Gallagher

THE ENERGY SECTOR

# Powering Through Supply Chain Volatility

## KEY INSIGHTS

- Supply chains remain exposed to geopolitical instability, trade restrictions and concentrated production hubs, making disruptions both more frequent and more costly.
- 95 percent of energy firms experienced a supply chain loss in the past year, yet two in three were only partly insured or entirely uninsured, revealing a broad protection gap across the sector.
- Firms are responding to supply chain complexity with a decisive shift toward greater visibility, strategic diversification and digital innovation to improve agility, reduce dependency on single points of failure and strengthen deep-tier oversight.
- As both supply chain losses and exposures grow, businesses are turning to more flexible insurance structures, alternative risk-transfer solutions and improved contractual rigor to navigate challenges.

In today's electrified world, energy security and stability are intrinsically linked to the resilience of its supply chain. The global energy supply chain powers the growth of modern commerce — and is shaped by companies pursuing lower costs, faster production and importantly, efficient delivery.

Even so, the challenges facing this niche supply chain are often different from other global manufacturing markets with more expansive supplier networks. It depends on a narrow set of geographically concentrated raw materials, a small group of dominant producers and a handful of strategically exposed trade routes. The combination of these chokepoints, for instance, enables leading hubs to account for as much as 20% of global clean energy production capacity.[1]

Such concentration models inherently give rise to risks. An analysis by the IEA found that, across every clean energy technology supply chain examined, at least one critical stage would only be able to meet less than a quarter of global demand if the output of the largest current producer was removed.[2]

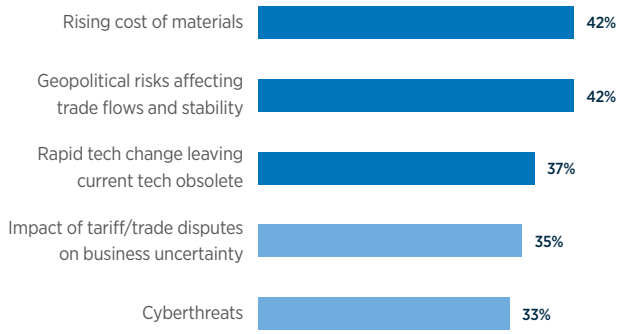
The economic implications of such disruptions — particularly in the event of financial or cybersecurity lapses, trade sanctions or labor disputes — can be significant. For instance, a disruption in battery supply exports would reduce electric car factory outputs elsewhere by an estimated $17 billion.[3]

In late 2025, Gallagher carried out a global voice-of-customer survey to better understand how businesses, including those in the energy sector, were responding to a redrawn supply chain. This piece dives deep into the sectoral findings to identify the fault lines shaping tomorrow's energy supply chain risks — and how businesses are recalibrating their strategies to stay resilient.

# What's driving the energy supply chain disruption today?

Energy firms identify geopolitically disrupted trade flows and rising raw-material costs as their most pressing current supply chain concerns, in part because a five-fold increase in export restrictions on rare-earth minerals over the past decade has amplified supply chain vulnerabilities for the sector.[4] One in three firms surveyed says these risks have noticeably worsened over the past five years.

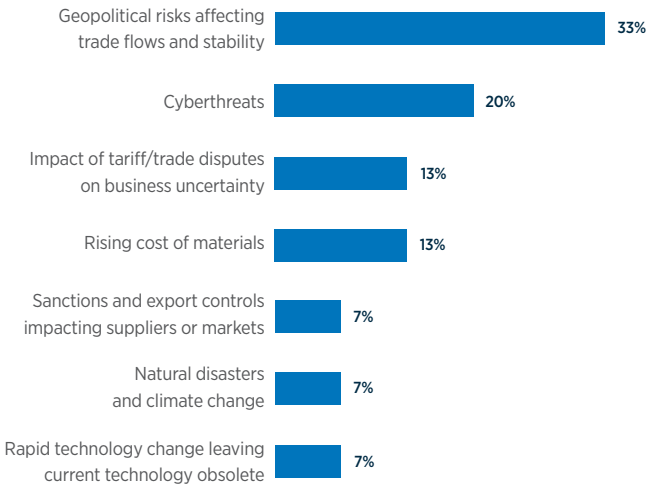
**Current top supply-chain concerns for the energy sector**



