



Myths and realities:
11 misconceptions about
carbon credits and the
Voluntary Carbon Market

September 2025

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Abbreviations

Abbreviation	Meaning
ARR	Afforestation, reforestation, and revegetation
BECCS	Bioenergy with Carbon Capture and Storage
BVCM	Beyond Value Chain Mitigation
CCS	Carbon Capture and Storage
CDR	Carbon Dioxide Removal
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
ETS	Emission Trading System
GHG	Greenhouse Gases
ICAO	International Civil Aviation Organization
IC-VCM	Integrity Council for the Voluntary Carbon Market
ITMOs	Internationally Transferred Mitigation Outcomes - Article 6.2
NBS	Nature-based Solutions
NDC	Nationally Determined Contributions
REDD	Reducing Emissions from Deforestation and forest Degradation
SBTi	Science-based Target Initiative
UN	United Nations
VCM	Voluntary Carbon Market
VCMI	Voluntary Carbon Market Initiative
VVB	Validation and Verification Body





Introduction

In this report, the Deloitte Climate and Sustainability team addresses the questions you may hesitate to ask about **carbon credits** and the **voluntary carbon market** (VCM).

Often perceived as complex and opaque, the carbon credit market is frequently misunderstood by companies. It suffers from a **poor reputation** and is subject to many **misconceptions**, both about what carbon credits are and the real impact they have on companies and the environment.

Nevertheless, purchasing carbon credits can play a significant role in a **company's climate strategy**. Far from being just a simple commodity transaction, acquiring carbon credits supports the achievement of global carbon neutrality, and advances many other Sustainable Development Goals. By taking a proactive and strategic approach to purchasing carbon credits, companies can **anticipate the risks** associated with this market, and still benefit from the **advantages available to new entrants**.

This report aims to challenge the most common misconceptions about the Voluntary Carbon Market and to give companies a factual understanding of its potential benefits. By identifying the most effective solutions to achieve decarbonization goals, we help companies **integrate these tools into their climate strategies** and play an active role in the **fight against climate change**.



1. You must plant trees to get carbon credits.

FALSE

Key figure

In 2024, carbon credits generated by Afforestation, Reforestation and Revegetation (ARR) projects represented less than **6%**¹ of total credits issued².

There are two main types of carbon project:

- **“Avoidance” projects**, which prevent future GHG emissions into the atmosphere.
- **“Removal” projects**, which absorb CO₂ and store it sustainably outside the atmosphere.

Nature-based activities account for almost one third of total carbon credits issued since the creation of the Voluntary Carbon Market (VCM). However, they are not limited to combating deforestation and reforestation, but also include sustainable agricultural practices, responsible forestry, peatland and grassland management, and restoration of coastal ecosystems.

These two project types apply to a wide range of nature-based solutions (NBS) or technology-based solutions adopting methodologies supported by different certification standards.^{3,4,5,6}

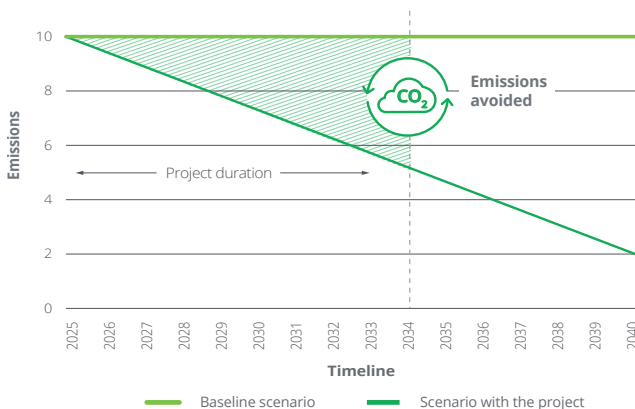
How are carbon credits calculated for a project?

The amount of carbon credits generated by a project depends on:

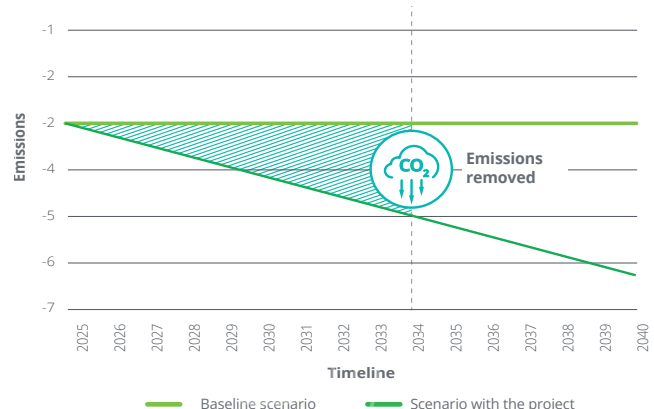
- the baseline scenario, which is founded on a set of assumptions about the GHGs that would have been emitted had the carbon project not been implemented;
- the actual performance of the carbon project, measured at regular intervals and verified by an independent third party.

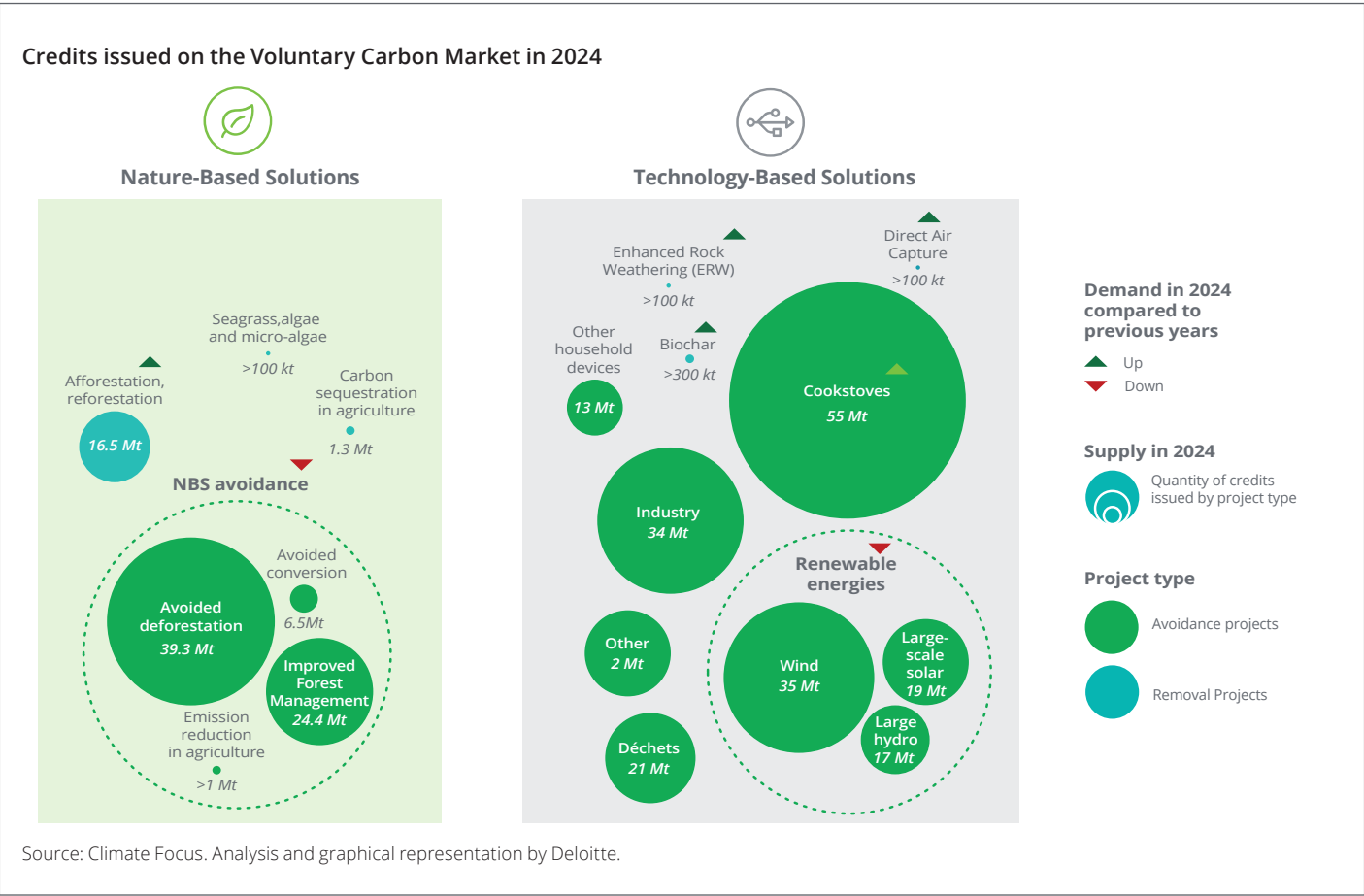
The project performance is compared to the baseline scenario and the difference represents the emissions avoided and/or removed thanks to the project, and substantiates the carbon credits issued.

Avoidance Project



Removal Project





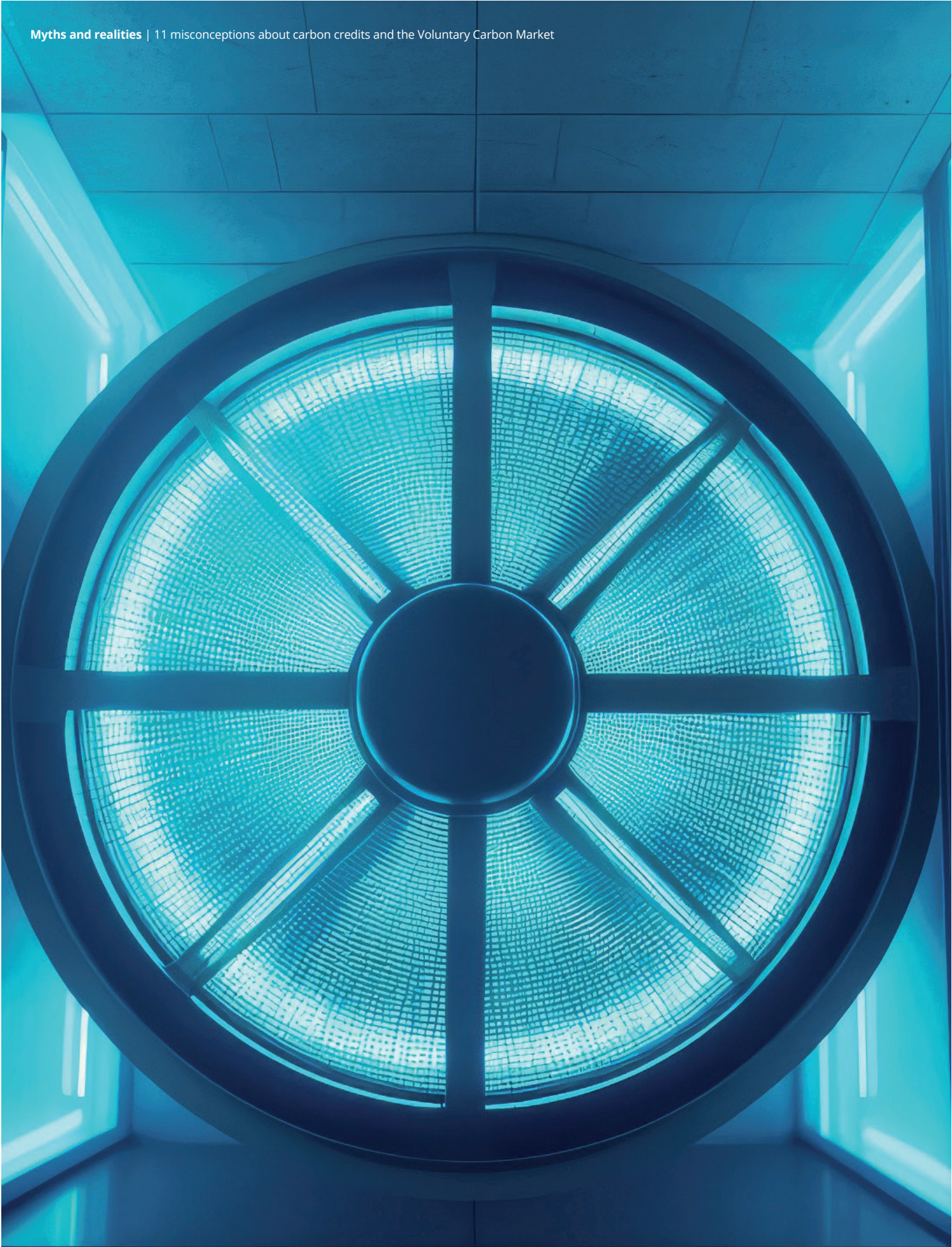
A second third of the market consists of carbon credits generated by renewable energy projects (mainly wind, hydro and solar). Finally, the last third of the market comprises household device projects, industrial projects and waste management projects⁷. Moreover, this last group of projects, often poorly known to the general public, have recently gained visibility. Indeed, Landfill Methane Recovery and the Destruction of Ozone Depleting Substances were the first methodologies recognized as compliant with ICVCM's Core Carbon Principles (VCM governance body). This recognition is part of efforts to identify and promote high-quality carbon credits⁸.

