



Navigating environmental risks in aviation

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Aviation businesses rely on fuels, chemicals and de-icing fluids that can be harmful if they find their way into the local environment. Leaks and spills can build up over time and seep into soils and water sources, putting human health and wildlife at risk.

Added to this are risks from air pollution, PFAS chemicals and historic landfill waste, which are increasingly giving rise to claims and class actions.

Liability for pollution from these sources is often not covered by general insurance. With regulations tightening, aviation companies may find themselves exposed to large costs that they can't recoup under regular policies.

This guide examines aviation's main environmental risks, the measures companies can put in place to prevent them, and how environmental insurance works to fill the gaps left by other policies if pollution does occur.

What are the main types of environmental pollution?



Soil pollution: Generally, occurs gradually as a result of buried waste, poor storage of materials, or leaking pipes and tanks.



Groundwater pollution: Over time, soil pollution can also leach into rivers and groundwater aquifers, which can contaminate drinking water. This can be very difficult and expensive to clean up.



Surface water pollution: Untreated wastewater runoff entering the environment can cause significant damage to water quality, wildlife and biodiversity.



Air pollution: Air pollution can come from aircraft and vehicle emissions, or gases released by accidents or faults in air filtration systems. Indoor air pollution from contaminants, such as mold or asbestos, can also lead to pollution claims.