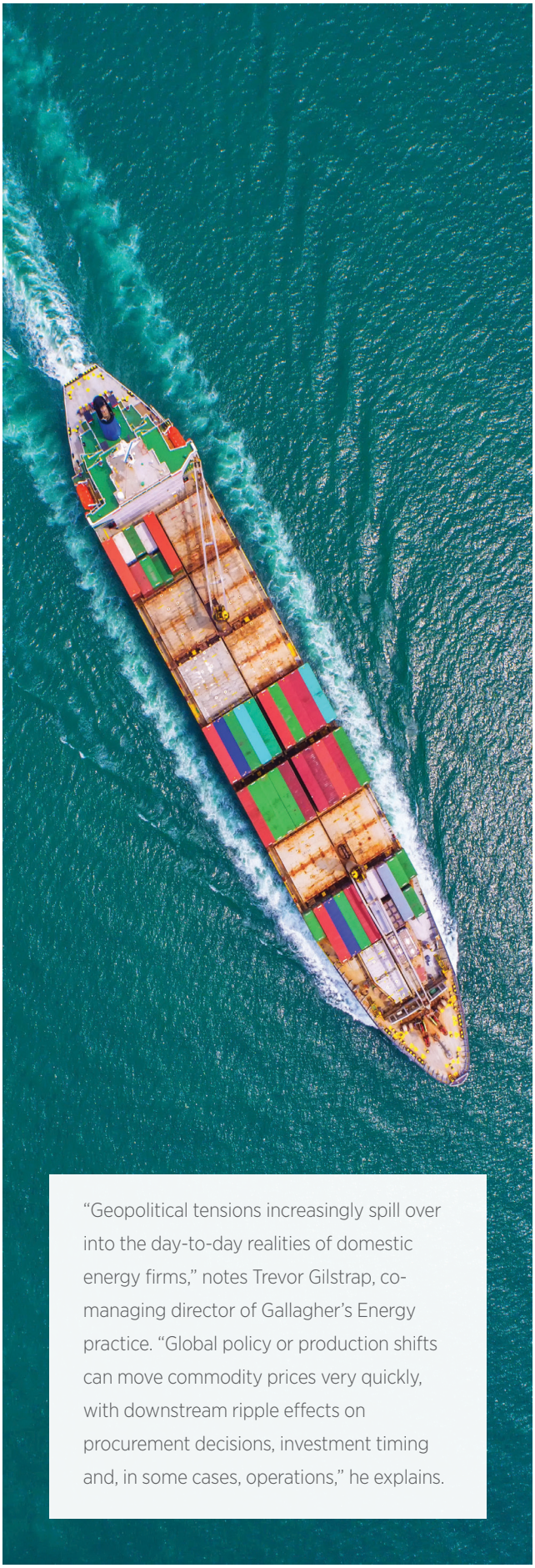

Source: Gallagher Redrawing Global Supply Chains Survey

Looking ahead, geopolitically driven instability remains the dominant expected driver of worsening disruptions — reported more prominently in the energy sector than among global peers. But with roughly one in three energy firms naming it as the leading driver of future instability, the risk landscape is notably fragmented and no single threat dominates, which makes prioritization harder for risk managers who are already stretched across multiple fronts.

**Top drivers of future supply chain disruption (energy sector)**




Source: Gallagher Redrawing Global Supply Chains Survey



"Geopolitical tensions increasingly spill over into the day-to-day realities of domestic energy firms," notes Trevor Gilstrap, co-managing director of Gallagher's Energy practice. "Global policy or production shifts can move commodity prices very quickly, with downstream ripple effects on procurement decisions, investment timing and, in some cases, operations," he explains.