Carbon credit purchases and retirements observed in recent years help determine current market trends. Carbon credits issued for nature-based projects remain highly attractive, with a 21% increase in retirements in the first half of 2024 year-on-year for avoidance projects, and a 31% increase for removal projects⁹. Conversely, renewable energy projects are declining, due to restrictions on eligibility (reduced supply) and growing concerns about additionality (reduced demand). Carbon credits issued for clean cooking projects (cookstoves) are growing in popularity: +27% between 2022 and 2023, and +85% between 2023 and 2024¹⁰.

Finally, removal technology-based solutions, such as Direct Air Capture, are newly emerging and account for only a marginal share of carbon credit purchases and retirements. Nevertheless, it is likely that this type of projects will account for an increasing share of carbon credit trading in the future, given the massive level of investment (\$836 million in equity investment in 2024)¹¹.

Key points to remember

- There is a wide range of carbon projects, which can be split into two main categories: avoidance projects and removal projects.
- Projects may be nature-based or technology-based solutions and can be lowtech (e.g. cookstoves) or high-tech (e.g. Carbon Capture and Storage).
- Credits issued for nature-based projects account for just over one-third of credits issued on the market since its inception. These include projects to combat deforestation, reforestation projects but also sustainable agricultural practices or forestry, the management of peatlands and grasslands, or the restoration of coastal ecosystems. In 2024, 65% of retired NBS carbon credits were issued for avoidance projects, and 35% for removal projects.



2. Purchasing carbon credits is only of interest to “carbon neutral” companies.

FALSE

Key figure

While carbon credit purchases are now largely motivated by voluntary demand from companies wishing to support their climate goals, an estimated 25% of purchases are made for regulatory purposes.¹²

Historically, demand for carbon credits has been fueled by voluntary claims by “carbon neutral” companies or companies selling “carbon neutral” products or services. These claims involve the annual offset of emissions associated with a company or its products through the purchase and retirement of carbon credits, with no specific prior decarbonization requirements.

The company-wide “carbon neutrality” concept is now considered ill-suited, as it does not respect the ranking of climate actions prioritizing decarbonization of a company’s value chain. Its use can also be challenged since the adoption by the European Union in 2024 of its directive “Empower consumers for the green transition¹³”. “Carbon neutrality” claims should therefore be avoided, and are used less and less by companies to justify their carbon credit purchases.

“Carbon neutrality” is gradually being abandoned by companies, and replaced by new climate claims. Companies consider two markets for their carbon credit purchases:

The Voluntary Carbon Market (VCM)

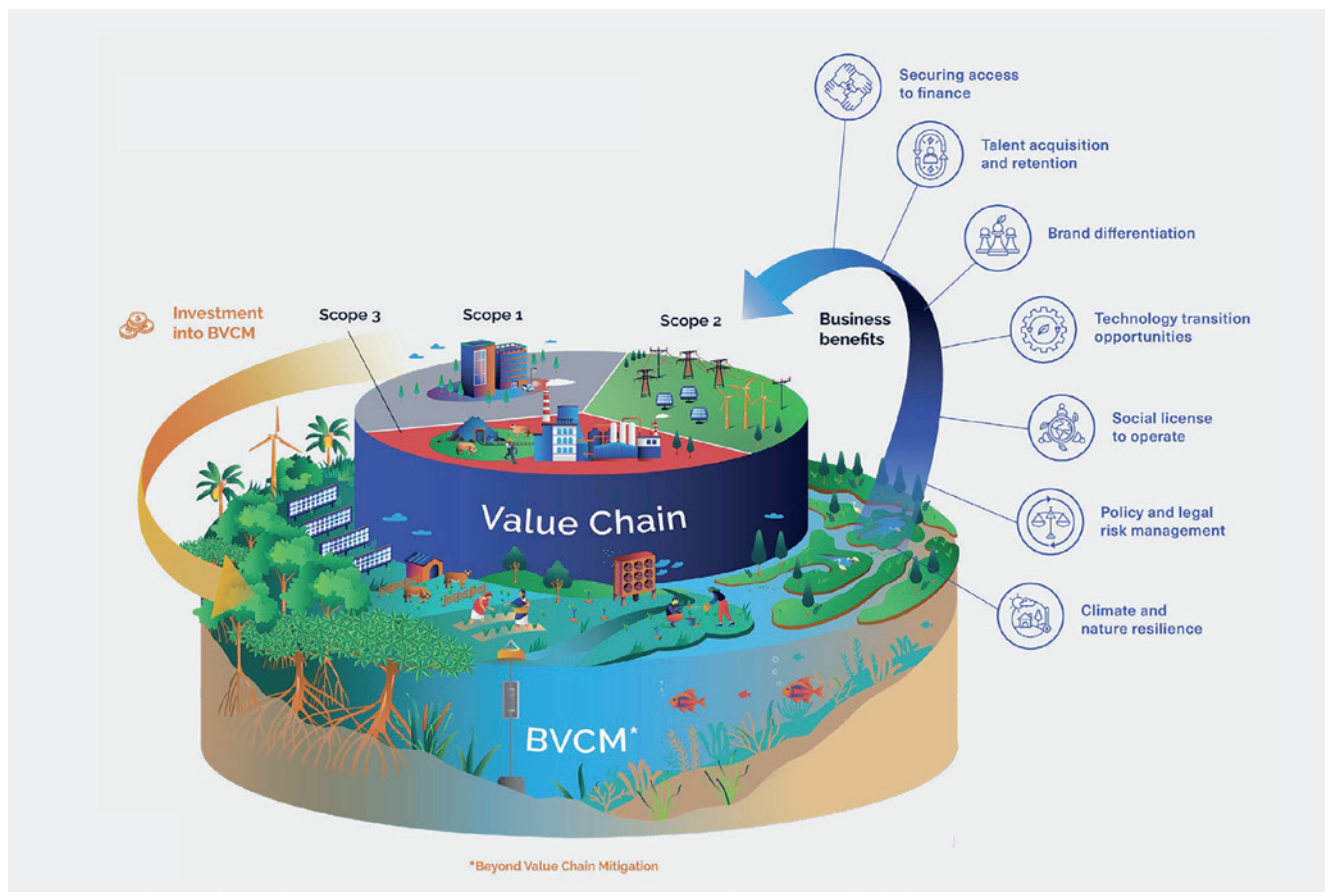
i. Beyond Value Chain Mitigation (BVCM) actions

Company-wide “carbon neutrality” claims are gradually being replaced by claims of a “contribution” to global carbon neutrality. This form of commitment remains voluntary, but enjoys the support of several recognized standards including SBTi, which published a specific guide on the subject in 2024. This approach, among other things, allows historically “carbon neutral” companies to adapt their climate claims and investments in line with current standards.



What does Beyond Value Chain Mitigation^{14 15} mean?

BVCM actions are defined by SBTi as “mitigation actions or investments that fall outside a company’s value chain, including activities that avoid or reduce GHG emissions, or remove and store GHGs from the atmosphere.” Companies can deliver beyond value chain mitigation through a range of instruments including through the purchase and retirement of high-quality carbon credits, direct investment (e.g., equity, debt or project finance) or other forms of action (e.g. climate advocacy , R&D).



Source: STBi, “Above and beyond: an STBi report on the design and implementation of beyond value chain mitigation (BVCM)” - February 2024

ii. Setting a Net-Zero target

Since the publication in 2021 of the SBTi Corporate Net-Zero Standard, companies adopting a Net-Zero approach must, after reaching their target year, neutralize all residual emissions by using permanent carbon removal and storage.

For example, if a company commits to being net zero in 2050 and must reduce its emissions by 90% by 2050, it must retire¹⁶ each year an amount of carbon removals equal to its 10% residual emissions from that date.

In April 2025, more than 3,045 companies had a Net-Zero target validated by SBTi or had committed to submitting one within two years¹⁷.

In view of the exponential growth of these commitments in recent years (+245% between 2022 and 2023¹⁸), many other companies will join the ranks of these companies required to neutralize residual emissions and purchase associated removal credits.



iii. Mitigation of scope 3 emissions (under discussion)

The use of carbon credits to mitigate scope 3 emissions is the subject of debate. No standard currently authorizes the use of carbon credits for this purpose, but the possibility is being discussed:

- VCMI, the governance body overseeing best practices for carbon credit buyers, published a beta "scope 3 claim" in 2023, proposing companies use carbon credits under certain conditions to achieve part of their scope 3 reduction targets. The public consultation on this proposal closed in October 2024.
- SBTi, as part of the revision of its Corporate Net-Zero standard, launched a call for evidence on the effectiveness of the use of environmental attribute certificates (including carbon credits) in corporate climate objectives.

In April 2024, SBTi's Board of Directors issued a statement authorizing their use before retracting. In March 2025, the draft Corporate Net Zero Standard V2 issued for consultation finally excluded this use case²⁰.

This approach is therefore currently uncertain, but its impact on demand for carbon credits would be massive. Indeed, if just 10% of companies that have submitted an SBTi trajectory retire a quantity of carbon credits equal to half of their scope 3 emissions, the global stock of carbon credit would be exhausted²¹.

SBTi definition: Company-wide Net Zero¹⁹

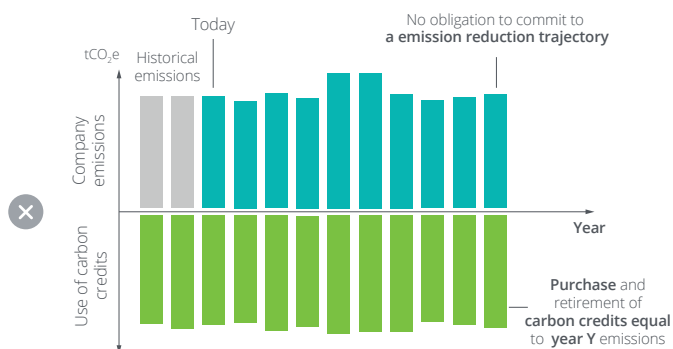
To achieve Net Zero, a company must:

- Reduce scope 1, 2 and 3 emissions to zero or a residual level consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C scenarios or sector pathways
- Permanently neutralize any residual emissions (i.e. remove carbon from the atmosphere and store it permanently) at the Net-Zero target year and any GHG emissions released to the atmosphere thereafter.

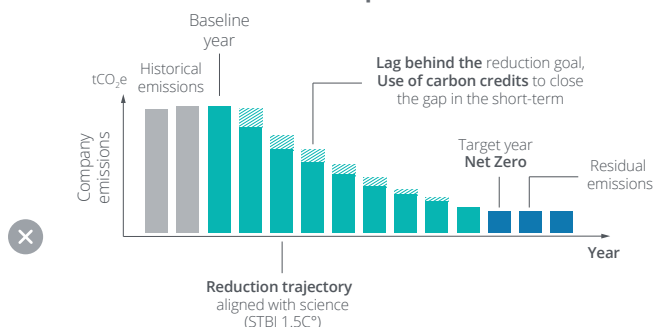
To contribute to societal Net-Zero goals, companies are strongly encouraged to go further than their science-based abatement targets to mitigate emissions beyond their value chains (known as "Beyond Value Chain Mitigation").

