



An unmissable opportunity in the **carbon market**

2024 report

The voluntary carbon market: the biggest insurance opportunity in decades

More insurers than ever are realizing the potential in carbon markets, as humanity strives to reduce its emissions in a bid to hit net zero.



‘Corporates are cautious to participate in the markets, facing thousands of initiatives, unfamiliar counterparts and locations worldwide. Insurance can facilitate a process of due diligence that improves trust between buyers, investors and project developers, enabling counterparties to move through the sales cycle faster.’

George Beattie – Head of Innovation, CFC

Across the planet, individuals, companies and entire nations are focusing on decarbonization, seeking innovative solutions to lower, avoid or remove atmospheric carbon. Step forward the carbon market, which aims to reform high-polluting industries while driving capital toward decarbonization projects.

There carbon market has two sides:

- 1) In the **compliance carbon market (CCM)**, regimes trade and regulate mandatory carbon allowances on a national, regional or international level
- 2) In the **voluntary carbon market (VCM)**, people and organizations trade carbon credits of their own volition

The CCM has been in the making since the late 1990s, and in 2023 was valued at \$800 billion.¹ In contrast, the VCM has been challenged by a range of factors, such as a lack of liquidity, standardization and price explainability. These issues were compounded by constantly emerging regulations and a lack of historical data, as well as a chilling sense of distrust across the market, caused by a minority of bad actors with fraudulent intentions. However, in the last five years a huge cross-disciplinary effort has been undertaken to resolve these issues. The credibility of the market is rising as science, regulation and professionalism fuel sustainable growth in the VCM, which has exploded into life and in 2022 was valued at \$2 billion.²

Despite this, challenges remain. The VCM’s growth plateaued in 2023— a problem as carbon markets demand scale in the push to accelerate net zero, and the VCM is considered a key component of that effort. Yet many potential purchasers feel forced to ‘wait and see’, concerned about the eligibility of credits, lack of global standards and unreliability of policies. The VCM is crying out for better risk management.

Until recently an investor might have been unsettled by the risk of fraud in a largely unregulated market, political instability hindering the issuance of their credits, or the implications of a wildfire razing trees purchased with their carbon credits.

That’s where insurance comes in.

Insurance is the mechanism by which all parties involved in the VCM can collaborate in their decarbonization projects with full accountability. By facilitating risk transfer, insurers can drive positive change while getting ahead in a market whose value could exceed \$1 trillion by 2050.³

CFC surveyed 549 wholesalers, investors, corporate buyers and project developers spanning every industry in the UK, the US and Canada, whose organizations already operate in the VCM. Respondents were asked about risks they perceive, the challenges they face, and how insurance could revolutionize their approach to the VCM.

The results have been instructive, and immensely encouraging. They underscore CFC’s belief that, when it comes to the VCM, the time is now.

¹ BloombergNEF (2023): [Carbon Offset Market Could Reach \\$1 Trillion With Right Rules](#)

² Morgan Stanley (2023): [Where the Carbon Offset Market Is Poised to Surge](#)

³ BloombergNEF (2023): [Carbon Offset Market Could Reach \\$1 Trillion With Right Rules](#)

What is the **voluntary carbon market**?

There are two types of carbon market. Right now the compliance carbon market dwarfs the *voluntary* carbon market—but the latter is growing fast, and presents a golden opportunity for insurers.

With emissions at an all-time high, dramatic scaling of carbon removal methods is required to reach net zero. Carbon markets help bring about this change by facilitating the buying, selling and trading of carbon credits.

The compliance carbon market (CCM)

The CCM is a ‘cap and trade’ system, imposing caps to limit the emissions permitted from a sector or individual company. These caps are mandated according to national, regional or international regimes, such as the EU Emissions Trading System (ETS), which covers 45% of the emissions generated within the EU. If an organization needs to surpass its cap, it can purchase allowances for excess emissions on the CCM. On the flipside, an organization with spare allowances can either keep them or sell or trade them on the CCM.

The CCM maintains high liquidity because of its direct relationship with coal, gas and power prices. It’s subject to robust regulation by means of transparent quality verification standards and intensive monitoring and reporting.

87% of survey respondents are currently obligated to engage with the CCM³

The voluntary carbon market (VCM)

The VCM is fueled by corporates’ commitment to net zero, which in turn reflects expanding environmental conscientiousness among consumers, as well as investors’ growing demand for organizations to decarbonize their activities and offset their unabated emissions.

Unlike the CCM, the VCM is unregulated, instead guided by non-governmental standards which vary dramatically between regions and nations. Organizations can voluntarily purchase carbon credits on the VCM to mitigate their unabated emissions.