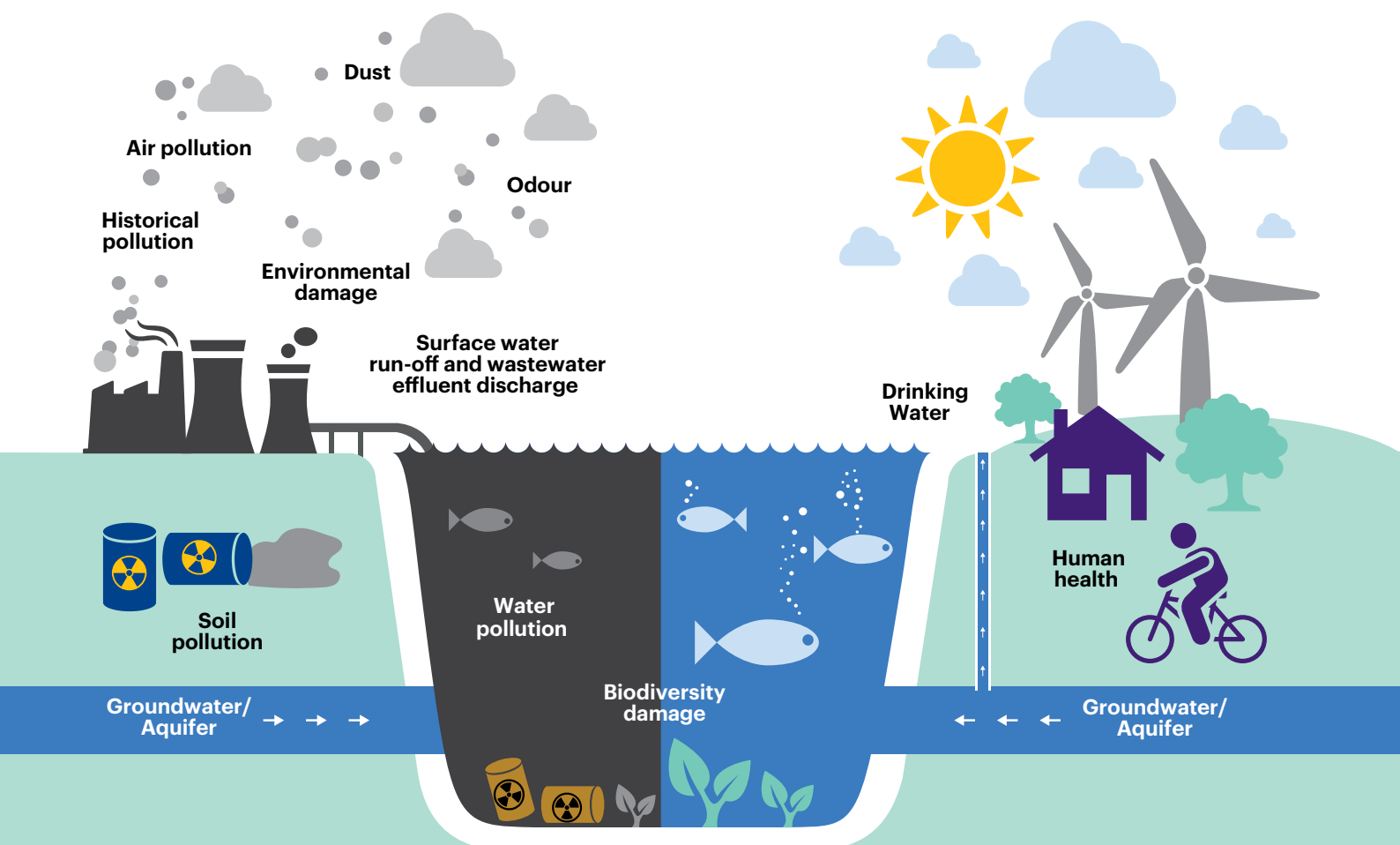


Historic pollution: If disturbed, pollution from buried waste can find its way into groundwater or rivers.



Biodiversity: Activities that disturb rare plant or animal life in a protected area can lead to prosecution and claims, even if the company did not cause any contamination.

What is an environmental risk?



What are the main environmental risks in aviation?

Fuel storage

Airports and airlines often store and move large quantities of aviation and vehicle fuels. The tanks, bunkers and pipelines used are often old concrete structures at risk of leaking or seeping fuel into the surrounding soil over time. This contamination can gradually find its way into rivers or groundwater, posing a risk to drinking water, wildlife and biodiversity.

De-icing chemicals

Large quantities of de-icing fluids are applied to planes and runways in winter. These contain chemicals that can cause toxic runoff into water courses, rivers and ponds. This waste needs to be treated or contained and managed to prevent serious pollution.

Construction

Airports are constantly evolving and expanding. With this development comes new construction activity, such as digging new foundations or exposing buried soil, which can mobilize or exacerbate historic pollution or create new pollution.

Aircraft maintenance

Engineers working in maintenance hangars use many chemicals and solvents as part of their work. These can leak or spill and get washed into the surrounding environment.

Airport fires

Large volumes of fuels and chemicals mean there is a high fire risk at airports. The water used to fight large fires can become contaminated with pollutants and find its way into soils, rivers and groundwater. Car park fires are also becoming more common as vehicles have more electrical components that can spark or ignite. See case studies on page 9.

Aircraft emissions

Airlines are increasingly facing legal action from campaigning NGOs that claim damages for air pollution and the climate impact from current and past greenhouse gas emissions. This form of activism is likely to grow as the climate crisis intensifies.

PFAS chemicals

Firefighting foams used regularly in live training exercises by airport firefighters contain PFAS chemicals, which are a serious risk to the environment and human health. Also known as 'forever chemicals', they are quick to migrate into surrounding land and are very difficult to remediate. Read more about PFAS on page 5.

Historic landfill

In the past, waste from planes and terminals was often disposed of in landfill sites located within the airport perimeter. Much of this waste still remains where it was buried. It may contain pollutants which can leach into the surrounding land over time, causing environmental damage.



Who is most at risk?



- Airports
- Airlines
- Fuel, de-icing and maintenance suppliers
- Contractors in airport construction and development projects



What are PFAS chemicals?

Polyfluoroalkyl substances (PFAS) are synthetic chemicals used in non-stick, water repellent and heat- and stain-resistant products, including building materials and firefighting foams. They're a growing concern because they:

- Do not break down in the environment
- Can move through soils and contaminate drinking water sources
- Accumulate in the body and in wildlife if ingested
- Are associated with increased risk of liver damage and some types of cancer
- Are difficult and expensive to clean up

Claims and class actions for PFAS pollution have been growing, especially related to contamination of groundwater. In the U.S., even tiny concentrations of PFAS in drinking water are considered unsafe, requiring immediate remedial action to deal with them.