The different roles of carbon credits in corporate climate strategies

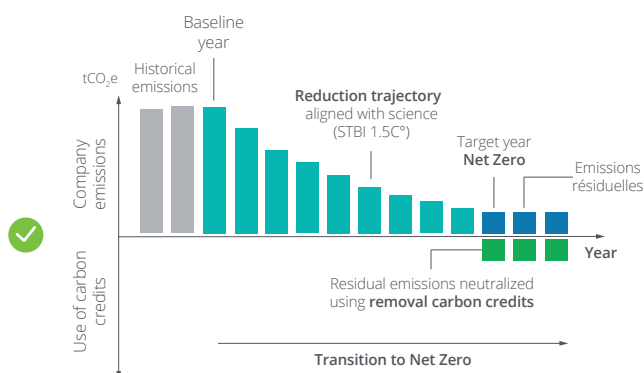
Carbon neutrality



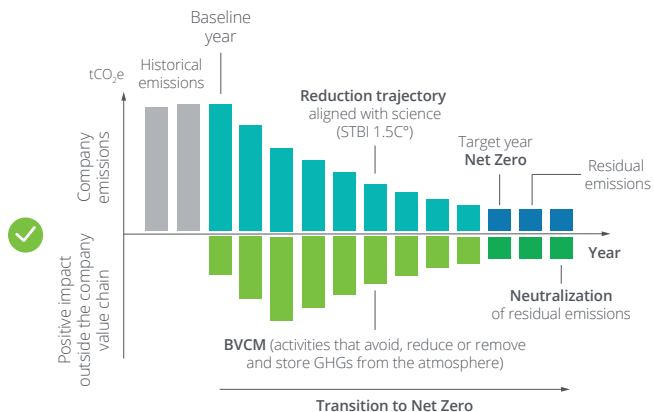
Use of carbon credits to reduce scope 3 emissions



Net Zero



Net Zero + BCVM



Analysis and graphical representation by Deloitte

Compliance markets

i. Compliance with national Emission Trading Systems (ETS) and carbon taxes

Although demand for carbon credits continues to be driven mainly by the voluntary market, demand from compliance carbon markets is gradually emerging. Several countries – such as Mexico, South Africa and Singapore²² – allow the retirement of carbon credits as a partial or total alternative to paying their carbon tax or their ETS.

Colombia, for example, allows carbon credits to be used by entities liable to its carbon tax to pay up to 50% of their obligations. The credit vintage must be less than 5 years old and they must be from projects developed in the country²³. In this way, Colombia encourages the development of carbon projects on its soil and partly finances its transition to a low-emission economy.

ii. International compliance: the case of aviation

The CORSIA program is a market mechanism developed by the United Nations International Civil Aviation Organization (ICAO) which manages international flights. This program sets a “carbon neutral” growth target for the international aviation sector, i.e. stabilization of the sector’s net CO₂ emissions, while pursuing other emission reduction measures.

The airplane operators in the program are required to report emissions of their international flights and to offset any growth in these emissions beyond the 2019 baselines. CORSIA is expected to generate demand for carbon credits estimated at 102-148 million credits during the first phase (2024-2026)²⁴, and about 1 to 2 billion credits during the second phase (2027-2035)²⁵, equivalent to 5 times carbon credit production in 2024.

After a pilot period (2021-2023), the program entered its first phase in 2024, with now more than 126 participating countries.

Key points to remember

- Company-wide, service or product “carbon neutrality” claims are becoming less and less common and expose companies to accusations of greenwashing or, in some cases, legal action.
- Other voluntary and regulatory use cases stimulate demand for carbon credits. Voluntary demand accounts for about 75% of total demand for carbon credits, but demand from compliance mechanisms is expected to grow in the future.
- Many companies are concerned by these different use cases or will be in the coming years. They must therefore ensure they understand the carbon credit market and communicate their commitments responsibly.





3. Carbon credits are a right to pollute: they allow companies to avoid reducing their own emissions.

FALSE

Key figure

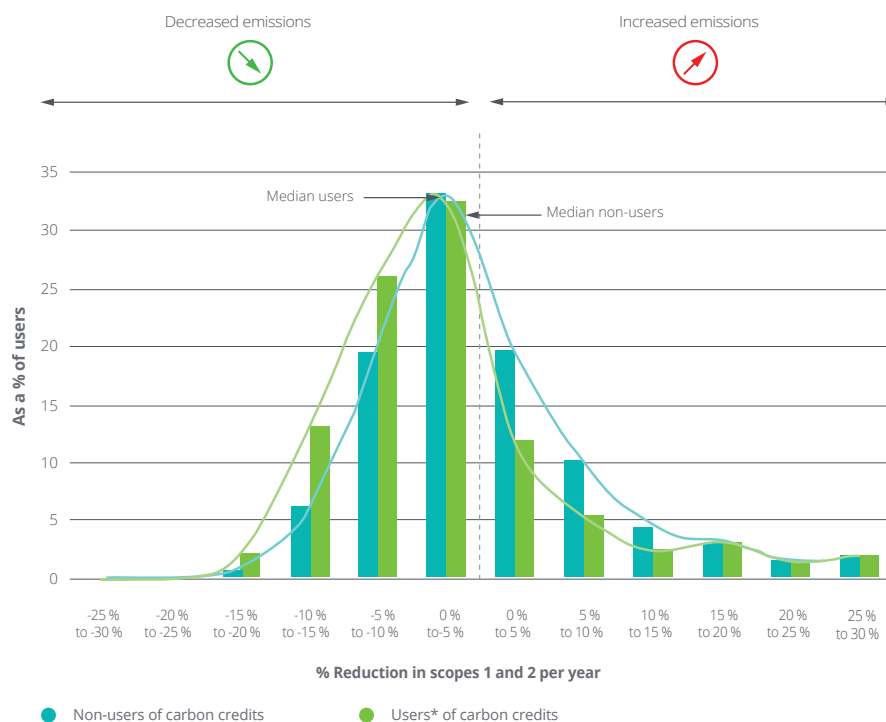
Companies that purchase and retire a significant amount of carbon credits decarbonize **twice** as fast as those that do not use carbon credits²⁶.

Many believe that companies that purchase carbon credits "offset" their emissions to avoid taking concrete steps to reduce their own emissions. This view of carbon credits as a low-cost alternative to escape decarbonization has done considerable harm to the voluntary carbon market.

Firstly, all standard-setting bodies overseeing the activities of the voluntary carbon market defend a hierarchy of climate actions prioritizing the internal decarbonization of companies. This is the case for the SBTi²⁷, the reference body for defining emission reduction targets, the ICVCM, which sets carbon credit quality standards on the market²⁸, and the VCMI, which defines best practices for buyers²⁹. The purchase of carbon credits is presented as a complementary tool to companies' internal decarbonization activities, allowing them to take a greater share of responsibility in the fight against climate change.

Secondly, this vision defended by governance bodies is adopted in practice by companies active in the carbon credit market. In a report originally released in June 2023, MSCI Carbon Markets compares emissions data for thousands of companies over the past five years. The analysis reveals a clear statistical trend across all areas, all periods and for almost all sectors and geographical areas: decarbonization is twice as fast for companies that use carbon credits compared to those that do not use carbon credits³⁰.

Comparison of annual decarbonization rates for carbon credit users and non-users



* Companies that have used less than 1 000 carbon credits

Companies that used a significant amount of carbon credits between 2017 and 2022 reduced their scope 1 and 2 emissions more than **twice as fast** as non-users.

Source: MSCI Carbon Markets.

"Use it or lose it?": How would companies reallocate this budget if they did not purchase carbon credits?

In a survey published in March 2024, the We mean Business Coalition surveyed 180 executives on corporate practices in the voluntary carbon market. If their company were to terminate their carbon credit purchasing program:

- 69% of respondents said that it was "likely" or "highly likely" that the related budget would be redirected to internal decarbonization projects.
- 51% of respondents said that it was "likely" or "highly likely" that the related budget would end up in budget savings³².

The assumption that the budget would be reallocated to internal emission reduction projects if no carbon credits were purchased, is therefore uncertain.

In October 2023, Ecosystem Marketplace reiterated this observation: companies engaged in the VCM reduce their own emissions faster than their counterparts (for example, they are 1.8 times more likely to decarbonize their business year-on-year). In addition, carbon credit buyers are more likely than non-buyers to have climate targets, and their targets are more ambitious (for example, 3.4 times more likely to have an approved scientific climate target, 3 times more likely to include scope 3 emissions in their climate target).

These studies, followed by several others³¹, suggest that the majority of voluntary purchases of carbon credits are carried out by companies already committed to an internal decarbonization process, and that concerns that the use of carbon credits may delay the reduction of corporate emissions are not supported by empirical evidence.

Key points to remember

- All governance bodies overseeing the voluntary carbon market agree that companies must reduce their emissions in priority.
- There is no empirical evidence to support the concern that using carbon credits will delay reductions in corporate emissions. According to recent studies, companies that buy carbon credits have more ambitious climate strategies and decarbonize their activities faster than those that do not.





4. Successive media scandals have definitively undermined the carbon credit market, preventing any investment.

FALSE

Key figure

In 2024, the voluntary carbon credit market showed clear signs of renewed confidence, supported by the adoption of rigorous quality standards, increased investment and favorable growth projections³³.

In 2022, the Voluntary Carbon Market ended the year at a new record high for carbon credit retirements, raising expectations that the growth trajectory would continue in 2023, leading the market to trade at prices above €150 per ton by 2050.

January 2023 contradicted these projections. The Guardian published an article entitled "Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows"³⁴. This high-impact headline was quickly followed by other investigations conducted by different media^{35 36 37}, such as Bloomberg³⁸ or The New Yorker³⁹, highlighting carbon projects with improper practices: overcrediting, financial embezzlement, sexual assault, modern slavery, failure to respect the rights of indigenous populations, etc.

These revelations were shocking because of the size of the standards and projects involved, some of which were among the oldest and largest projects on the market (e.g. the REDD Kariba and Kasigau projects). They were also shocking by the variety of issues identified: in addition to dated and permissive carbon methodologies,

criticisms surrounded the sharing and scope of responsibilities between certification standards, verification & validation bodies (auditors) and buyers' due diligence.

In one year, this reputational crisis drove the market value down by 61%⁴⁰. But instead of causing it to collapse, it accelerated the deployment of initiatives promoting the integrity of practices in the Voluntary Carbon Market.

Some of the most notably initiatives include:

- The announcement at COP28 of a collaboration between six major certification standards (Vira, Gold Standard, ACR, CAR, ART and GCC) to increase the impact of their activities and market transparency⁴¹.
- The beginning of a restructuring phase for Verra, the certification standard most targeted by the accusations⁴². In particular, the standard-setter committed to updating several of its methodologies^{43 44 45} and to working on its relationship with and expectations of the VVB it accredits. It also excluded non-compliant projects⁴⁶.

What is a high-quality carbon credit?

The IVCN, an independent body created to improve the quality and integrity of the VCM, defined ten core principles for identifying high-quality carbon credits:

1. Governance

a. Effective governance: the carbon-crediting program shall have effective program governance to ensure transparency, accountability, continuous improvement and the overall quality of carbon credits.

b. Tracking: The program shall operate or make use of a registry to track mitigation activities and carbon credits issued to ensure credits can be identified securely and unambiguously.

c. Transparency: The program shall provide comprehensive and transparent information on all credited mitigation activities. The information shall be publicly available and accessible to non-specialized audiences, to enable scrutiny of mitigation activities.

d. Robust independent third-party verification and validation: The carbon-crediting program shall have program-level requirements for robust independent third-party validation and verification of mitigation activities.