# DATA CENTERS: A NEW STRESS TEST FOR CLEAN ENERGY SUPPLY CHAINS

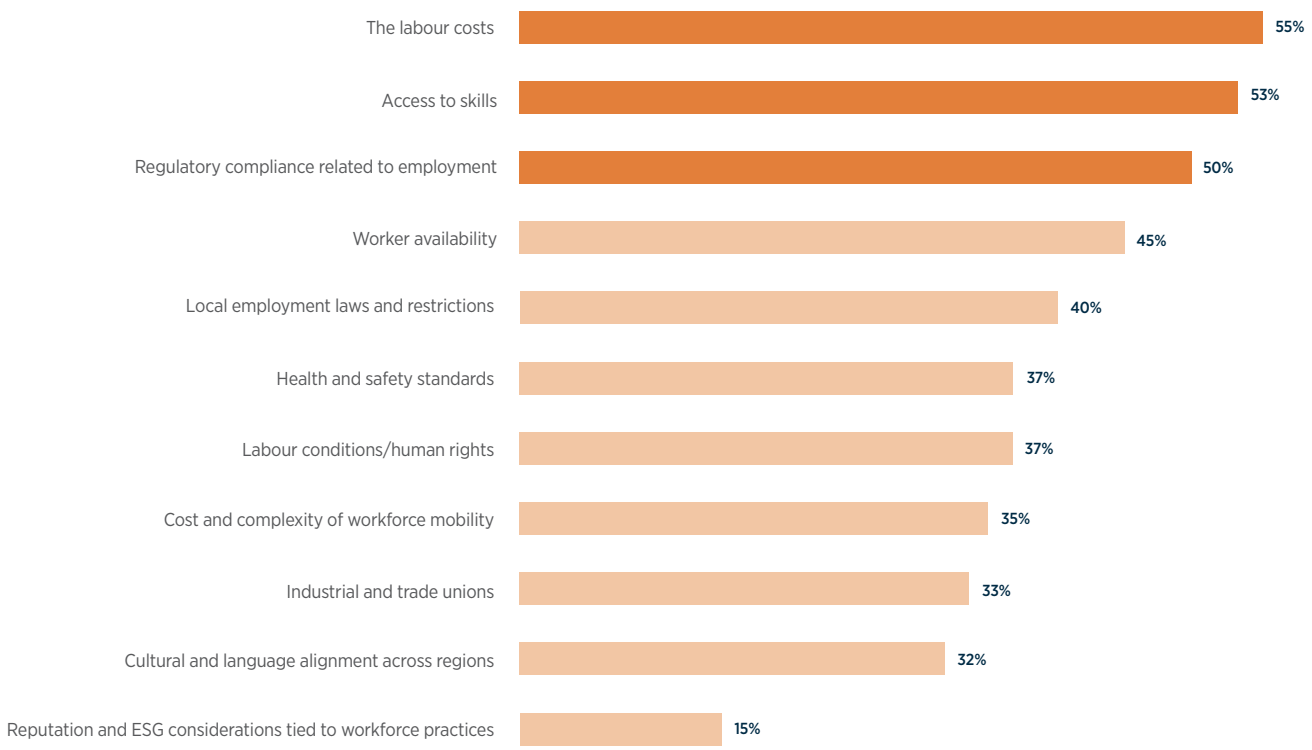
The AI-driven data center boom is only set to grow over the next few years, with the data center capex of the top eight US hyperscalers alone projected to reach $525 billion by 2032.[5] While many operators are turning to renewable energy to fuel efficient energy supply, this push-to-scale is, in turn, exacerbating existing supply chain constraints.

The IEA notes that demand for solar, wind and battery storage is increasingly outpacing manufacturing capacity for key components. This is despite the estimation that the global renewable power capacity will double over the next five years.[6]

The generative-AI adoption so far has increased year-over-year. However, with manufacturing constraints, supply bottlenecks and trade tariffs along clean-energy value chains raising costs and availability, resilience in data centers will directly hinge on how resilient international — and domestic — supply chains are.

Notably, labor shortages emerge as one of the biggest pinch points for the domestic supply chain, with one in two energy firms gauging and prioritizing workforce capability before investing — even ahead of government incentives or favorable policy environments.

