The Climate Emergency Disputes Crisis Affecting Industry Today

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As the world grapples with the escalating impacts of climate breakdown and the urgent need to transition to sustainable energy sources, various industrial sectors find themselves at a crossroads. The shifting climate is not only an environmental challenge but also a formidable business risk, altering market dynamics, regulatory landscapes and operational conditions globally. Industries must navigate a complex array of threats, from physical damage due to extreme weather events to economic pressures arising from stringent emission regulations and volatile energy markets. This article delves into the specific dispute risks posed by the climate crisis and the energy transition affecting several key industry sectors, exploring the profound implications for their operations and outlining strategies for resilience and adaptation in a rapidly evolving global context. It will also look at how these dispute risks can be mitigated and, in particular, how conflicts arising from climate breakdown can be managed. Traditional dispute resolution mechanisms will, in many cases, not be adequate to deal with these new forms of conflict. Thought leadership is needed to address situations where dialogue and consensus will form the basis for better and lasting solutions as opposed to adversarial processes. Novel dispute resolution tools will have to be developed and current tools modified to meet this need. Business has not yet taken adequate steps to recognise and assess climate dispute risk, and this article aims to highlight this and suggest means to mitigate it.

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Climate emergency conflicts

When we speak of climate breakdown and the conflicts arising from it, what precisely do we mean, and how do these differ from conflicts that business has traditionally experienced?

Climate conflicts can arise in various forms and contexts, often resulting from the interactions between environmental changes, resource scarcity, socio-economic factors and political dynamics. One common form is resource competition, where limited natural resources, such as water, arable land and forests, can escalate into conflicts between communities, ethnic groups or countries, particularly in regions facing droughts, desertification or deforestation. Water scarcity conflicts, driven by competition over access to water resources, can lead to disputes over irrigation, drinking water and hydropower generation, especially in areas prone to droughts, water stress or transboundary water disputes.

Another significant area of conflict is land use, where disputes arise due to changes in land productivity, land degradation, urbanisation or the expansion of agricultural and industrial activities, leading to tensions between communities, farmers and developers. Climate-induced migration and displacement, driven by sea level rise, extreme weather events or environmental degradation, can exacerbate tensions and conflicts over access to land, housing and resources in both origin and destination areas.

Competition for energy resources, such as fossil fuels, renewable energy sites or strategic energy infrastructure, can fuel conflicts between states, corporations and communities, particularly in resource-rich regions. Environmental degradation and pollution conflicts also arise from issues such as deforestation, soil erosion, air and water pollution and biodiversity loss, which can affect livelihoods, health and wellbeing, leading to social unrest and community grievances.

Climate-induced disasters, such as hurricanes, floods, wildfires and droughts, can trigger conflicts over disaster response, relief aid, reconstruction and recovery efforts, exacerbating social tensions and inequalities. Disputes over adaptation strategies, resilience-building measures and climate crisis adaptation funds can arise between different stakeholders, including governments, non-governmental organisations, communities and vulnerable groups, leading to conflicts over priorities, resources and decision-making processes.

Political instability and conflict amplification can also result from climate-related stressors, such as food insecurity, economic disruptions and social unrest, which can exacerbate existing political tensions and conflicts, fuelling instability.

As climate changes affect larger areas in Africa, the Middle East and South America, making them uninhabitable, the migration of affected populations will accelerate. Migration is already a key political topic in Europe and North America. This issue will only accelerate as climate issues become more extreme. This potential area of conflict will inevitably lead to domestic and international conflict on a level we have not experienced since the end of the Second World War. Conflict avoidance and mitigation mechanisms to deal with these conflicts are simply not robust enough and much thought will have to go into new control methodologies. Simply building walls will not be the answer, as these too will be overcome.

The aerospace industry

To illustrate the impact of climate crisis disputes, this article will examine the aerospace industry, with which the author is personally familiar. This sector faces significant challenges because of climate breakdown and the associated energy transition. These challenges affect various aspects of its operations, infrastructure and strategic planning, enhancing the risk of disputes.

Infrastructure vulnerability is a major concern, particularly for airports located in coastal regions. Rising sea levels and extreme weather events can lead to flooding, hurricanes and other severe weather, damaging runways, terminals and other critical infrastructure, resulting in disruptions, delays and costly repairs. Some airports and associated infrastructure will be in areas that will not be sustainable due to extreme heat, catastrophic storms and flooding because of rising sea levels, so these assets will be lost and must be replaced elsewhere.

