20% C-suite
80% Other senior executive

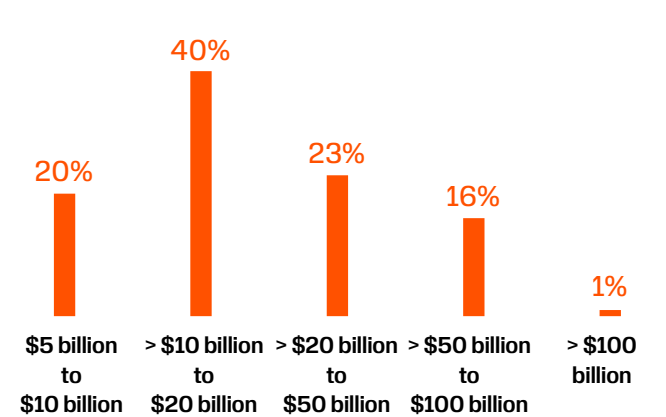


LOAN PORTFOLIO SIZE (BANKS/LENDERS)



All currency figures shown in US dollars.

ASSETS UNDER MANAGEMENT (INVESTORS)



All currency figures shown in US dollars.



© 2026 Factory Mutual Insurance Company. All rights reserved. [fm.com](https://www.fm.com)

This information is the property of Factory Mutual Insurance Company (FM). It is made available to FM clients for informational purposes only, in support of the insurance relationship. It is not to be shared with other parties. No liability is assumed by or through the use of this information. The liability of FM is limited to that contained in its insurance policies.

WF498708_UKE (10/2026).

Protect Your Purpose