ZURICH
Resilience Solutions

Power Generation Risk Solutions

Reducing risk and strengthening resilience across the power sector

- Between 2018 and 2023, **46% of BESS failures** were linked to integration, assembly and construction, with **46% of those** traced to control systems.[1]
- Hail damage made up just **1.4% of US solar insurance claims** over five years, yet accounted for **54% of total solar losses.**[2]
- A single **600 MW H-class gas turbine** costs around **USD $95 million** to replace. A failure during installation, commissioning or operation can mean losing the turbine and absorbing significant additional costs for balance of plant, civil works and waste removal.

Reducing Risk and Building Resilience in Power

The power sector is undergoing significant change. The energy transition is driving rapid growth in renewables, storage and new generation technologies, while conventional assets continue to play a critical role. Accelerated build programmes and an evolving regulatory landscape are reshaping how power assets are designed, financed, constructed and operated. Conventional gas turbines, solar, wind, hydrogen, energy from waste, biomass, hydro, pumped storage and battery energy storage all carry their own risk profiles. Many projects now involve complex integration, deployment that is outpacing operating experience and extended supply chains. Each of these can affect cost, schedule, safety and long-term performance.

At Zurich Resilience Solutions, we work with developers, owners and operators across the full project lifecycle, from feasibility and site selection through construction, commissioning and operations. Backed by more than 75 years of risk engineering experience and access to live loss data across the power sector, our engineers bring professional qualifications and direct project experience to every review. You do not need to be a Zurich customer to use our services.

Benefits of Risk Management in Power Generation

Lower exposure to fire and equipment loss

Targeted risk reviews can help reduce the likelihood and impact of fire, machinery breakdown and asset damage across power assets.

Tighter control over schedule and cost

Risk engineering during design and construction can help limit the delays and budget overruns common in complex power projects.

Safer working environments

Site assessments and workforce reviews support stronger health and safety performance across construction and operational sites.

Stronger resilience to climate and natural hazards

Climate and weather scenario analysis helps you anticipate the natural hazard risks affecting solar, wind and conventional assets.

Clearer insurability position

Pre-insurance reviews give you a structured view of how your project is likely to be assessed before financial close.

More reliable operational continuity

Loss scenario planning and business continuity reviews help maintain revenue and protect critical operations when incidents occur.

Zurich Resilience Solutions helps companies through the power generation eco-system, identify, quantify and manage risk across the full project and asset lifecycle.

To learn more about our power generation services, visit **uk.zurichresilience.com/industries/power-generation**

Tailored Power Generation Risk Solutions

Power projects vary widely in technology, scale and commercial structure. Our engineers work closely with Zurich's underwriting and claims teams, which gives us visibility of Construction & Operational asset performance, and detailed insight of loss causation. That experience informs the advice we provide, whether you are selecting a site, finalising a design or reviewing an operating asset.

Our services include:

Insurability and project due diligence

We provide structured reviews of project risk before financial close. Our assessments cover the technical, regulatory and commercial factors that affect insurability, helping you take more informed decisions on equipment, contractors and project design.

Climate risk and adaptation

We assess the vulnerability of your sites and projects to climate hazards and help you build capacity into design, physical assets and the organisation.

Risk engineering surveys

Our engineers carry out onsite and remote surveys at every stage of a power project. From feasibility, to handover and throughout the operational phase, we help you identify where physical, operational and design risks may emerge.

Technology-specific technical guidance

Our specialists work across BESS, LDES, solar, wind, conventional power, energy from waste, biomass, hydrogen, hydro and pumped storage. We bring sector-specific knowledge to each technology's risk profile.

Asset management and machinery breakdown

We review maintenance strategies, asset care plans and machinery breakdown risks. Our reviews help you understand where exposure lies and how to strengthen reliability across operational facilities.

Loss scenario planning and business continuity

We work with your team to model how different incidents could affect your facility. This helps you build emergency and continuity plans that have been stress-tested before they are needed.

Physical and digital security assessments

We assess how your sites and systems are protected from intrusion, sabotage, and cyber threat. Our reviews cover both physical assets and operational technology.

References

1. EPRI. (2024). Insights from EPRI's Battery Energy Storage Systems (BESS) Failure Incident Database. Electric Power Research Institute.
2. GCube Insurance, reported in PV Magazine. (2025, September 19). Hail damage to solar projects. https://www.pv-magazine.com/2025/09/19/hail-damage-to-solar-projects
3. Industry data, Zurich Resilience Solutions.

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