2. Emissions impact

a. Additionality: The greenhouse gas (GHG) emission reductions or removals from the mitigation activity shall be additional, i.e., they would not have occurred in the absence of the incentive created by carbon credit revenues.

b. Permanence: The GHG emission reductions or removals from the mitigation activity shall be permanent or, where there is a risk of reversal, there shall be measures in place to address those risks and compensate reversals.

c. Robust quantification of emission reductions and removals: The GHG emission reductions or removals from the mitigation activity shall be robustly quantified, based on conservative approaches, completeness and scientific methods.

d. No double-counting: The GHG emission reductions or removals from the mitigation activity shall not be double counted, i.e., they shall only be counted once towards achieving mitigation targets or goals. Double counting covers double issuance, double claiming, and double use.

3. Sustainable Impact

a. Sustainable development benefits and safeguards: The carbon-crediting program shall have clear guidance, tools and compliance procedures to ensure mitigation activities conform with or go beyond widely established industry best practices on social and environmental safeguards while delivering positive sustainable development impacts.

b. Contribution toward net zero transition: The mitigation activity shall avoid locking-in levels of GHG emissions, technologies or carbon-intensive practices that are incompatible with the objective of achieving net zero GHG emissions by mid-century.

• The creation of a quality label by the IVCN, the governance body overseeing the quality of carbon credits. This labeling program is based on the definition of high quality criteria (Core Carbon principles⁴⁷) and the identification of compliant standards and methodologies. This label excludes credits issued for renewable energy projects, which currently account for one-third of the market, due to their lack of additionality⁴⁸.

This reputational crisis also raised awareness among carbon credit buyers. They now know they are more exposed to media scandals involving projects in

which they purchased carbon credits. In November 2023, The Guardian reported "BP and Spotify bought carbon credits at risk of link to forced Uyghur labor in China", also citing WWF, Ecologi and Hilton Hotels as buyers.

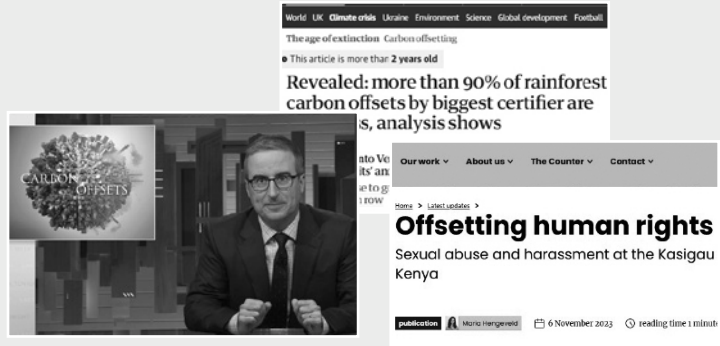
Finally, the Voluntary Carbon Market is increasingly influenced by new regulatory expectations, particularly within the European Union. The new European directive "Empowering Consumers for the Green Transition" and the CSRD reporting framework encourage European buyers to improve their communication and encourage them to increase transparency on their purchases.

As a result, there has been a gradual improvement in the quality of carbon credits retired since 2023⁴⁹. Although this progress is currently modest, it offers hope for more substantial results due to the ongoing integrity efforts led by various market participants.

After a crisis phase, the carbon credit market is beginning to steady

Media scandals

- *Last Week Tonight*, on carbon credits
- *The Guardian*, on REDD+ projects; on a biomass project in Chinae
- *Financial Times*, on broker margins
- *SOMO*, on human rights
- *The New Yorker*, on a South Pole project
- *Delta Air Lines*, climatic claims



Regulations and standards

Regulations

- *Corporate Sustainability Reporting Directive (CSRD)*
- *Empowering Customers for the Green Transition*
- *UK Advertising Standards Authority (ASA)*
- *US SEC Climate Disclosure Rules California AB 1305*
- *Australian Sustainability Reporting Standards (ASRS)*
- *International Sustainability Standards Boards (ISSB)*

Standards and recommendations

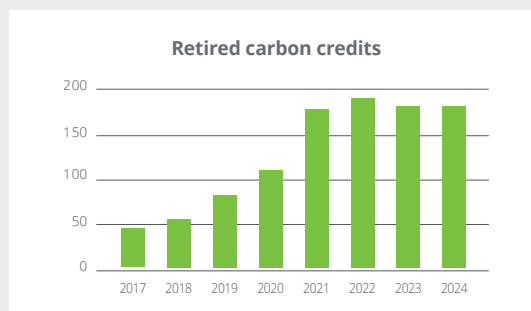
- *SBTi, Corporate Net-Zero Standard (V2 in consultation phase)*
- *SBTi, Beyond Value Chain Mitigation, February 2024*
- *VCMI, Claims Code of Practice* (provides a framework for corporate carbon credit-related claims)
- *ICVCM, Core Carbon principles* (carbon credit quality criteria, and labeling)



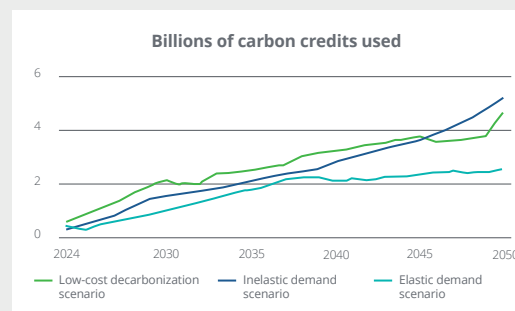
SBTi, Beyond Value Chain Mitigation, February 2024

Long-term impact

Stabilized demand



Improved growth projections



Bloomberg NEF, 2024: "Carbon credits face biggest test yet, could reach \$238/ton in 2050."

Better quality projects

"There is an upward trajectory in average credit quality, with ratings shifting from a B-BB in 2020 to above BB by 2024." - **Sylvera**

"Analysis of retirements and credit prices [...] indicates that buyers' preference for higher quality credits continues to grow stronger." - **BeZero, 2025**

Buyers must, however, remain vigilant in a market that continues to be shaken by regular scandals. In October 2024, C-Quest, an American project developer, was accused by the U.S. Commodity Futures Trading Commission (CFTC) of making false

claims between 2019 and 2023 regarding the performance of carbon projects in Asia, Sub-Saharan Africa and Central America, allowing it to issue hundreds of thousands of fraudulent carbon credits⁵⁰.

Key points to remember

- In 2023, the Voluntary Carbon Market was shaken by numerous revelations highlighting several structural market failures - both in its "carbon" components and more broadly in the management of honest projects that respect the law and beneficiary communities.
- These revelations severely impacted the market, triggering a sharp fall in prices in 2023, but did not bring it to a halt. On the contrary, this crisis period accelerated the implementation of several initiatives to strengthen market integrity, including the high-quality carbon credit labeling program launched by ICVCM (governance body) and the review of outdated methodologies by several certification standards.
- In addition, market buyers were made more accountable for their purchases, through increased exposure to reputational risks ("name and shame") and emerging regulations governing communication.
- While the initial effects of these efforts to increase integrity are now visible, buyers must nevertheless remain vigilant when sourcing credits and refer to the most recent recommendations.



ETF

Carbon Credits

▲ 0.23 %

Sell

Buy



5. An expensive carbon credit must be of high quality.

FALSE

The quality of a carbon credit can vary greatly from one carbon project to another, and buyers often have access to too little information to form an opinion on its quality. Price is one available indicator, but focusing too exclusively on this criterion can be misleading.

In the conventional VCM (i.e. the most mature solutions: nature-based avoidance and removal projects or technology-based avoidance projects), the price of a carbon credit depends on several factors and particularly:

Key figure
In the Voluntary Carbon Market, brokers can take up to **80%** of the final credit price⁵¹.

Nature of carbon credits	Carbon credits are issued in respect of avoidance or removal projects, and these two project categories can underpin different types of corporate climate claim (e.g. carbon contribution, neutralization of residual emissions).
Project type	There are different carbon methodologies. For example, nature-based avoidance projects include projects to combat deforestation, sustainable forest management projects, and projects to improve the management of agricultural land or pasture.
Project location	In 2022, the average price of a Label Bas Carbone project in France was €32.93/ton ⁵² compared to an average of \$8.1/ton globally ⁵³ .
Social or environmental co-benefits	Co-benefits include, for example, the creation of a biodiversity corridor, the development of a community project that creates jobs, the fight against eye and respiratory diseases, etc.
Certification and co-certification	A carbon credit must be certified by a carbon certification standard (e.g. VCS, Gold Standard, Puro.earth). It may also possess additional certification highlighting its co-benefits (e.g. CCB standards).
Core Carbon Principles label	The Core Carbon Principles label is the result of work by the ICVCM to improve market integrity and the quality of carbon credits. Currently in the early stages, it is intended to become a global standard.
Corresponding adjustment	A carbon credit may benefit from a corresponding adjustment under Article 6 of the Paris Agreement.
Transaction structure and order size	Buyers and sellers have several contracting methods at their disposal, for example: spot purchases, forwards, multi-year offtake agreements, direct or indirect investment. High volume orders benefit from favorable prices.
Vintage	The year in which carbon avoidance or removal takes place. While carbon credits do not expire, their value decreases over time.

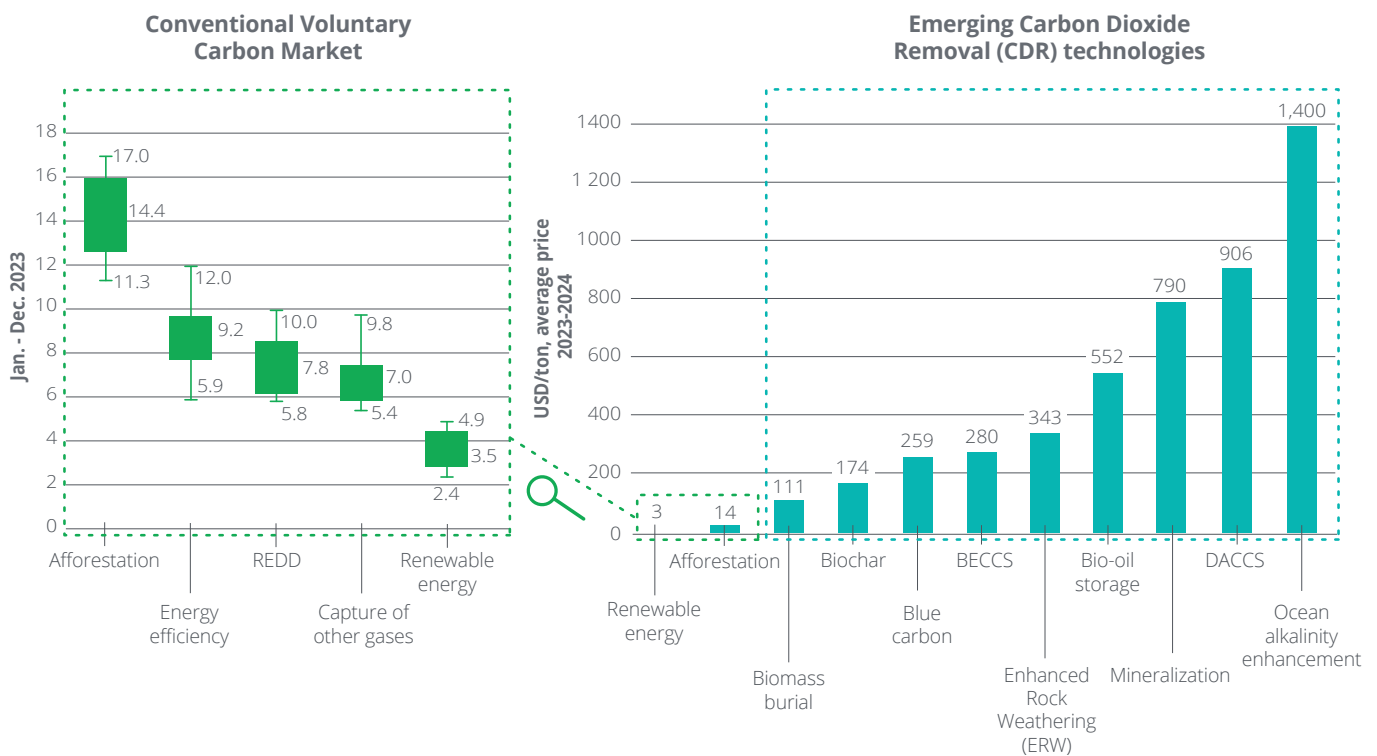
While these factors partly explain differences in pricing between carbon credits, the market also records strong global price fluctuations. These fluctuations highlight the impact of supply and demand on the market. For example, following media revelations about flawed carbon projects in early 2023, average prices fell by more than 30% (from \$8.1/ton in 2022 to \$5.3/ton the following year).