There are four types of participants active in the VCM: **buyers**, which are typically investors seeking exposure to carbon as an asset class, and companies buying allowances to offset their residual emissions; **sellers**, which include brokers, exchanges and marketplaces that buy, sell, and trade credits; **suppliers**, referring to developers and those who own or run decarbonization projects; and **enablers**, such as auditors, registries, insurers and rating agencies that validate and verify carbon credits, and serve and collaborate with the other participants to facilitate their market activities

The current VCM is complicated by volatile market dynamics, non-standardized regulations and accounting methodologies that are often incomparable.

Today there is little convergence between the CCM and VCM. The CCM allows a minimal percentage of voluntary allowances to meet compliance targets; and conversely, several crediting schemes emulate aspects of the CCM. For example, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) will permit voluntary credits to be leveraged for compliance purposes

once this crediting scheme has subjected all international flights to offsetting requirements from 2027.⁴ Compliance demand that can be increasingly satisfied in the voluntary market, as represented by schemes like CORSIA, will drive extraordinary growth in the VCM.

In the future the CCM and VCM will likely converge, leading to a combined market in which voluntary credits and allowances are seen as interchangeable and exportable around the world.

98% of survey respondents expect to use voluntary carbon credits as part of their compliance obligations in the future³

4 key benefits of the carbon markets:

- 1) **mitigating ‘hard-to-abate’** emissions, which would otherwise go unaddressed
- 2) **generating additional revenue streams** for developing economies, paving the way for global climate financing and decarbonization
- 3) **spotlighting natural carbon sinks and emerging carbon dioxide removal (CDR) technologies** to secure funding and drive the scale demanded by global temperature targets
- 4) **contributing to wider sustainable development goals**, such as by improving water quality, boosting biodiversity and enhancing the socioeconomic standing of entire communities

¹ Smith et al. (2023): [The State of Carbon Dioxide Removal](#)

² Environmental Protection Agency (2023): [The EU Emissions Trading System](#)

³ CFC (2024)

⁴ International Air Transport Association (2023): [CORSIA: Fact sheet](#)



What are carbon credits?

Carbon credits (or *carbon offsets*) are produced by any activity that lowers or removes emissions. This can be through nature-based solutions, like reforestation and the protection of natural high-carbon-stock assets like peatland, or technological innovation, including carbon capture storage (CCS) and direct air capture (DAC).

1 carbon credit = 1 tonne of CO₂e (carbon dioxide equivalent) which has been reduced, avoided, or removed from the atmosphere

Carbon credits allow a company to emit a certain amount of CO₂ or other greenhouse gases. It gets a set number of carbon credits, which decline over time, but any excess credits can be sold to another company.

Through the carbon credit system, emission reductions can be measured and verified, which contributes to a meaningful lowering in the amount of CO₂ and greenhouse gases in the atmosphere.

Carbon credits are an effective mechanism for incentivizing organizations to reduce their emissions. Those unable to do so are still able to operate, but inevitably at a higher cost.




76%

of survey respondents would consider investing in projects offering carbon credits to be delivered in the future¹


How are the markets used?

- 1) The developers of a carbon project seek a certain number of credits according to their chosen methodology
- 2) An independent agency goes in to verify how many of those credits they can issue
- 3) The agency confirms this to a registry, which records what the project is making available for purchase in the market or delivering to forward purchasers who have been promised credits ahead of time, subject to verification
- 4) Entities seeking to offset their emissions can buy these credits on the market, either directly or through a trader, broker or exchange, and the registry tracks each credit's ownership
- 5) The entity 'retires' (uses) the credit, at which point the registry cancels the credit, ensuring it's removed permanently from circulation, unable to be traded or used for offsetting any further emissions


The key types of voluntary carbon credit projects




Biochar
A type of charcoal which remains after heating biomass and then applied to the land or materials to store the carbon contained within it.




Blue carbon
An umbrella term for any carbon project in an ocean or coastal environment, like seagrass and mangroves.



Carbon capture storage (CCS)
CO₂ emissions are captured from industrial processes like steel and cement production, or from the burning of fossil fuels in power generation.



Direct air capture (DAC)
Atmospheric carbon is filtered and pumped into underground stores.



Forestry
Forests are grown, restored, maintained, replanted or managed.

Investors are grappling with the myriad risks inherent in the voluntary carbon market, but effective risk transfer mechanisms will prove instrumental in helping establish high standards for credit quality and a robust market infrastructure.