**Key human capital drivers of regional supply chain investment (energy sector)**



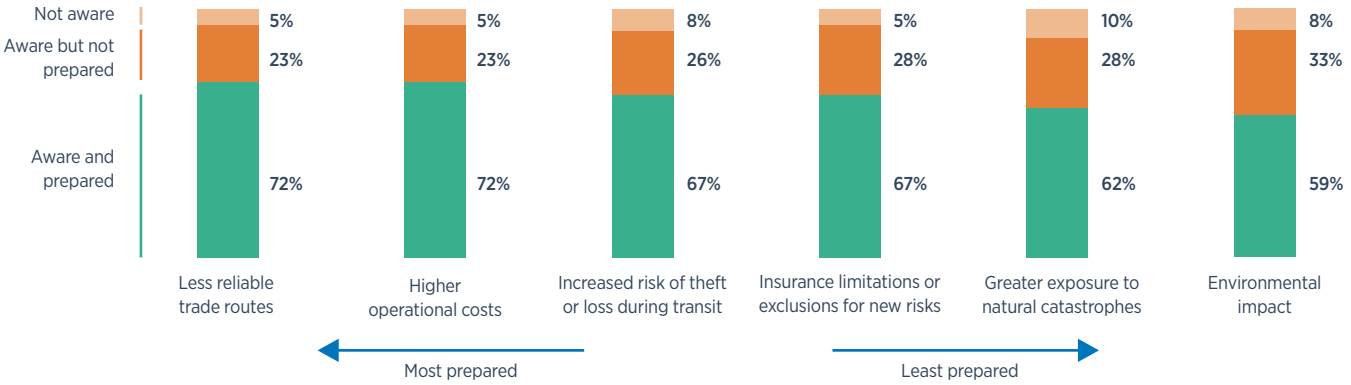

Source: Gallagher Redrawing Global Supply Chains Survey

While tariff fluctuations have prompted four in ten energy firms to accelerate their investment decisions, the majority are more measured. "What's different today is greater awareness of this volatility. In our conversations, we're seeing more discipline in how many operators approach high-price cycles, staying measured in expanding production, asset acquisition or investing in equipment," says Gilstrap.

# The stockpiling dilemma in an age of rapid change

Due to trade uncertainties, a significant nine in ten respondents from the energy sector say they have started stockpiling or are actively considering it. While just-in-case stockpiling offers a buffer against immediate shocks, it also comes with significant trade-offs — often locking companies into decisions that may not age well in a quickly evolving technology landscape.

**Preparedness for risks associated with stockpiling (energy sector)**




Source: Gallagher Redrawing Global Supply Chains Survey

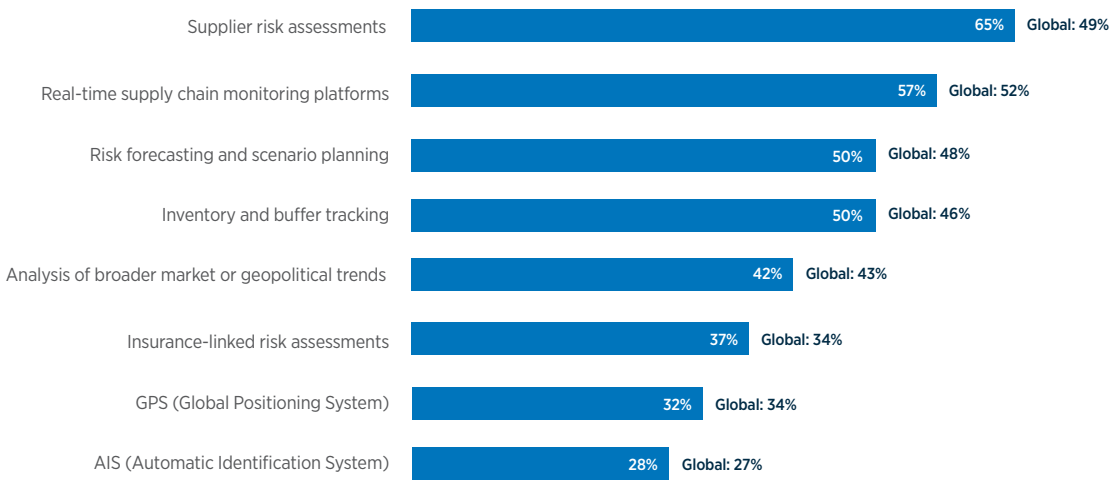
As innovation cycles shorten, particularly in batteries, solar components and grid technologies, today's inventory can rapidly lose value or compatibility, increasing the risk of holding obsolete stock. With natural catastrophe events and cargo thefts on the rise, stockpiling can also heighten physical exposure. Notably, around one-third of firms report being unprepared for the environmental and climate impacts on their stockpiled materials, and one in ten firms lack clarity on the original source of disruptions when cargo thefts do occur.

# The energy sector resilience playbook: Preparation, partnerships and precaution

Overall, energy firms are tackling current (and future) supply chain risks with a blend of visibility, agility, collaboration and capacity-building. The strategies they are deploying reveal as much about the sector's constraints as its ambitions.

A majority actively monitor their supply chains via risk assessments, forecasting and real-time monitoring tools, more so than their global peers.