Durable CDR projects (i.e., durable carbon dioxide removal, technology-based removal projects) can be distinguished from the conventional VCM, as they are of a completely different magnitude in terms of solution maturity, price and volumes issued. In the durable CDR market, the price reflects developing technologies that

require financial support such as Advance Market Commitments (AMC) to fund their deployment. The development of this industry depends on progress in research, to achieve the move from pilot project to commercial scale facilities and a significant reduction in costs over time.

Price alone is not a reliable indicator of quality for both the conventional VCM and durable CDR projects. Informed buyers must first and foremost consider credit production costs, and if they wish, conduct due diligence on the projects from which they source the credits. Quality standards such as the ICVCM Core Carbon principles or the work of the Carbon Credit Quality Initiative can assist buyers with these analyzes.

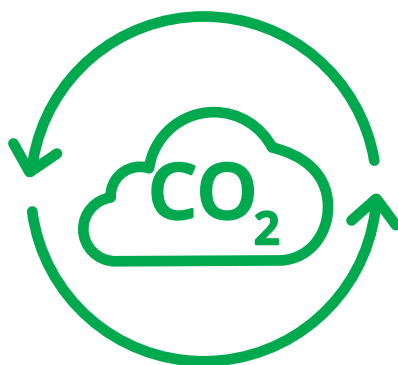
Carbon credit price trends over time, and according to the solution type



Source: MSCI Carbon Markets, CDR.fyi, The State of Carbon Dioxide Removal (2nd edition). Analysis and graphical representation by Deloitte.

Key points to remember

- Carbon credit buyers often have access to insufficient information to determine the quality of the carbon credits they plan to purchase. Some buyers may be tempted to use price as the sole indicator of quality.
- The price of a carbon credit alone is not a reliable indicator of quality. In the conventional VCM, price is determined according to several criteria, some of which are synonymous with quality. However the balance between supply and demand remains a major determining factor. For durable CDR projects, current high prices reflect emerging technologies that require significant funding to scale up.
- Buyers are therefore responsible for conducting thorough due diligence on the projects and their suppliers to ensure the quality of their purchases. While this analysis can be complex, organizations can nevertheless rely on the work of initiatives such as ICVCM or CCQI.





6. There are too many carbon credits on the market: there is no risk of shortage.

FALSE

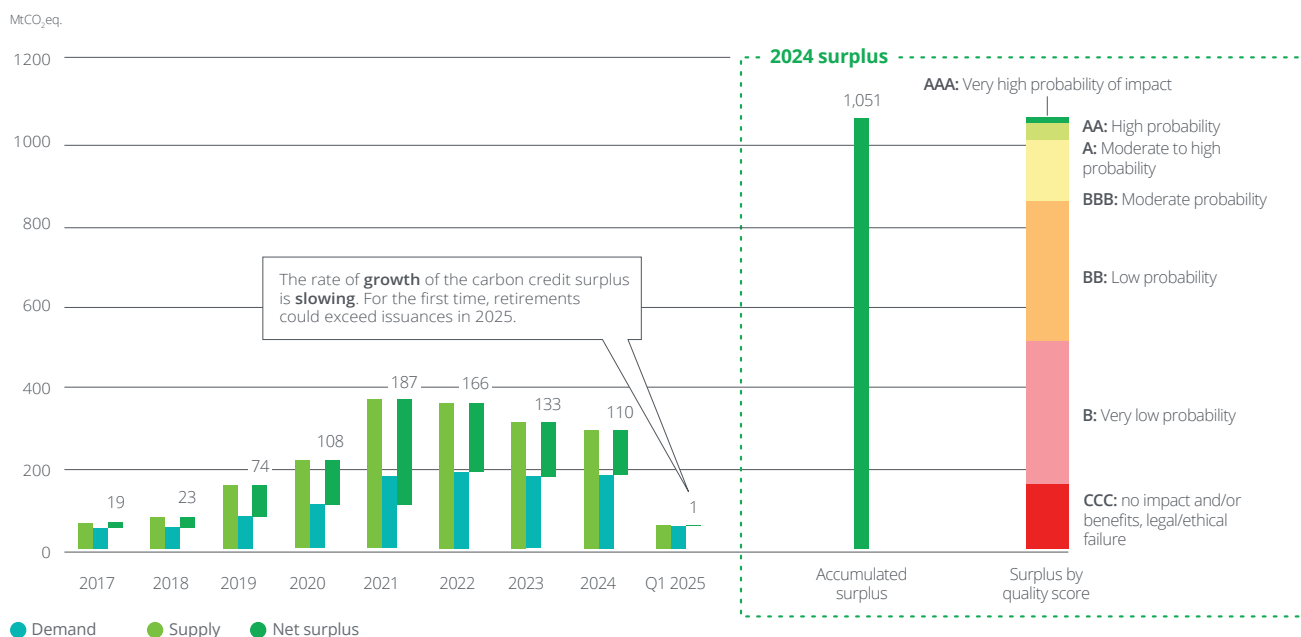
Key figure

In the first quarter of 2025, carbon credit retirements (54.56 million) almost matched issuances (55.63 million), signaling the potential entry into an era of negative net-issuances, where more credits are retired than issued⁵⁴.

The Voluntary Carbon Market has long been in a surplus, with more carbon credits issued on the market than retired from registries (i.e. used by their buyer). In 2023, this differential was 134 MtCO₂e (i.e. almost half of credit issuances during the year)⁵⁵. These unretired credits contributed further to a surplus that recently surpassed the billion tons mark. One-fifth of this surplus comprises carbon credits dating from before 2016 and two-thirds of the surplus date from before 2021.

Carbon credits do not expire but an aging vintage (issuance year) makes them increasingly less likely to be purchased. These "legacy credits" are considered to be of poor quality and so cannot usually be used by companies looking for high-quality credits. This surplus stagnates in the standards registries and is a deadweight, providing a distorted view of the carbon credit stock that can be mobilized.

Carbon credit surplus snapshot



Sources: Climate Focus, MSCI Carbon Markets. Analysis and graphical representation by Deloitte.

In addition, demand for carbon credits is likely to increase sharply in the coming years as certain compliance mechanisms are strengthened and voluntary commitments multiple.

In the short term, we note, for example, the CORSIA scheme, which aims to achieve neutral growth in the international aviation sector. This entered its initial phase in 2024. The ICAO, the UN agency in charge of the scheme, estimates the demand generated by CORSIA at approximately 102 to 148 million tons for the period 2024-2026⁵⁶, growing thereafter to 970 to 1,500 million tons by 2035⁵⁷. These projections would imply an increase of over 50% in the amount of carbon credits retired annually from the Voluntary Carbon Market as a whole compared to 2024.

In the medium term, companies committed to a Net-Zero target represent future demand of several billion removal credits per year. SBTi has recorded strong growth in the number of companies setting a Net-Zero target by 2050 or before. Currently, more than 3,000⁵⁸ companies will have to neutralize all residual emissions from their target year (about 10% of their base year emissions) by, in part, purchasing and retiring removal credits.

In the short and medium term, other forms of demand are emerging that are more complex to quantify. Examples include:

- The issue of Beyond Value Chain Mitigation (BVCM) guides by SBTi and Gold Standard, which could renew demand from buyers previously skeptical of the rules governing communication on carbon contributions, considered too vague.

- Mounting pressure from companies struggling to reduce their emissions, particularly their scope 3 emissions, and for which carbon credits can represent an additional tool in their fight against climate change. Microsoft, for example, opted for the massive purchase of durable CDR in the face of a carbon footprint severely impacted by the growth of artificial intelligence driving the expansion of data centers. In the consultative version of its Corporate Net-Zero Standard V2, SBTi opened discussions on the use by companies of removal credits if they underperform in relation to their emission reduction targets for scope 1.

This expected strong growth in demand will be faced with limited supply in the coming years. In addition to a surplus of carbon credits not easily mobilized, project development times are long. A cookstove project takes about 3 years to generate significant amounts of carbon credits. For a reforestation project, it is about 8 years. The Voluntary Carbon Market may not be sufficient to meet this new demand. Companies participating in, or preparing to enter, the Voluntary Carbon Market therefore face a significant challenge regarding the supply of carbon credits. They must work now to secure the supply and price of high-quality carbon credits, or they might not be able to meet their commitments.

Companies participating in, or preparing to enter, the Voluntary Carbon Market [...] must work now to secure the supply and price of high-quality carbon credits.

Key points to remember

- For many years, carbon credit issuances on the Voluntary Carbon Market have exceeded retirements by buyers. The market has therefore accumulated a surplus of over one billion carbon credits.
- These unretired credits are mostly "legacy credits" of poor quality and whose aging vintage makes them increasingly less likely to be purchased. They present an incorrect view of the carbon credit stock that companies can mobilize if demand exceeds supply.
- At the same time, the strengthening of certain compliance mechanisms (e.g. CORSIA) and the multiplication of voluntary commitments (e.g. Net-Zero, BVCM) allow us to anticipate strong growth in demand in the coming years. This demand risks exceeding supply for the time it takes to develop new quality projects.
- In the coming years, companies participating in the VCM are at risk of facing supply difficulties. They must quantify now their needs and secure the supply and price of high-quality carbon credits.





7. Carbon credits can only be purchased using spot contracts for existing projects.

FALSE

Key figure

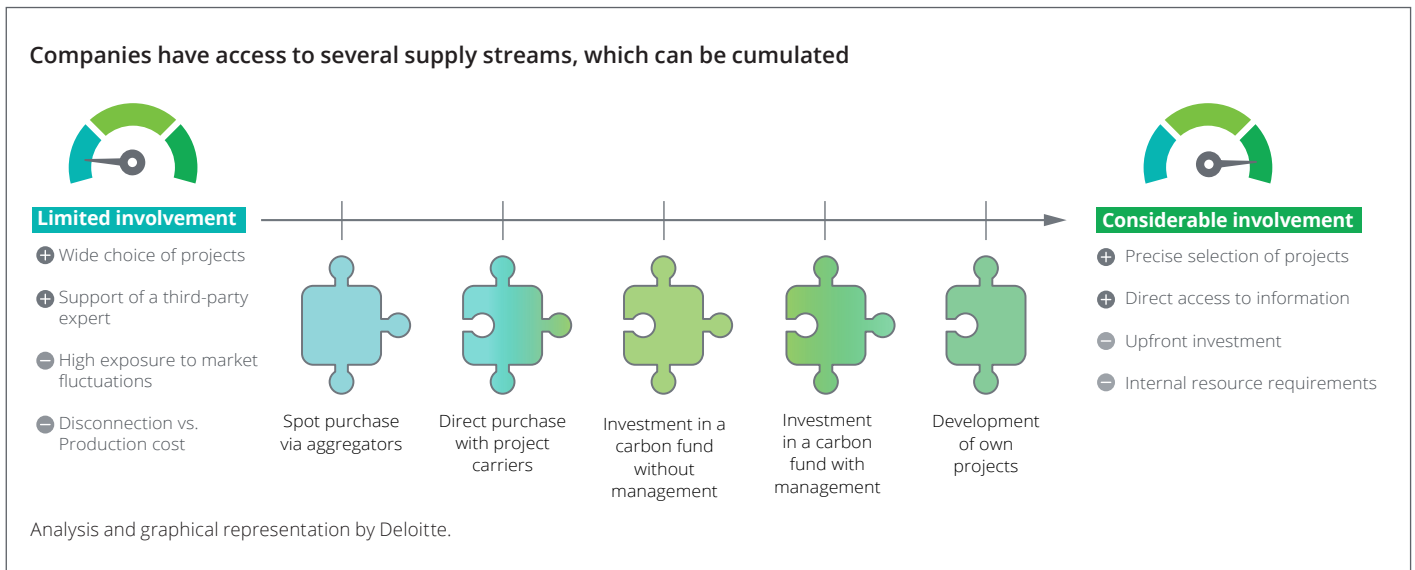
In 2021, 15 companies, including Chanel, Danone and SAP, committed to the third Livelihoods carbon fund, which aims to issue 30 million carbon credits over 24 years⁶⁰.