Operational disruptions are also a significant risk. More frequent and severe weather events can lead to increased flight cancellations, delays, diversions and threats to passenger and crew safety. Turbulence is expected to become more intense and frequent, affecting aircraft design and critical components such as engines, and potentially increasing liability due to the death or injury of passengers and crew members. It may also curtail some of the current routes being used, increasing the time needed to fly to some destinations, disrupting existing airport handling and maintenance arrangements, and requiring new ones to be established.

The industry faces growing pressure to reduce its carbon footprint, with regulatory changes aimed at curbing greenhouse gas emissions leading to stricter fuel efficiency standards and the need for investment in cleaner technologies, such as sustainable aviation fuels (SAF) and electric or hybrid aircraft, as well as more efficient turbine engines. This will affect aircraft design and that of critical components such as engines, leading to

supply chain constraints, new customer demands and the termination or restructuring of existing long-term supply agreements.

The climate crisis can disrupt global supply chains that the aerospace industry relies on. Extreme weather can affect the production and transport of critical components, leading to delays and increased costs. Climate breakdown will also lead to political and geopolitical strains and conflicts affecting supply chain stability and the transport of parts. Supply chains also face the uncertainty of new designs and component parts while phasing out existing components. Long-term subcontract relationships are being affected as conflict arises over who bears the cost of new designs and the dispute risks associated with any development project.

Rising operational costs due to the climate crisis require significant investment in new technologies, infrastructure improvements and compliance with environmental regulations. These costs can strain the financial resources of aerospace companies and lead to conflict with suppliers and customers, as well as state regulatory agencies. Given that the aerospace industry is critical in our globally interconnected world, there will be a question as to who should bear this additional cost and to what degree public funding should play a role in transitioning the industry and, if so, in what manner.

Changes in climate can alter air travel demand and the viability of certain routes. For example, hotter temperatures can affect aircraft performance, requiring longer runways or limiting payload capacities. Changes in global economic conditions due to climate impacts can also affect passenger and cargo traffic patterns. This will affect the design, maintenance and safety regulations in respect of aircraft and associated infrastructure, disrupting established relationships and requiring new ones, with perhaps unknown parties to be formed.

The increased frequency of extreme weather events can lead to higher insurance premiums and greater liability risks. Aerospace companies and airlines may face higher costs to insure their assets and operations, as well as to fly the aircraft since severe weather conditions can have an impact on flight safety, and new designs and engines face safety and quality scrutiny. The question will become one of whether the insurance industry and current risk models used must now be drastically adapted to meet new realities. Existing terms and conditions in these contracts may have to be amended or terminated, leading to potential disputes.

Public and investor pressure is growing regarding the aerospace industry's environmental impact. Companies are increasingly expected to adopt sustainable practices and demonstrate their commitment to reducing emissions. Environmental, social and governance (ESG) is playing a major

role in the way stakeholders are looking at aerospace companies and determining whether they are capable of meeting announced climate goals or government regulation. Increasingly, we have seen shareholder action being taken to force out senior management and insist on board changes at some aerospace companies.

Funders are also looking carefully at whether the energy transition will leave companies sitting with stranded assets that no longer have value. The obvious industries in this respect first to be affected are fossil fuel producers, whose products will be phased out over time, those assets no longer being utilised. The same concern, however, arises with aerospace companies and suppliers who do not innovate quickly enough. An engine manufacturer that does not meet new standards or invests in developing new types of engines, such as electric, may find that its current assets become obsolete. Funders will be conscious of this and pay close attention as we move closer to the critical 2030- and 2050 time frames.

Risk management analysis

Addressing these new or increased dispute risks and challenges requires a multifaceted risk mitigation approach, including technological innovation and use of artificial intelligence (AI), strategic planning and collaboration with stakeholders across the industry, regulators, employees, the public and beyond. This starts with a fresh look at traditional risk assessment methods and demands new mitigation strategies across affected industries.

Risk assessment and management are crucial. A close assessment of how aerospace companies are addressing climate risks is needed. ESG requirements must be closely monitored, and accusations of greenwashing avoided. Companies that demonstrate robust risk management strategies, including investments in sustainable technologies, addressing the transition of the aforementioned risks, and adaptation measures, will still attract new shareholders and increased funding.