The risks associated with the VCM are low-frequency but high-severity, and can materialize at any stage of a carbon project’s lifecycle. At present these risks are mostly transferred from one market participant to another. For example, an actor might manage delivery risk using contractual agreements, and mitigate reversal risk via buffers. These more traditional means make sense, but they often lack efficiency, place risk on a party ill-suited to bear it and even raise barriers to entry in this emerging market.

Carbon projects can be directly affected by a multitude of external factors. According to CFC’s survey, respondents perceived the top risks to carbon projects to be natural catastrophes (such as fires, floods or hurricanes), fraud, crime and corruption, seller bankruptcy and government intervention (such as export bans), and legal and regulatory changes.

Such risks are real and can contribute to the reversal, invalidation or non-delivery of carbon credits.

Reversal happens when carbon captured by a project is re-released into the atmosphere, for instance in the event of a forest fire or underground store leaks.

Invalidation can occur when there is obvious or deliberate fraud or negligence that misrepresents the amount of carbon removal or carbon credits produced by the project.

The consequences of reversal, invalidation or non-delivery go on to include reputational harm if a buyer is associated with a project deemed inefficient, unethical or fraudulent; and those in certain industries where offsetting is a regulated activity (e.g. airlines buying CORSIA eligible credits) may face compliance repercussions.

But the risks of the VCM are not deterring its participants—while the VCM was valued at only \$2 billion in 2022², its valuation is predicted to skyrocket, the earliest estimate of it hitting \$1 trillion coming as early as 2037.³ Insurers are guaranteed to play a vital role in accelerating this process, empowering market participants to overcome the risks inherent in their decarbonization activities.

Non-delivery refers to a situation in which fewer (or no) carbon credits are received than expected, because the project has been unable to issue sufficient credits.

Without those credits in hand, buyers are left with the cost of the undelivered credits if no recoveries are available. Most contracts are written in favor of the seller, so buyers have limited rights of recovery. They’re also left with the cost and burden of purchasing new credits from the spot market.

According to CFC’s survey, 64% of respondents who buy credits have experienced losses from non-delivery, and 75% are ‘very concerned’ about non-delivery of carbon credits under risk.

64% of survey respondents who buy credits have experienced losses from non-delivery¹

75% of survey respondents who buy credits are ‘very concerned’ about non-delivery of carbon credits under contract¹

¹ CFC (2024)
² Morgan Stanley (2023): [Where the Carbon Offset Market Is Poised to Surge](#)
³ BloombergNEF (2023): [Carbon Offset Market Could Reach \\$1 Trillion With Right Rules](#)

The insurance industry's involvement in the VCM is key in driving its growth and sustainability, and a powerful tool for de-risking the market.

Despite being conceptualized around the turn of the millennium, even today the VCM suffers from an insurance protection gap, produced by a lack of data, a shifting landscape and the long-term nature of carbon projects.

However, insurers are increasingly innovating products to reduce barriers to entry into the VCM, fine-tuned to its unique risks. These are proving highly effective at unlocking capital flows, enabling projects to scale at pace. Whether they provide their product on an indemnity or parametric basis, the insurer can position itself as a creditworthy third party to which most risk can be transferred, injecting confidence and liquidity into the market.

The VCM is at a pivotal juncture, with COP28 underscoring the increasing demand for insurance products tailored to its unique risks. Insurers are recognizing the potential of this market, and should be motivated to transform the VCM into a more investable space by enhancing safety and mitigating risks, thereby helping the world at large meet net zero.

83% of survey respondents would be more inclined to forward-purchase carbon credits if they could insure them against non-delivery risk¹

We have reached an inflection point

As the VCM grows, its needs will evolve rapidly. As large-scale investment unfolds, carbon insurance will be in exceptionally high demand. So far carbon insurers have focused on particular sections of the supply chain, but the market will increasingly require a whole raft of products to address the many risks associated with every stage of a carbon project's lifecycle. As insurers become accustomed to these risks, they can expand the breadth of their offerings, inspiring confidence in actors across the VCM, and attracting smaller corporates which previously could not access the market. By their nature these companies have a lower risk appetite, so are more likely to purchase insurance.

Calls for regulation will grow

The VCM's lack of regulation has produced a complex web of standards, conventions and participants. As the market grows in scope and scale, regulators will seek to implement guardrails. We saw stirrings of this change in attitude in 2022. The US Commodity Futures Trading Commission (CFTC) convened for the first time ever on the VCM, seeking to better understand climate-related financial risks within both derivatives and commodities markets.² The International Organization of Securities Commissions (IOSCO) launched a public consultation on ways to boost the VCM's resilience and integrity.³ And the UK Climate Change Committee (CCC) urged Parliament to guide and tighten the VCM's regulations.⁴ As the regulatory landscape changes, the insurance sector will be called on to instill the VCM with the trust it needs to scale.