“Spot” purchase contracts are the most common way for companies to purchase carbon credits. They consist of a single transaction to obtain existing carbon credits (ex post), i.e. already issued by a certification standard, from project developers, brokers or trading platforms. Companies appreciate this type of contract as it is flexible and allows for large volumes to be purchased quickly from a wide range of projects.

However, spot contracts do not allow the implementation of a long-term strategy. Indeed, companies remain exposed to high price volatility and risk not developing the level of knowledge and control necessary to ensure these purchases perfectly meet their requirements. In response to these risks, an increasing number of companies are choosing to enter into other forms of long-term agreements.

Table 1: Parties offering spot contracts

Marketplaces	AirCarbon Exchange (ACX), Carbon Trade Exchange (CTX), Xpansiv, Climate Impact X, ClimeFi, Carbonfuture, ClimateTrade, Patch, SuperCritical
Distributors	SouthPole, EcoAct, Climate Impact Partners, 3Degrees, Carbioz
Project developers	Aperam, NetZero Biochar, Carbone Farmers, Forest Carbon, TerraTerre, Ebb Carbon, Biocarbon, Wakefield Biochar, Heirloom, Verdox, Living Carbon, Carbfix, Wildlife Works, Removall



In a forward contract the supplier undertakes to deliver a specific amount of carbon credits to the buyer at a predefined future price and date. This type of contract allows buyers to protect themselves against market price volatility by fixing a price in advance. It also provides access to a wider range of projects, including current projects and projects in the pre-development phase, which then receive support from their start-up phase. However, this type of contract has certain limitations: it is a one-off carbon credit purchase, which also carries risks, the most significant of which is "non-delivery", i.e. the inability of the supplier to honor the contract at the promised date.

Indeed, the carbon credits have not yet been issued when the contract is signed, and the supplier forecasts the number of credits it will be able to generate by the time the contract is terminated.

In May 2024, Microsoft signed a forward contract with Carbonity (JV between Suez, Airex Energy and the Rémabec Group) for the delivery of 36,000 biochar carbon credits⁶¹.

In an offtake agreement the supplier undertakes to deliver a specific quantity of carbon credits to the buyer at a predefined future price and date, on a multi-year basis, once the project in question produces carbon credits. This allows companies to plan their sourcing strategy over the longer term, and provides stronger support to project developers in the development phase. Technology-based removal credits (durable CDR) are mainly purchased using this type of contract as emerging solutions still have difficulty generating large volumes.

Examples include the contract signed by Wihlborgs (real estate company) with Oresundskraft for the delivery over 10 years of 100,000 carbon credits from the deployment of BECCS (Bioenergy with Carbon Capture and Storage) at its future Filbörnaverket plant⁶².

Finally, a buyer can choose to invest directly in carbon projects. Broadly speaking, buyers that invest in a project receive a share of the carbon credits generated by the project in proportion to their

investment. This type of contract allows for control over the projects selected as well as the ability to anticipate volumes and long-term costs. However, it imposes greater involvement by the buyer and potentially a higher initial investment, and therefore a need for significant volume. Buyers can choose to join carbon funds, such as the Livelihoods Carbon Funds, Mirova Natural Capital or HSBC Pollination funds, or develop their own projects. For example, La Poste launched its Climate + Territories program in 2015, which has enabled the development of 22 projects with the Label Bas Carbone⁶³.

Contractual choices allow buyers to anticipate their needs while modulating their exposure to different forms of risk (e.g. price volatility, non-delivery, volume security, credit quality, reputation, project country of origin, etc.). They are a vital component of a robust sourcing strategy, but not the only one.

Some of the things to consider include:

- **the type of player with which the company wishes to collaborate:** direct relationship with project developers? Use of specialized brokers? Joining a coalition of buyers (e.g. Frontier, NextGen, TechGen, LEAF Coalition, Symbiosis)?
- **the type of carbon credits the company wants to buy:** do the projects meet the company's requirements? Are they consistent with their values or lines of communication?
- **the impact the company wants to have on the market:** social or environmental co-benefits? Support for the emergence of new projects, new technologies?
- **management of carbon credit stocks:** Hoarding or resale in case of surplus? Mainly long-term supply contracts and spot contracts at the margin?

Key points to remember

- There are different forms of carbon credit purchase agreements.
- The most common contractual form is a spot purchase, which allows for large volumes of directly usable carbon credits to be purchased quickly, but exposes the buyer to high price volatility and reputational risk due to their lack of familiarity with the project.
- Other contract forms (forward, offtake and investment) allow companies to develop a longer-term sourcing strategy by securing future prices and purchase volumes. Companies must anticipate their carbon credit needs and choose the contractual form that best fits their global climate strategy.
- The choice of contractual form is only one component of an elaborate sourcing strategy. Companies must build a purchase strategy that meets their development ambitions.





8. The carbon credit market is not regulated.

FALSE

Key figure

In France, Germany, the Netherlands and the United States, several legal actions have been brought since 2022 following accusations of misleading communication on the “carbon neutrality” of several companies⁶⁴.

Any company can freely decide to participate in the Voluntary Carbon Market - except for the international aviation sector subject to the CORSIA⁶⁵ mechanism. While this voluntary commitment has long been free of regulation, since 2022, a new wave of climate regulations now governs the conduct of companies buying carbon credits. In particular, it aims to improve transparency in this controversial market .

The following types of regulation have the greatest impact on companies:

- **reporting rules:** some regulations require companies to publicly disclose specific information on their commitments on the VCM, including the carbon credits they retire from registries;
- **communication rules:** certain standards ensure that environmental claims made by a company, brand, product or service are clear, accurate and reliable. For example, in the European Union, claims a product is “carbon neutral” cannot be based on the purchase of carbon credits alone.

Applicable rules in the European Union are

- **The Corporate Sustainability Reporting Directive (CSRD)** - ESRS E1-7: This framework requires companies claiming they are committed to a Net Zero or BVCM approach to provide justification of their decarbonization. In addition, companies must provide detailed information on their carbon credit purchases if applicable (type of credit, project nature, certification standard, geographical origin, etc.), in their financial and sustainability reports⁶⁶;

- **EU directive “Empowering Consumers for the Green Transition”**, supplemented by the proposed law **“Green Claims Directive”**: any environmental claim linked to the use of carbon credits must be precise and not misleading. Companies should avoid vague or general statements that could mislead consumers (e.g. claims based solely on the use of carbon credits such as “CO₂ neutral certified”, “carbon positive”, “climate net zero”, “climate compensated”, “reduced climate impact” and “limited CO₂ footprint”⁶⁷).

Outside Europe, other similar regulations are emerging, such as the California, Assembly Bill 1305: the Voluntary Carbon Market Disclosures Business Regulation Act (VCMDBA) or Australian Sustainability Reporting Standards (ASRS). These pioneering regulations point to a global expansion of this aspect of climate regulation in other countries in the coming years.

Companies can consult market communication best practices issued by governance bodies such as VCMI and its Claims Code of Practice, to anticipate changes in regulations.

Key points to remember

- A new wave of regulations now more strictly governs buyer practices in the voluntary carbon market.
- There are two types of regulation: 1) reporting rules, which encourage companies to be more transparent on their carbon credit purchases, 2) communication rules that regulate corporate climate claims and ensure their reliability.
- In the European Union, these two types of regulation are implemented through the CSRD and the *“Empowering Consumers for the Green Transition”* directives. Other countries outside the EU have made similar commitments and more countries are expected to follow.
- Companies should be aware of prevailing regulations and those being developed. To help them navigate this changing context, companies can refer to the work of several governance bodies in the voluntary carbon market.

Since 2022, a new wave of climate regulations now governs the conduct of companies purchasing carbon credits, aimed at improving transparency in this controversial market.



9. The implementation of Article 6 of the Paris Agreement will radically change the way companies purchase carbon credits.

UNCERTAIN

Key figure

"Market experts expect that, over time, voluntary carbon markets (VCMs) and Article 6 compliance carbon markets will merge. However, timelines and specifics are still uncertain."

World Economic Forum, November 2023⁶⁸

The 29 articles of the Paris Agreement, signed in 2015 by the United Nations, include a section dedicated to voluntary cooperation in implementing Nationally Determined Contributions (NDCs), to increase global ambitions for climate action⁶⁹.

Article 6 provides for the creation of several mechanisms:

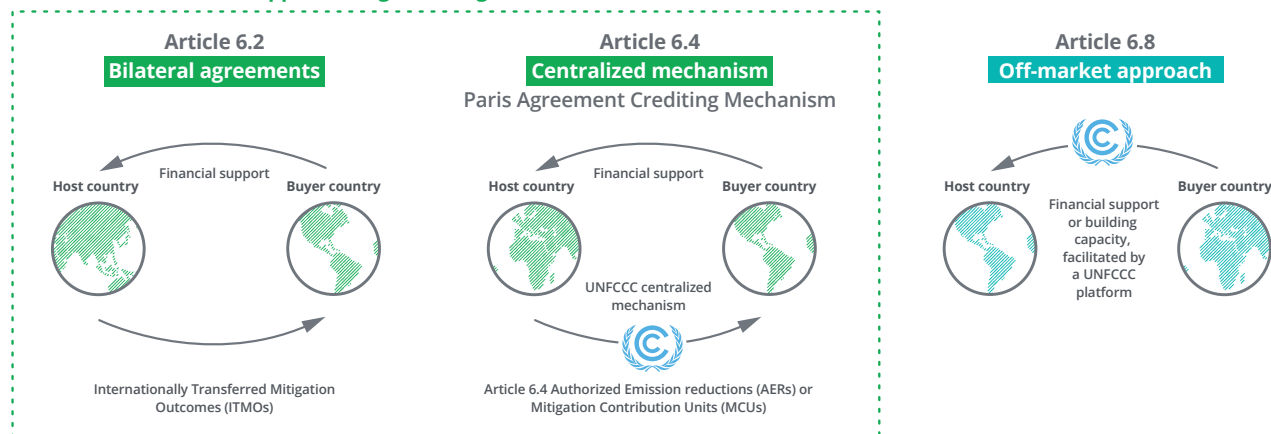
- **Article 6.2:** Article 6.2 enables a host country, which is on track to achieve its NDC objective, to exchange Article 6.2 units (known as ITMOs - *Internationally Transferred Mitigation Outcomes*, representing one ton of CO₂eq.) for investments and access to technologies not available through domestic resources. The purchasing country acquires these units to address any gaps in meeting its own climate goals.

- **Article 6.4:** Article 6.4 enables a host country to generate units (Article 6.4, *Authorized Emission Reductions or Mitigation Contribution Units* depending on usage, representing one ton of CO₂eq.) through a centralized UNFCCC mechanism (*Article 6.4 Supervisory Body*), which then transfers them to the purchasing country. This centralized entity oversees the applicable methodologies, project registration, registry management, etc.
- **Article 6.8:** Finally, countries can support (financially or technically) other countries without expecting carbon credits in return.

Only Articles 6.2 and 6.4 involve carbon credit trading.