The regulatory and policy landscape is also essential to consider. As governments introduce stricter environmental regulations, aerospace companies must be well-positioned to comply with these rules. Those that proactively adopt sustainable practices may be viewed more favourably and are ahead of the regulatory minimum standards, turning the transition into a positive message and garnering favourable public opinion.

Market demand and growth potential must be weighed against the costs associated with climate-related risks. Despite climate risks, the global demand for air travel and air freight will continue to grow, driven by globalisation and economic development. Companies must consider long-term growth potential

against climate-related costs. Not all companies in the sector will survive, particularly those in the aerospace supply chain, but those that do will come out stronger through potential consolidation opportunities.

Innovation and sustainability initiatives are key to reducing risks. Companies that invest in and develop innovative solutions to reduce their carbon footprint, such as SAF, electric or hybrid aircraft and more efficient air traffic management systems, align with broader sustainability goals. These investments will help to motivate employees and boost shareholder value. Aerospace is only one example of how industry sectors will have to reassess their risk models to meet new challenges. Other industry groups will also be significantly affected by climate breakdown and the ensuing energy transition due to their dependence on fossil fuels, resource intensity and vulnerability to environmental changes.

A robust risk management analysis might include the following steps:

1. *Risk assessment and management*: A close assessment of how aerospace companies are addressing climate risks is needed. ESG requirements must be closely monitored and accusations of greenwashing avoided.
2. *Regulatory and policy landscape*: As governments introduce stricter environmental regulations, how well are aerospace companies positioned to comply with these rules? Those that proactively adopt sustainable practices that may be viewed more favourably and are ahead of the regulatory minimum standards will do better than those that are fighting the tide. In fact, these companies can turn the transition into a positive message, thereby garnering positive public opinion.
3. *Market demand and growth potential*: Despite climate risks, the global demand for air travel and air freight will continue to grow, driven by globalisation and economic development. Companies must weigh the potential for long-term growth against the costs associated with climate-related risks. Not all companies in the sector will survive, particularly those in the aerospace supply chain, but those that do will come out of it stronger through potential consolidation opportunities.
4. *Innovation and sustainability initiatives*: Companies that invest in and develop innovative solutions to reduce their carbon footprint, such as SAF, electric or hybrid aircraft, and more efficient air traffic management systems, reduce their risks as they align with broader sustainability goals. They will help to motivate employees and also boost shareholder value as investors increasingly look for ESG-compliant companies to invest in.
5. *Reputational considerations*: ESG criteria are increasingly important. Aerospace companies that fail to address the climate emergency may face reputational risks, potentially deterring investment. Conversely, those with strong ESG performance can attract investment. At the end

of the day, meeting ESG requirements or exceeding them will be an opportunity and should not be viewed in a negative way.

6. *Government and industry support*: Public funding and support from industry groups can mitigate some of the risks. Initiatives that promote research and development in sustainable aviation technologies can reassure investors and funders about the viability and future profitability of the industry. Joint ventures and teaming with other industry players can also serve to harness resources and enhance R&D, as well as increasing the chances of technological advances, while reducing individual risk and costs.
7. *Effective conflict management tools*: As risk for the industry increases through climate breakdown and energy transition, new and more effective approaches to conflict management and dispute resolution are needed. These risks will come from greater regulation, supply chain turmoil, employee engagement and shareholder/customer pressures. Innovative tools to reduce and manage this risk are crucial. This topic is explored in greater detail below.

Other key industry groupings

The aerospace industry is just one of many sectors that will need to reassess their risk models and mitigation tools to address new dispute challenges driven by the climate emergency and the energy transition. Various other industry groups, dependent on fossil fuels and resource-intensive practices, face significant impacts from these shifts. The following are some key industry sectors that will be dramatically affected, along with potential risk mitigation strategies.

The energy sector, for instance, will face a shift from fossil fuels to renewable energy sources, regulatory pressures and physical risks such as extreme weather affecting infrastructure. To mitigate these risks, the sector is investing in renewable energy (solar, wind and hydro), enhancing energy efficiency, and modernising grid infrastructure to be more resilient and integrate smart technologies. Mitigation steps include investing in renewable energy, enhancing energy efficiency, modernising grid infrastructure and gradually phasing out fossil fuel operations.

