

Toolkit

Climate risk and energy

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This toolkit helps practitioners identify and structure climate risks. It is not a compliance checklist but a framework to guide professional judgment, with a deliberate focus on physical and transition risks to highlight their growing relevance in everyday legal practice.

Understanding climate risk in the energy sector

The energy sector sits at the epicentre of climate risk. Rising temperatures, extreme weather and evolving decarbonisation policies are reshaping how energy is produced, transmitted and consumed. Physical risks - like wildfires sparked by overhead lines or flood damage to substations - can halt operations or destroy infrastructure. Transition risks - such as changes to emissions legislation, carbon pricing, or the revocation of subsidies - can undermine the economics of entire projects.

Case studies:

A solar-plus-storage project in southern Europe facing curtailment and damage due to an unexpected heatwave and grid instability.

A UK offshore wind project delaying construction after wave projections increased beyond engineering tolerances - rendering the original programme and FM clause unworkable.

Climate risks are identifiable, quantifiable and increasingly foreseeable. Legal frameworks must reflect that.

Developed with the support of AI under the author's framework and editorial direction, this toolkit has been peer-reviewed by senior practitioners in the field to ensure its practical relevance and professional integrity.



Impacts and legal consequences

Unchecked climate risk can cause serious disruption across every stage of an energy project. Operations may be interrupted by physical damage to infrastructure, planning conditions tied to climate resilience (such as flood defences), seasonal restrictions, or downtime caused by extreme weather or grid curtailment. The financial consequences can be equally severe, with projects facing the prospect of stranded assets, uninsurable events, the triggering of penalty clauses for non-performance, or reduced revenue under offtake agreements.

Legal liability is also a growing risk. Companies may face claims in nuisance or negligence where assets cause environmental or community harm, such as wildfires linked to power lines. Health and safety breaches may arise if climate conditions endanger workers, while compliance failures can occur if permits are breached due to temperature-related shutdowns.

These challenges can quickly become reputational issues. Negative publicity often follows from poor risk planning, environmentally harmful incidents such as chemical spills from batteries, or underperforming assets that fail to live up to their “green” promise. Finally, contractual disputes are likely where documentation has not kept pace with foreseeable risks. Misaligned force majeure provisions, inadequate allocation of liability, redesign obligations caused by changing conditions, and disagreements over what events should be considered reasonably foreseeable can all undermine project delivery and lead to costly disputes.

Practical tools for risk management

Lawyers must play an active role in embedding climate resilience and decarbonisation into the bones of energy project documentation. Key stages include:

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1. Pre-contract / due diligence

- a. **Climate-focused site assessments:** Commission forward-looking flood, fire and heat risk studies - not just historic data. Additional considerations may include seasonal issues (for example, wind farms can only be installed outside the rainy season, or solar panels can only be installed for 2 months during summer due to their technical requirements). The impact of localised weather and changes in localised weather for the programme of the works must be taken into account to avoid delay and claims from the installation contractor.
- b. **Risk registers:** Identify and categorise climate-related physical and transition risks across project life cycles.
- c. **External expertise:** Collaborate early with technical advisers, insurers and environmental consultants.
- d. **Corporate policies:** Review client's internal climate policies - how do they allocate climate risks? Are they consistent with the contract?

2. Contracting stage

- a. **Adapting FM clauses:** Avoid generic language. Distinguish between foreseeable and unforeseeable climate events. Specify thresholds (e.g., temperature, wind speed) and include clear notification and mitigation obligations.
- b. **Insurance and lender terms:** Ensure sufficient cover for climate risks (including business interruption). The sourcing of materials and equipment can expose projects to climate-related hazards - such as overseas shipping delays caused by unseasonal cyclones, or fires and extreme weather in manufacturing regions - that may lead to loss of materials, delayed commissioning, and cost overruns. Clarify lender notification requirements and whether insurers must note the lender's interest.

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- c. Indemnities and limitations:** Consider where climate damage overlaps with fault-based liability (e.g., negligence in fire prevention design).
- d. Design and planning obligations:** Address the scope of redesigns caused by climate risk (e.g., higher wave height) and who bears the cost and time risk.
- e. Grid connection/curtailment risk:** Identify liabilities for downtime arising from temperature-related grid instability or overheating equipment, and assess the resilience of the grid infrastructure itself. For example, substations built decades ago may lack adequate flood defences, creating foreseeable risks that could disrupt connection, limit capacity, or trigger curtailment obligations.

3. Operational phase:

- a. Performance guarantees:** Tailor KPIs for conditions likely under climate stress (e.g., battery degradation in heatwaves).
- b. O&M obligations:** Embed obligations for real-time climate monitoring and proactive asset maintenance.
- c. H&S protocols:** Align procedures with climate risks (e.g., fire evacuation, worker protections in heat). Employers will also wish to ensure that contractors comply fully with their own health and safety obligations.
- d. Environmental compliance:** Ensure chemical spill protocols and permits are climate-conscious and up to date.
- e. Notification triggers:** Define early-warning systems for escalating risks and liability caps for shared incidents.

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Energy lawyers should move away from a purely binary model of risk transfer. Contracts work best when they establish frameworks for shared responsibility, supported by clear risk management exercises carried out before contract signature. As with any category of risk, climate-related risks should ultimately sit with the party best placed to manage them, but that allocation should be transparent and deliberate rather than automatic.

This approach means agreeing codes of behaviour that set expectations for resilience, collaboration and transparent reporting. It means drafting dynamic clauses that allow for ongoing review and adjustment in light of climate data and evolving best practice. And it means linking risk to impact by recognising that the most effective long-term strategy is decarbonisation - aligning procurement, construction and operation with net zero goals.

Transparent sourcing of greener, fairer renewable energy

Lawyers in the energy sector may wish to consider TCLP's [Ayshe's Clause](#): a clause obliging stakeholders in renewable energy technology supply chains to lower their carbon emissions, minimise their environmental impact and safeguard against modern slavery.

This clause assists those wanting to promote the use of best-in-industry renewable energy generating assets, meet net zero and ESG commitments, improve supply chain transparency, reduce their Scope 3 emissions, protect their ESG credentials and reputation, and minimise negative social and environmental impacts.

Use this toolkit flexibly: select the tools and drafting approaches most relevant to your transaction, adapt them to your client's context, and let us know how you're using it.

For now, we're only asking for your name and email through [this feedback form](#) so we can follow up with you later about your experience.

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