Paris Agreement Article 6 components

Approaches generating carbon credits



Source: The Nature Conservancy

Among the general benefits associated with this mechanism, the following are of note:

- **The recognition by the United Nations of the value of creating tradable carbon units**, and the creation of a UN standard enabling the implementation of strict rules guaranteeing the quality of mitigation efforts and a robust trading system in the long term (e.g. traceability, protection of sellers/buyers).
- **The creation of an accounting framework** addressing **double counting** issues (when two entities claim the same reduction or absorption). Article 6.2 (and Article 6.4, as appropriate) requires the application of corresponding adjustments: when a credit is sold to a country or company internationally, the host country must subtract this unit from its own accounts, while the buyer adds the same units to its commitments.
- **The identification by host countries of innovations they wish to benefit from.** The more carbon credits a host country exports, the fewer mitigation measures it can claim in achieving its own NDC goal. This encourages host countries to keep low-cost mitigation measures for itself and propose less accessible and more costly mitigation measures for

financing by international buyers. As such, international buyers benefit from the host country's agreement and are guaranteed to contribute to the development of additional technologies.

Article 6.2 is applied today. Many countries have begun to sign bilateral agreements and participate in this new market as buyers and sellers. Switzerland, through its Kilk Foundation, was the first buyer country to contract an agreement of this type in 2024, in partnership with Thailand⁷⁰. To date, 97 bilateral agreements and initiatives have been signed between 63 parties⁷¹.

Conversely, the implementation of Article 6.4 has long been delayed by the failure of international negotiations. Finally adopted at COP29, the late operational implementation of Article 6.4 affects countries that do not have the political or financial means to establish bilateral agreements, and that wish to rely on a standardized mechanism.

To date, 104 countries have initiated the process of participating in this mechanism⁷².

"Market experts expect that, over time, voluntary carbon markets (VCMs) and Article 6 compliance carbon markets will merge. However, timelines and specifics are still uncertain."- World Economic Forum, November 2023⁷³.

Article 6 is not intended to regulate the voluntary carbon market. These two mechanisms currently exist in parallel, however, the rules established by Article 6 have indirectly influenced the development of the voluntary carbon market. As this framework is supported by the United Nations and recognized as relevant, it has already begun to influence various VCM participants:

- **Host countries** have the authority to determine whether the rules set out in Article 6 apply to carbon projects developed in their country. Some countries may restrict the types of eligible activities or require social and environmental guarantees. For example, Kenya requires that at least 25% of the benefits of a project accrue to local communities⁷⁴.

- **Governance bodies:** the ICVCM has affirmed its willingness to align its quality criteria with the Article 6 governance system⁷⁵. Moreover, the ICVCM and VMCI have initiated a debate (still ongoing) on the need for private organizations to prioritize the purchase of carbon credits with corresponding adjustments, even where this is not required by countries.
 - **Certification standards** such as the Gold Standard and Verra have launched several projects to facilitate aligning carbon projects with Article 6 rules.
- Article 6 is pioneering and may encourage Voluntary Carbon Market participants to align with its recommendations. In the short term, companies will therefore be influenced by this mechanism in two ways: 1) the application of new rules or standards derived from or inspired by this mechanism, 2) their voluntary choice to benefit from the advantages deriving from their use (quality, additionality, state guarantees, etc.).

Key points to remember

- The Paris Agreement creates a market mechanism for the international exchange of carbon units. In recent years, the operational implementation of its two counterparts - Articles 6.2 and 6.4 - has accelerated. Article 6.2, which allows bilateral exchanges between States, has been operational for several years, while negotiations on a centralized mechanism based on Article 6.4 were concluded at COP29.
- While experts expect the Voluntary Carbon Market to eventually merge with Article 6 markets, the timeline remains unknown. Article 6 does not aim to regulate the Voluntary Carbon Market and its influence on VCM is currently mainly indirect.
- Given the relevance of its design and international influence, Article 6 of the Paris Agreement encourages VCM participants to align with its requirements. Companies buying credits will be impacted by rules inspired by this mechanism, or will themselves choose to take advantage of the benefits of this international mechanism.

10. Only technology and service companies buy carbon credits.

FALSE

In recent years, a limited number of tertiary sector companies have come to attention by announcing major trade agreements involving emerging carbon removal technologies (durable CDRs).

Examples include:

- **Microsoft**, which has partnered with:
 - AtmosClear (BECCS, 6.75 million tons, April 2025)⁷⁶;
 - Stockholm Exergi (BECCS, 5.08 million tons, May 2024 and 2025)⁷⁷;
 - Ørsted (BECCS, 3.67 million tons, May 2023 and 2024)⁷⁸;
 - Exomad Green (Biochar, 1.24 million tons, May 2025)⁷⁹;
 - 1PointFive (DAC, 500,000 tons, July 2024)⁸⁰;
 - Heirloom (DAC, 315,000 tons⁸¹, September 2023);
 - and many more.
- **Amazon**, which purchased 250,000 tons of carbon credits issued in respect of the 1PointFive DAC project in 2023⁸⁶.
- **Shopify**, which diversifies its purchases from multiple buyers including Lithos (Enhanced Weathering, 154,000 tons, December 2023), Vaulted Deep (Biomass Direct Storage, 12,000 tons, May 2024), Charm Industrial (bio-oil sequestration, 112,000 tons, May 2023) and 1PointFive (DAC, 10,000 tons, May 2021)^{87 88 89}.
- Some of these players also choose to participate in buyer consortia, such as Frontier, NextGen or Symbiosis. Frontier, founded by Stripe, Alphabet, Shopify, Meta and McKinsey, has committed, for example, to investing more than \$1 billion in permanent carbon removal between 2022 and 2030.

Microsoft currently accounts for around 75% of durable CDR historical purchase volumes⁸².

- **Google**, which purchased durable CDRs from:
 - Holocene (DAC, 100,000 tons, September 2024)⁸³;
 - Varaha (Biochar, 100,000 tons, January 2025)⁸⁴;
 - and Charm Industrial (Bio-oil sequestration, 100,000 tons, January 2025)⁸⁵.

Key figure

In 2024, the top five buyers of carbon credits were companies in the oil and gas, transportation and health sectors.

These investments attract considerable media attention, particularly due to the very high cost of purchasing carbon credits generated by these emerging removal technologies (\$100 - \$1,400). However, the media attention concentrated on these “non-standard” purchases obscures certain realities of the Voluntary Carbon Market.

Purchases of carbon credits generated by removal technologies are not representative of credits retired by companies.

Durable CDR purchase contracts represent advance purchases (forward purchases or offtake agreements) of tons of CO₂ not yet sequestered, scheduled for delivery over a long period of time (up to over 15 years⁹⁰). The associated technologies are currently in the pilot stage and only biochar projects are currently able to deliver significant quantities (86% of durable CDR deliveries today)⁹¹.

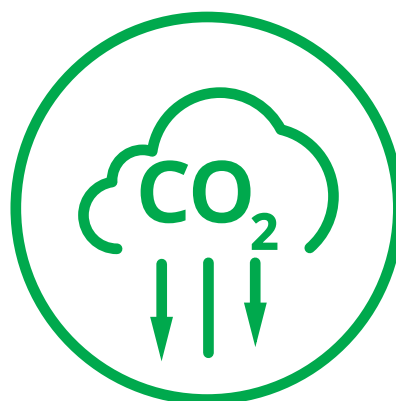
The tons purchased are therefore not “usable” today by companies, which must wait for the delivery of these carbon credits before removing them from the registries and claiming their impact. These companies seek above all to secure supplies allowing them to meet their long-term climate commitments, and – for the most pioneering – to contribute to sending a strong signal to accelerate the development of durable carbon removal technologies by guaranteeing demand for these technologies.

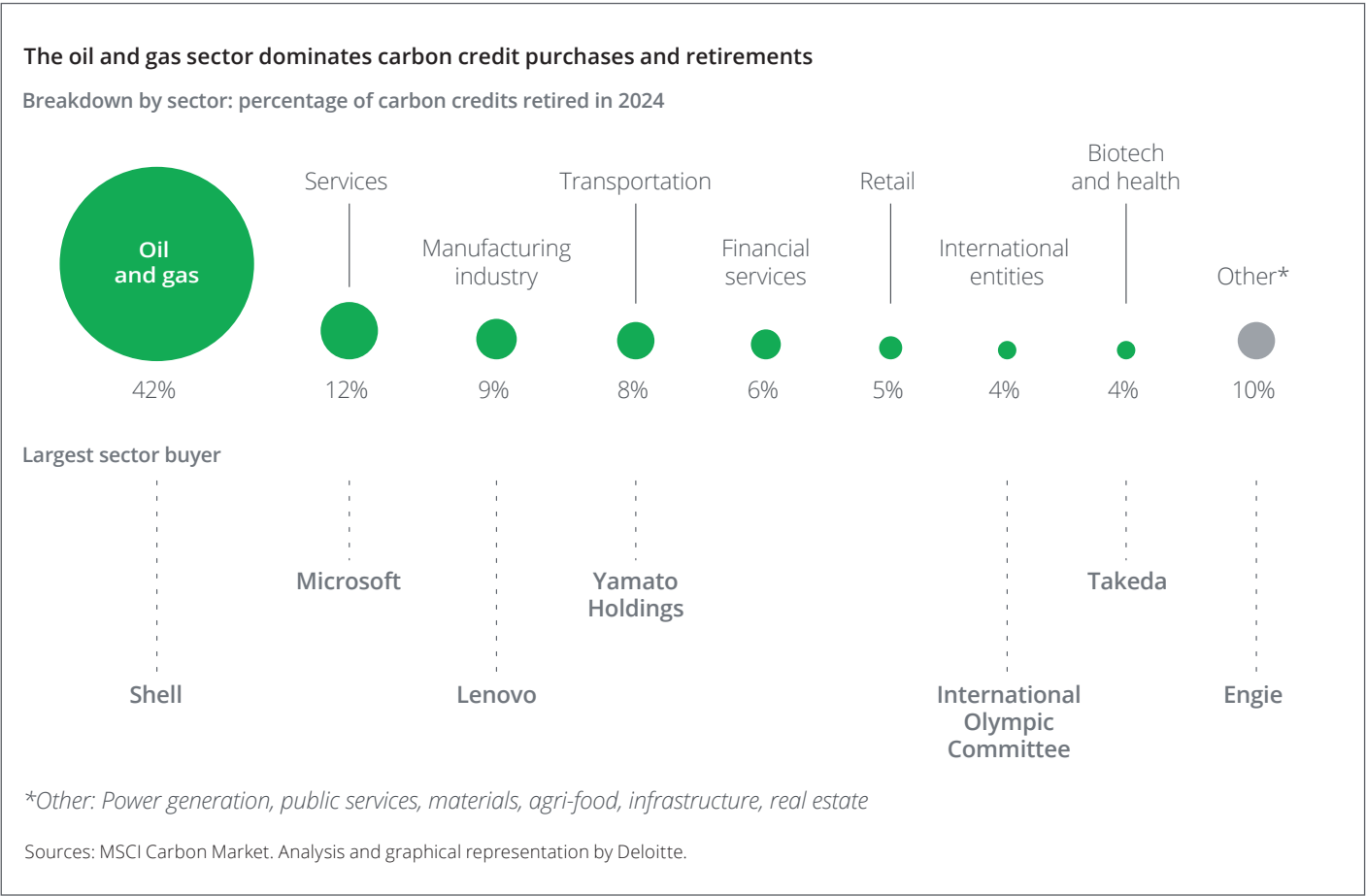
In 2024, 318,600 credits were issued for durable CDR technologies⁹², representing 0.1% of total carbon credits issued that year. Despite the significant media coverage they receive, these contracts are therefore not representative of carbon credits issued, purchased and retired in the Voluntary Carbon Market.

Buyers of “conventional” carbon credits are from a range of backgrounds.