In the Channel Island of Jersey, firefighting foam leaked into drinking water boreholes during firefighting training at the island's airport in the 1990s. This was blamed for causing illnesses, including blood cancers. Recent testing has found that most of the population still have excess levels of PFAS in their blood 30 years later, leading to a potential class action for compensation.

Aviation companies should consider alternatives to firefighting foams containing PFAS and find ways to manage foam to prevent it leaching into the environment. Most traditional policies now have blanket PFAS exclusions, but it may still be possible to get cover for sudden and accidental damage in a standalone environmental policy.

Environmental management: the first line of defence

Aviation businesses need to have systems and controls in place to manage the specific environmental risks that affect their operations. This is the first line of defence against potential pollution.

Measures that should be in place include:

- **A comprehensive environmental management plan** to identify risks and put measures in place to mitigate them. This should cover how fuels and chemicals are stored, surface water and wastewater management, and management of environmental permits.
- **Wastewater treatment systems** to reduce the toxic content of runoff, such as firewater or de-icing fluid residue, before it reaches the environment
- **Wet stock management systems** to monitor fuel and chemicals held in tanks, and measure volumes being lost to leakage.
- **Comprehensive due diligence** that includes analysis of environmental risks before any construction or development work, or when land is sold or purchased.
- **A waste management plan** to include management of chemical waste, landfill and historic waste.
- **An emissions management plan** covering both air pollution and greenhouse gas emissions.
- **Long-term groundwater monitoring** if there are known groundwater issues on a site.





Environmental insurance: for when an incident happens

Even with the best environmental risk management controls, no aviation business can remove their risks entirely. Environmental impairment liability (EIL) insurance is there to protect your business if an incident happens despite you having appropriate safeguards.

First- and third-party costs

- Liability to third parties for environmental damage and bodily injury.
- Damage from both sudden and accidental and gradual pollution.
- First-party clean-up costs.
- Statutory clean-up costs if an environmental agency orders remediation work.
- Legal defence costs if you are prosecuted.
- D&O liability for environmental breaches.

Prevention and recovery

- **Crisis management response:** One of the main concerns for aviation companies is the reputational damage that a pollution incident can cause. With EIL, you can access a team of PR consultants to manage media and stakeholders as soon as an incident occurs.
- **Pre-incident loss mitigation:** The policy will respond to prevent an immediate risk of environmental damage before it happens. For example, it would pay the cost to pump contaminated firewater run-off safely into tanks before it can drain into water sources.

- **Site investigation:** For example, drilling bore holes and testing the depth and concentration of contaminants to assess the nature and extent of the pollution, and how to remediate it.
- **Soil and groundwater remediation:** EIL will pay for remediation work not just on your site but in the surrounding area as well.
- **Biodiversity restoration:** Covers the cost of restoring lost biodiversity. Alternatively, EIL can pay to carry out environmental restoration works somewhere else.
- **Long-term ground water monitoring:** Regularly required to be monitored for more than ten years.
- **Business interruption:** Loss of profits if your business has to close as a result of an incident.

Air pollution and emissions

EIL policies can help cover climate risks, which are increasingly being excluded from traditional general liability policies. For example, it could cover legal costs if a claim is brought against an airline for the impact of historic greenhouse gas emissions.





Isn't this covered by general insurance?

General liability policies only cover damage to third parties caused by sudden and accidental pollution. Likewise, property policies only cover damage to buildings and property caused by sudden and accidental

pollution. This can leave aviation businesses exposed to large scale losses from pollution that is gradual or historic, as well as clean-up and remediation costs on their own premises, as shown in the table below.