In the transport sector, increased regulations on emissions and the rising demand for electric vehicles (EVs) and alternative fuels pose significant challenges. Physical risks to infrastructure and the risk of stranded assets also loom large. Developing and adopting EV technology, investing in biofuels and hydrogen, improving fuel efficiency and upgrading infrastructure are critical mitigation strategies.

The manufacturing sector faces resource scarcity, regulatory pressures on emissions and waste, energy price volatility, changing workforce dynamics and the risk of stranded assets. Implementing circular economy practices, enhancing energy efficiency and adopting cleaner production technologies are essential to mitigate these risks.

Agriculture is significantly affected by changes in weather patterns affecting crop yields, increased incidence of pests and diseases, and water scarcity. Adopting climate-smart agricultural practices, diversifying crops and improving soil health through sustainable methods are key mitigation strategies.

For the construction and real estate sector, rising temperatures affect building design and materials, while the risk of natural disasters and regulations on building efficiency pose challenges. Incorporating green building standards, using sustainable materials and designing for resilience to extreme weather are important mitigation steps.

The finance sector faces exposure to risks from investments in high-carbon industries, with an increased focus on ESG criteria and the risk of stranded assets. Shifting investments towards sustainable projects and companies, integrating climate risk assessments into investment decisions, and promoting green bonds and sustainability-linked loans are essential strategies.

Tourism is affected by damage to natural attractions, changing weather patterns affecting tourist seasons and the increased carbon footprint from travel. Promoting eco-tourism, investing in sustainable infrastructure and reducing carbon footprints through better practices and offsets are key mitigation strategies.

The water and waste management sector faces increased demand for water due to rising temperatures, more waste from extreme weather events and regulatory pressures on waste management. Implementing efficient water management systems, recycling and waste reduction programmes, and investing in infrastructure to manage extreme weather impacts are crucial steps.

In addition to these specific mitigation steps, general strategies can benefit all industries. These include investing in innovation and technology for sustainable practices, engaging with policy-makers to shape favourable regulations, incorporating climate risks into business planning and fostering stakeholder engagement to support sustainable development.

Conflict management strategies

Effective conflict resolution mechanisms play a significant role in risk mitigation strategies. They help to maintain operational continuity, foster better stakeholder relationships, ensure regulatory compliance, manage reputational risks, optimise resource allocation, reduce risks and enhance organisational resilience.

To develop a robust conflict management strategy, companies should understand regulatory requirements, perform conflict risk assessments, develop an alternative dispute resolution (ADR) policy, assign responsibilities, implement training and awareness programmes, establish monitoring and reporting systems, conduct regular audits, implement corrective actions, maintain detailed documentation and leverage technology.

A comprehensive conflict management programme is essential for maintaining productive workplace relationships and enhancing company reputation. This involves developing an implementation plan, establishing a conflict management policy, creating a conflict resolution framework, understanding regulatory requirements, implementing training programmes, incorporating facilitated ADR methods and fostering a supportive organisational culture.

The ultimate goal is to ensure that companies are prepared to manage and resolve disputes effectively, minimising disruption and managing conflict in the context of the climate crisis and energy transition. Traditional adversarial dispute resolution methods might not be as effective as dialogue-based processes such as facilitated negotiation, mediation and dispute boards. By adopting mixed-mode dispute resolution and developing comprehensive conflict management policies, companies can enhance their ability to manage complex and multifaceted dispute risks, leading to a more stable and sustainable operational environment.

Developing a conflict management programme

Creating a comprehensive conflict management and avoidance programme is crucial for maintaining a productive and harmonious workplace, customer and supplier relationships, and for enhancing the company's reputation and increasing shareholder value. A robust programme might include the following steps:

1. Develop an implementation plan:
   (i) Initial assessment: conduct a baseline assessment to understand the current conflict landscape and existing resolution mechanisms;
   (ii) Policy development: develop a conflict management policy with input from key stakeholders (see below);
   (iii) Programme launch: roll out the programme with a comprehensive communication plan, including training sessions and informational materials; and
   (iv) Regular reviews: schedule regular reviews of the programme's effectiveness, adjusting as needed based on feedback and changing needs.