96% of survey respondents are likely to consider buying insurance to protect against non-delivery of forward-purchased credits¹



'Insurance serves as a vital safeguard for project developers, offering indispensable risk mitigation against both political and commercial uncertainties inherent in carbon projects. Moreover, insurance plays a pivotal role in facilitating the funding process, acting as a hallmark of excellence in due diligence by ensuring the implementation of robust safeguards. Ultimately, its presence underscores a commitment to accountability and resilience, enhancing the overall integrity and viability of carbon projects.'

David Horlock – CEO, Carbon Cap

¹ CFC (2024)

² Commodity Futures Trading Commission (CFTC) [2022]: [CFTC Announces Agenda for the June 2nd Voluntary Carbon Markets Convening](#)

³ International Organization of Securities Commissions (IOSCO) [2022]: [IOSCO consults on the development of sound and well-functioning carbon markets](#)

⁴ Climate Change Committee (CCC) [2022]: [Voluntary Carbon Markets and Offsetting](#)

The carbon frontier: the time for insurance is now

Insurers are well placed to deliver key benefits in the short term

1) Overcoming due diligence challenges

One of the biggest hurdles in the VCM is the difficulty of conducting thorough due diligence on counterparties. Insurers can leverage their expertise in risk assessment and their access to sector-specific data to streamline this process, making it easier for corporates and other credit purchasers to engage with the market confidently and efficiently.

2) Addressing weather risks in nature-based projects

Nature-based carbon projects are particularly vulnerable to weather risks, which can significantly impact their carbon sequestration capabilities. The insurance industry's vast experience in managing these risks positions it as a key player in protecting these projects from the financial consequences of extreme weather events, thereby ensuring their viability and effectiveness.

3) Leveraging insurers' data and expertise

The insurance sector's extensive data on weather and environmental risks, along with its understanding of trading and political environments, are invaluable for assessing and mitigating the risks associated with carbon projects. This expertise can enhance the security and attractiveness of carbon credits as an investment, encouraging more participants to enter the market.

4) Keeping pace with a rapidly shifting market

The VCM is evolving fast, with regulatory frameworks and contractual structures still undergoing development.

The insurance industry's traditional pace of product development and risk assessment may not align with the rapid changes occurring in the VCM, so insurers must adapt and innovate to meet its needs, offering products that address the unique challenges of trading carbon credits.

Insurance will be crucial in future carbon market strategies

As companies prepare to engage more deeply with the carbon market, insurance should be an integral part of their planning process. By providing a safety net for the risks associated with carbon credit investments, insurers can play a vital role in facilitating the growth of sustainable project development strategies.

The insurance industry's engagement with the VCM represents a significant opportunity to drive climate action initiatives while addressing the inherent risks of this emerging market. Insurers' ability to adapt, innovate and provide valuable risk mitigation solutions will be key to the market's success and sustainability.

A variety of insurers are developing products, such as those covering green buildings and sustainable agriculture, and insuring renewable energy projects against operational risks. These initiatives reflect the sector's growing commitment to supporting and securing a sustainable future, but more investment is urgently needed.

The insurance sector's role in supporting and securing the global transition to a sustainable future cannot be overstated. Insurers have a golden opportunity not only to showcase the sector's potential in creating tailored solutions for climate transition, but also to exemplify how insurance can bolster confidence and participation in the VCM.

The time is now. The insurance sector must seize this opportunity. ◆



CFC is starting with carbon delivery insurance

By providing coverage against the failure to deliver credits, CFC is empowering organizations to enter the VCM with confidence. CFC will deliver several insurance products adding value to distinct parts of the carbon value chain between now and 2030. The company is committed to bringing long-term value to the VCM through rigorous testing processes and high standards for quality, ensuring only the best carbon projects get insured.



'CFC has a strong track record for innovation, underwriting expertise and distribution partnerships, and will be a welcome addition to the industry's offerings to take the carbon market to scale.'

Neil Eckert – Chairman, IncubEx

About CFC

CFC is a specialist insurance provider, pioneer in emerging risk and market leader in cyber. Our global insurance platform uses cutting-edge technology and data science to deliver smarter, faster underwriting and protect customers from today's most critical business risks.

Headquartered in London with offices in New York, San Francisco, Austin, Brussels and Brisbane, CFC has over 875 employees and is trusted by more than 150,000 businesses in 90 countries. Learn more at cfc.com and [LinkedIn](#).