**Supply chain monitoring practices: Energy vs global benchmarks**

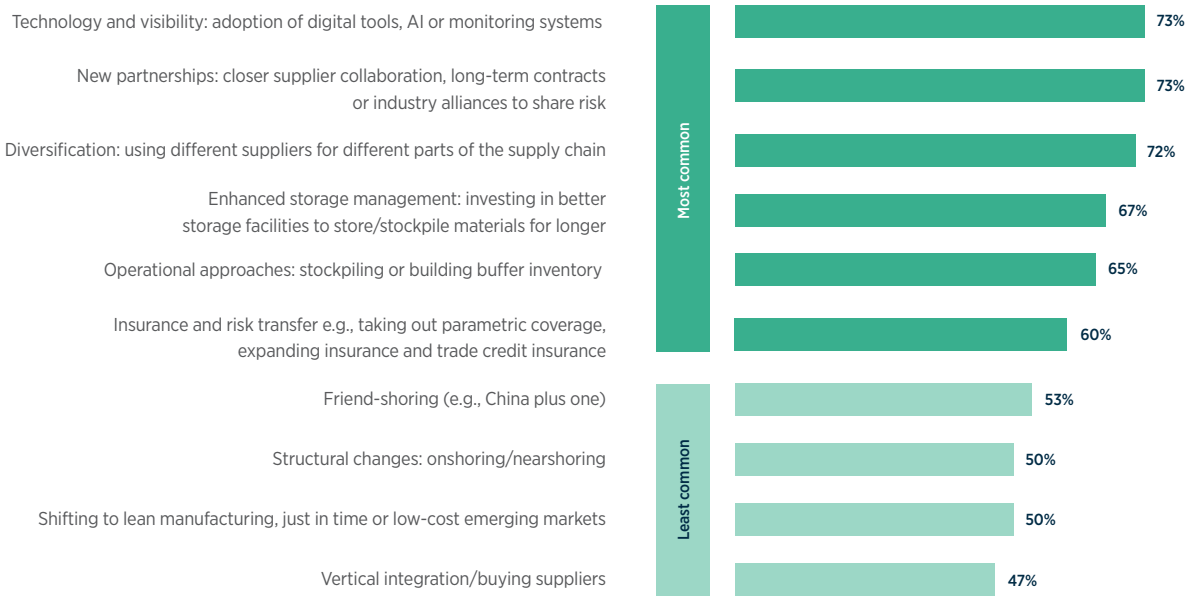



Source: Gallagher Redrawing Global Supply Chains Survey

Digitization is seen as a "decisive enabler" of resilience for both the energy sector as a whole,[vii] and the supply chains within it: over seven in ten respondents from the energy sector are now using technology to enhance visibility and agility.

Many respondents highlight using AI to anticipate equipment failures, enable proactive maintenance and reduce operational costs. Others note that digital supply chain platforms have improved end-to-end visibility across inventory, parcels and logistics. Ongoing data analysis and enhanced demand forecasting have also helped many to strengthen their overall margins.

**Top resilience strategies to manage supply chain risk (energy sector)**



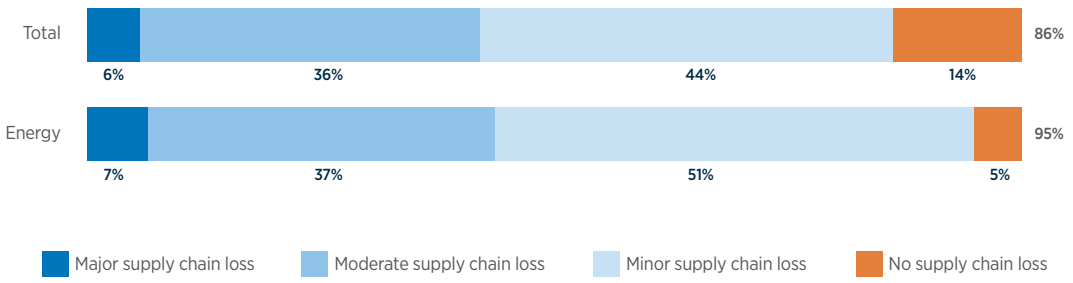

Source: Gallagher Redrawing Global Supply Chains Survey

Strategic diversification through new partnerships, industry alliances and broader supplier networks is another core strategy to derisk the supply chain against a narrow set of upstream partners.