Figure 1: **Gaps in cover***

	General liability	Property	Environmental
Sudden and accidental pollution	✓	✗	✓ (Optional)
Gradual pollution	✗	✗	✓
Statutory clean-up	✗	✗	✓
On-site first party clean-up	✗	✗	✓
EU environmental liability directive	✗	✗	✓
Biodiversity damage	✗	✗	✓
Loss mitigation	✗	✗	✓

*Please note: Policies do differ and this is representative of a standard general liability and property policy

Case study



UK airport car park fire

A recent fire caused severe damage to an airport car park in the UK, where 1,500 cars were parked. Firewater from the blaze mixed with chemicals, including fuel, oils, and toxic heavy metals, such as lithium, cobalt, nickel and manganese, used in electric vehicle batteries.

Despite efforts to pump the firewater into tanks, much of it made its way into the local drainage system, seeping through large, unlined soakaways into a local aquifer, normally used for drinking water.

The resulting serious environmental harm led to the regulator imposing a clean-up order. The airport was required to stop all further water discharge until the water reached drinking standard, requiring the installation of expensive filtration systems. The total cost is estimated at up to \$5 million, including \$500,000 for the mitigation work to pump contaminated water away.

All of these costs were covered by the company's environmental impairment liability insurance but would not have been covered by general insurance. Because all the runoff was within the airport's perimeter, there was no third-party damage trigger for general liability. Property insurance covered the physical damage to the car park, but not the environmental consequences. It should be noted that some aviation liability policies do provide coverage for third party damages from sudden and accidental pollution arising from a fire.

Case study



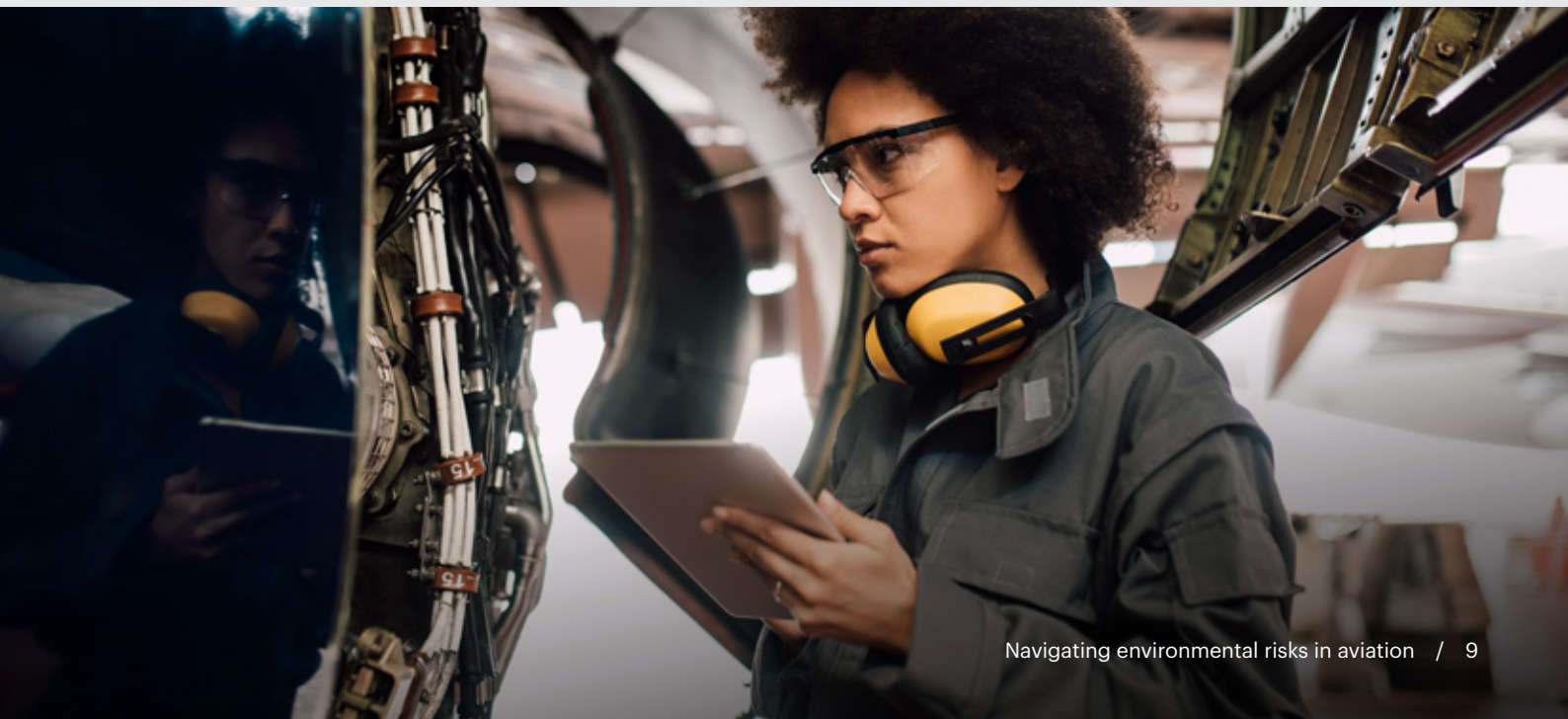
U.S. fuel and de-icing fluid contamination