2. Establish a conflict management policy:
   (i) Define objectives: clearly state the goals of the conflict management programme;
   (ii) Set expectations: outline the organisation's commitment to resolving conflicts constructively and fairly;
   (iii) Communicate policy: ensure that all employees are aware of the conflict management policy and understand their roles in it; and
   (iv) Educate stakeholders as to the key elements of the policy, including employees, suppliers and customers.
3. Develop a conflict resolution framework:
   (i) Identify potential conflicts: regularly assess areas where conflicts may arise; and
   (ii) Create a conflict escalation pathway: define the steps employees should take to resolve conflicts, starting with informal methods such as negotiation, facilitated dialogue and escalating to formal ADR methods such as mediation and arbitration if necessary.
4. Understand regulatory requirements:
   (i) Identify all relevant regulations and standards applicable to your industry and location;
   (ii) Keep up to date with changes in laws and regulations; and
   (iii) Work with policy-makers and regulators to ensure that they fully understand the climate risks and constraints posed to your industry.
5. Implement training and awareness programmes:
   (i) Conflict resolution training: provide training on conflict resolution techniques, communication skills and the ADR methods available;
   (ii) Awareness campaigns: regularly remind employees about the conflict management programme through internal communications.
6. Incorporate facilitated ADR methods into the policy:
   (i) Facilitated negotiation:
      - Facilitator role: appoint trained facilitators to assist parties in negotiating a resolution; and
      - Process outline: define a clear process for facilitated negotiation, including preparation, meeting guidelines and follow-up.
   (ii) Mediation:
      - Mediator selection: choose qualified mediators, either internal or external, to help resolve disputes; and
      - Mediation procedure: establish a step-by-step mediation process, including pre-mediation briefings, mediation sessions and documentation of agreements.

(iii) Dispute boards:
- Board formation: create dispute boards comprising experts who can provide ongoing oversight and conflict resolution for long-term projects; and
- Functionality: define the role, responsibilities and processes for the dispute board, including regular meetings and ad hoc conflict resolution sessions.

(iv) Early case assessment (ECA):
- Assessment team: form an ECA team with representatives from legal, human resources and relevant departments; and
- Assessment process: develop a process for early case assessment, including initial fact-finding, risk analysis and recommended actions.

(v) Hybrid/mixed mode:
- Look at ways of mixing these techniques in order to obtain a more robust and effective means of addressing the dispute; and
- Look at ways of utilising the same neutral through several ADR approaches (eg, med-arb-med, tribunal expression of views and tribunal settlement conference).

7. Establish monitoring and evaluation mechanisms:
   (i) Track conflicts: maintain records of all conflicts and resolutions to identify patterns and areas for improvement;
   (ii) Evaluate effectiveness: regularly review the effectiveness of the conflict management programme and ADR methods, using feedback from participants and outcomes analysis; and
   (iii) Continuous improvement: update policies, procedures and training based on evaluation findings.
8. Foster a supportive organisational culture:
   (i) Leadership involvement: ensure that organisational leaders actively support and participate in the conflict management programme;
   (ii) Encourage open communication: promote a culture where employees feel safe to voice concerns and conflicts are addressed promptly; and
   (iii) Recognise positive outcomes: acknowledge and reward successful conflict resolution efforts to reinforce positive behaviour.
9. Maintain documentation and records:
   (i) Keep detailed records of compliance activities, policies, and training; and
   (ii) Ensure documentation is organised and easily accessible for review.
10. Review and update the conflict management programme:
   (i) Regularly review the compliance programme to ensure its effectiveness; and
   (ii) Update policies, procedures and training based on audit findings and changes in regulations.

11. Engage stakeholders:
    (i) Communicate compliance efforts and progress to stakeholders, including employees, management and regulatory bodies; and
    (ii) Foster a culture of compliance within the organisation.
12. Leverage technology:
    (i) Use compliance management software to streamline compliance processes;
    (ii) Utilise data analytics to identify trends and areas for improvement; and
    (iii) Look at utilisation of AI to help assess data and develop a conflict road map for specific disputes.

By systematically addressing conflict and disputes through these structured steps and establishing an ADR policy that is understood by the company and its stakeholders, including the incorporation of a variety of ADR methods, organisations can enhance their ability to manage and resolve disputes effectively, leading to a more collaborative and productive work environment, positive customer and supplier relationships, and a more trustworthy and healthier funder and shareholder environment.

In conclusion, addressing the dispute risks associated with the climate crisis and energy transition requires innovative mitigation methods and effective conflict resolution mechanisms. By incorporating these strategies into their risk management processes, companies can ensure long-term resilience, regulatory compliance, reputation management and resource optimisation, ultimately fostering a positive organisational culture and enhancing shareholder value.