While building more enhanced storage and buffer inventory remains a key strategy for as many as two in three energy firms, a similar number are also pivoting towards insurance and alternative risk transfer solutions to protect their stock and supply chains.

"Where energy firms typically relied on bonds to protect their supply chain risks, what we're seeing now is a fundamental recalibration," says Gilstrap. "Many are turning to insurance solutions that can scale with their exposure and create breathing room for operators trying to navigate regulatory uncertainty — without jeopardizing investment plans," he adds.

**Distribution of supply chain loss among businesses (total respondents vs energy sector)**




Source: Gallagher Redrawing Global Supply Chains Survey

However, despite 95% of firms experiencing a supply chain loss in the past year, two in three were only partly insured or entirely uninsured — a protection gap larger than in most sectors. While energy firms tend to prioritize property, cargo, transit and cyber coverage, far fewer secure supply chain-specific insurance. High premiums, limited insurer understanding of energy-sector complexities, regulatory constraints and the difficulty of evidencing supply chain exposures remain key barriers to seeking better coverage.

**The protection gap**

**Energy firms that have experienced a supply chain loss in the past year**

95%

**Insurance coverage status of those firms**

| ~33% | ~67% |
|---|---|
| Adequately insured | Partly or entirely uninsured |

**Where energy firms do and don't have coverage**

**Commonly insured**

| Property | Cargo | Transit | Cyber |
|---|---|---|---|

**Rarely insured**

| Supply chain disruption | Contingent Business Interruption Insurance | Trade Disruption Insurance |
|---|---|---|

Source: Gallagher Redrawing Global Supply Chains Survey

## From disruption to direction: The new imperatives for energy leaders

The survey findings suggest the energy sector is highly aware of its risks but is still striving to bridge the gap between awareness and protection. Energy firms are steadily recalibrating their resilience strategies — prioritizing better visibility, broader supplier diversification and rapid digitalization to reduce exposure to deep-tier blind spots.

At the same time, growing protection gaps and rising regulatory pressures are pushing businesses to rethink traditional risk transfer, with many turning to more flexible insurance structures, refined rating models and stronger contractual safeguards to manage mounting disruption.

"Risk consultants and insurance brokers can complement these resilience strategies by helping plug the blind spots in protection; and in the case of high-volatility risks, tailor a program that is financially adept and flexible to today's cascading risk environment," notes Gilstrap.

# How Gallagher can help

**1** **Strengthen contracts and risk ownership**

Through deeper contractual reviews and in-house legal expertise, Gallagher helps clients negotiate contractual terms, clarify liability and build stronger recourse for supply chain delays and disruptions.

**2** **Model multi-tier supply chain risk**

Gallagher supports clients with supply chain risk modeling to identify blind spots, quantify exposures and prioritize resilient investments across domestic and international tiers.

**3** **Design flexible insurance and bonding alternatives**

From replacing traditional P&A bonds with scalable insurance structures to navigating complex insurance markets, Gallagher creates solutions that free up capital and reduce volatility.

**4** **Align insurance costs with true exposure**

Gallagher advocates for fairer underwriting approaches — such as shifting from revenue-based to tonnage-based models — to ensure premiums reflect actual, not inflated, risk.

Connect with Gallagher to assess your exposures and build smarter, more flexible protection for what's next.

Sources:


[1]"Energy Technology Perspectives: Supply Chain Risks And Industrial Competitiveness," *International Energy Agency*, accessed 8 Apr 2026.

[2]"Energy Technology Perspectives 2026: Executive Summary," *International Energy Agency,* accessed 8 Apr 2026.

[3]"Strengthening Supply Chains Can Improve Resilience and Reduce Economic Security Risks for Key Energy Technologies," *International Energy Agency,* 26 Mar 2026.

[4]"Raw Materials Critical for the Green Transition," *Organisation for Economic Co-operation and Development,* PDF file, accessed 9 Apr 2026.

[5]"The Global Risk Report: 21st Edition," *World Economic Forum,* PDF file, 14 Jan 2026.

[6]"Renewables 2025: Renewable Electricity," *International Energy Agency,* accessed 8 Apr 2026.

[7]"Digitalisation and AI for Power System Transformation: Perspectives for the G7," *International Energy Agency*, accessed 8 Apr 2026.