National Insurance
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How Climate Catastrophes Reshaping the Insurance Industry (Part 4)

In our previous article, NIACE examined how a single climate catastrophe could have far reaching implications on the insurance industry. In part 4 of the running five part mini series, NIACE will take a deeper dive into the relationship between climate initiatives like carbon offset programmes and the insurance industry.
As the world intensifies its efforts to fight climate change, carbon offset programs have become central to global climate strategies. However, these initiatives are increasingly at risk from the very climate disruptions they aim to address. This rising exposure is giving rise to a new and complex partnership with the insurance sector, which is stepping in to manage these vulnerabilities and strengthen trust in environmental projects. The increasing scale and severity of climate-driven disasters are directly undermining many offset schemes—posing both substantial risks and emerging opportunities for the insurance industry.

Carbon Offsets at Risk in a Warming World

Carbon offsets are certificates that represent the reduction, removal, or avoidance of greenhouse gas emissions, often used by companies and individuals to balance out their own carbon footprints. A large portion—nearly 40%—of these offsets are based on forest projects, which rely on trees' natural ability to capture and store carbon. Unfortunately, climate change is making these nature-based solutions increasingly fragile. More intense wildfires, persistent droughts, and aggressive forest diseases—exacerbated by rising global temperatures—are accelerating the destruction of these carbon sinks. A stark example is the record-breaking 2023 wildfire season in Canada, which burned more forest than the previous seven years combined.

The Limits of Self-Insurance: California's Buffer Pool

To mitigate project losses, some carbon offset systems include internal safety nets like California's forest offset "buffer pool." This pool sets aside 15–20% of issued credits to cover losses from wildfires or unforeseen threats. However, evidence suggests this model is insufficient. Research by CarbonPlan reveals that nearly 11 million credits have been lost to wildfires in California alone, while only just over 6 million credits had been reserved for such losses—credits meant to last a century but exhausted in just 10 years. This shortfall reveals that current self-insurance mechanisms are severely underprepared for today's climate realities.

A New Market for Insurers

These growing risks are prompting insurers to explore innovative ways to support carbon offset markets. The possibility of credits being reversed by environmental events, or not being delivered at all, is giving rise to a new niche for risk transfer solutions. Analysts predict carbon credit insurance could become a billion-dollar market. Insurers like Swiss Re are now offering in-kind credit replacements in cases of non-delivery, while UK-based Howden provides warranty and indemnity insurance to back the quality of offset projects. These solutions help reduce uncertainty, making offset credits more credible and attractive to buyers.

Conclusion: The Way Forward - Insurance as a Stabilising Force

While promising, insurance alone cannot resolve all the issues surrounding carbon markets. It doesn't fully eliminate the reputational risks tied to greenwashing—where companies claim "carbon neutrality" while relying on questionable offsets—nor does it prevent legal or public backlash. Still, the carbon market remains essential, especially as offset use will become mandatory for international aviation from 2027. With adjustable premiums, independent validation, and robust financial guarantees, insurance offers a more reliable alternative to traditional buffer systems. By applying their risk assessment expertise and financial backing, insurers are well-positioned to enhance the transparency and durability of climate initiatives, playing a pivotal role in building trust and resilience in the transition to a low-carbon economy.

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