A regional U.S. airport launched a development project to expand its footprint and capacity. As part of this, it carried out a study of the potential environmental impacts.

This found sources of contamination that were previously unknown to the company. These included leaks in an airport fueling system and inadequate containment areas for de-icing fluid, which allowed the fluid to enter and contaminate a nearby lake.

The airport was ordered to remediate both the soils and groundwater affected by the pollution, at considerable cost. The state environmental agency also fined the airport for natural resource damages due to the impact on several pairs of bald eagles nesting at the lake.

Because the pollution was gradual, rather than sudden and accidental, it was not covered by general insurance. Environmental impairment insurance covered all of the costs except those related to fines and penalties, which are not insurable.





How does EIL help meet ESG challenges?

EIL can play a critical part in ESG strategies, helping aviation companies address and manage both their immediate and long-term environmental impacts.



Addressing climate risks: Addressing climate risks: as mentioned above, EIL policies can help cover costs associated with claims for historic emissions.



Biodiversity: EIL covers biodiversity damage, which is routinely excluded from general liability policies, including damage from causes other than pollution.



Reporting requirements: EIL can help companies meet requirements to understand and report on both the environmental risks they face, and the risks they pose to the environment.



ESG risk management: EIL can help demonstrate how well ESG exposures are being managed, giving stakeholders confidence that the company can respond to environmental damage quickly and effectively.

What are the main types of EIL policy?

Premises pollution liability (PPL)

Provides cover for sites that a company owns or operates. Policies can cover periods of up to 10 years for historic risks and up to three years for new pollution risks. PPL can also cover transportation exposures and business interruption.

Contractors pollution liability (CPL)

Covers work done on construction projects, including new pollution caused by site operations and exacerbation of historic pollution. It can be structured as an owner-controlled insurance program (OCIP) to include all contractors on site. Policies can be written for the length of the project.

Underwriting requirements

Often, the information needed to quote cover can be gathered from other insurance policies, open sources, such as your website, or in contracts with lenders.



More information may be needed for historic pollution, to show what's happened over time. However, even here, most of the information is already required by the authorities for planning purposes or by environmental agencies. If the building is part of an acquisition, much of the detail can be found in the transaction data room.



Conclusion

Aviation companies face significant pollution risks due to the nature of their activities, the fuels and chemicals they use, as well as waste and emissions management challenges. With regulations tightening and new emerging threats such as PFAS chemicals, these concerns are only going to increase.

Many exposures are not covered by property or general liability policies, leaving large gaps in traditional insurance cover. Environmental insurance can be a cost-effective way to cover these gaps, and also help businesses respond to incidents quickly to reduce potential reputational damage and long-term clean-up costs.

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