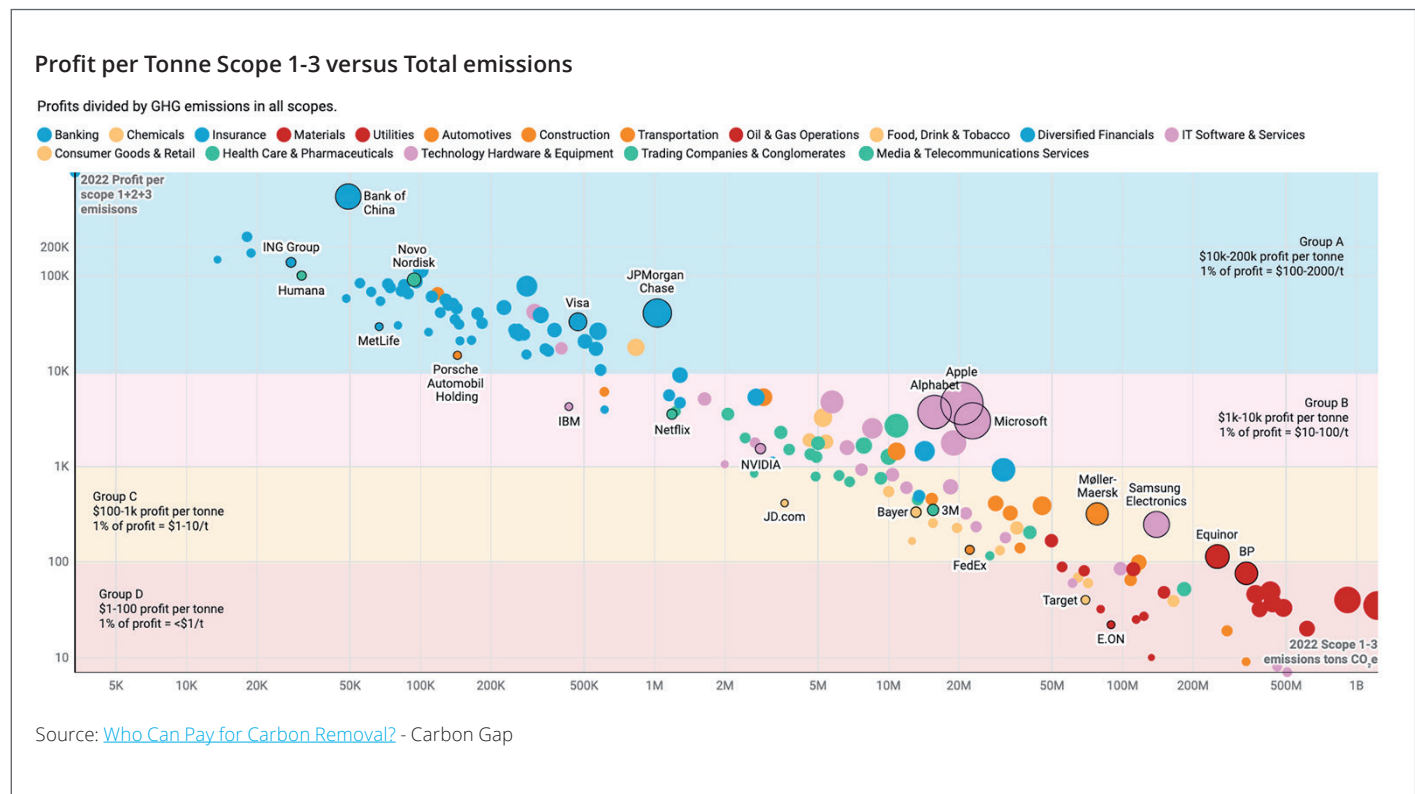
Fewer than 80 companies are buying durable CDRs⁹³ worldwide, as few can afford to help launch the durable CDR market by identifying promising technologies and paying very high prices.

Momentum is very different in the conventional Voluntary Carbon Market, which brings together thousands of companies with a range of motivations and climate commitments. In 2023, more than 1,200 companies entered the VCM for the first time. Services sector companies do not stand out: they account for 12% of credits purchased, behind oil and gas companies (42%) and slightly ahead of manufacturing (9%) and transportation (8%)⁹⁴. In addition, a further 45% of carbon credits are withdrawn anonymously⁹⁵, suggesting an even greater diversity of buyers than can be inferred from current reporting.





Each company must choose the most appropriate carbon contribution strategy. A Carbon Gap study conducted in 2023 compared company profits to GHG emissions, identifying 4 company profiles (profits of \$100/ton, \$100-1k/ton, \$1k-10k/ton, over \$10,000/ton).



This study highlights disparities in the ability of companies to pay the cost of their emissions and finance climate solutions, including carbon removal. Sectors such as banking, finance and insurance generate low emissions and high profits. Conversely, in the sample studied, about 90% of emissions come from companies that generate only 25% of profits.

Low-emission industries are most able to purchase carbon credits covering a large portion of their emissions, and to finance the development of costly climate solutions such as durable CDRs. High-emission companies have more opportunities to reduce their own emissions and therefore need to prioritize transforming their business and reducing their dependence on fossil fuels. On the other hand, they have lower investment capacities per ton emitted.

However, all companies are encouraged to purchase carbon credits to the extent they can, to contribute both to achieving global carbon net-Zero and the rapid and large-scale development of affordable carbon removal solutions. To help choose the most appropriate form of commitment, companies can refer in particular to the SBTi's work on climate action beyond the value chain (Beyond Value Chain Mitigation). This guide allows companies to choose between different forms of commitment in line with their capabilities and goals.

Key points to remember

- Investments by some pioneering companies in emblematic projects developing carbon removal technologies (durable CDR) currently attract considerable attention. These purchase contracts help send a strong signal to accelerate the development of durable CDRs by guaranteeing initial demand for these technologies.
- While durable CDRs concentrate significant investment, they remain today a very small share of credits retired from the registries (0.1% of volumes in 2024).
- The rest of the voluntary carbon market welcomes a wider range of buyers: in 2024, 42% of buyers were from the oil and gas sector, 12% from the services sector and 9% from the manufacturing sector.
- The investment capacity of companies and the decarbonization solutions available to them differ. They must choose the carbon contribution strategy that is most appropriate for them. Work by SBTi on beyond value chain mitigation offers specific help in defining this strategy.



11. In 2050, the Voluntary Carbon Market will be worth as much as the offshore wind market today (\$50 billion).

UNCERTAIN

What is the size of the voluntary carbon market today? Many confuse compliance carbon markets or tariffs – that is, carbon taxes and publicly controlled Emission Trading Schemes – with the Voluntary Carbon Market – which allows additional voluntary climate engagement by private and public entities. In its State and Trends of Carbon Pricing 2025 report, the World Bank estimated that compliance carbon markets/tariffs generated over \$100 billion in revenue in 2024⁹⁶. By comparison, the value of the voluntary carbon market was estimated at between \$535 million and \$1.4 billion the same year^{97 98}. The voluntary carbon market is therefore 100 times smaller in value than compliance carbon markets, and ultimately represents a minimal share of this type of instrument.

However, the VCM is expected to grow significantly in the coming decades. The VCM steadily increased in value between 2017 and 2022, sometimes doubling in value year on year⁹⁹. In 2021, the VCM reached a record high of \$2.1 billion¹⁰⁰,

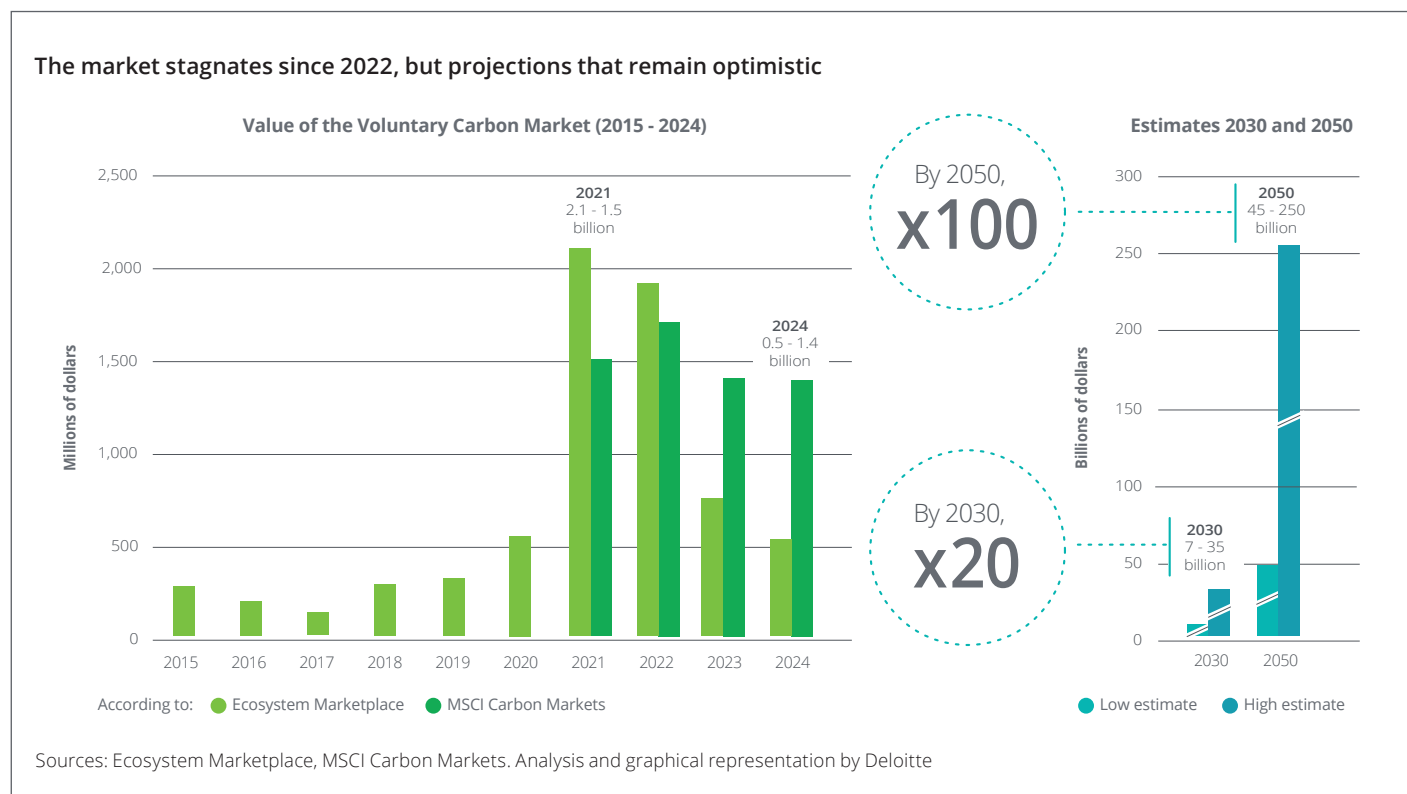
with projections estimating a market value of between \$5 and \$50 billion^{101 102} in 2030 and up to \$190 billion for the most optimistic¹⁰³.

2023 presented a more contrasted picture of future market trends. Several media scandals calling into question the integrity of certain carbon projects and the robustness of their certification methodologies broke out at the beginning of the year. These revelations generated a sharp fall in carbon credit prices linked to the contested approaches. Following this drop in value (-61% year on year), the VCM stabilized in 2024, suggesting a similar value in 2025.

Key figure

In 2021, the voluntary carbon market reached a record high of \$2.1 billion. In 2023, it lost 61% of its value.





Since this period of disruption, analysts have been more prudent in estimating the future value of the VCM. The high expectations of stakeholders in a still relatively small market suggest fluctuating growth patterns, driven by overhaul/restructuring cycles accelerating the strengthening of the market.

However, estimates continue to predict strong market growth in the medium and long term. In particular, the arguments presented in these projections remain true today:

- growth in demand driven by increasing voluntary and regulatory commitments as well as clarification of use cases and associated claims;
- stricter requirements regarding the quality of carbon credits used, including the overhaul of methodologies that are now less “generous” in carbon credits and the phasing out of low-cost projects (for example, renewable energy projects);
- the development of innovative carbon removal technologies, and wider use of (more costly) resulting carbon credits.

Entities wishing to estimate the future market value or price of carbon credits can adopt some best practices:

- use several information sources, varying market assumptions according to different scenarios;
- perform estimates for price intervals rather than strict values;
- use this information prudently, being aware of its limitations.

Key points to remember

- Unlike regulatory carbon instruments (ETEs and carbon taxes) that generated over \$100 billion in revenue in 2024, the record value of the voluntary carbon market (2021) was \$2.1 billion. This market (VCM) is therefore relatively moderate in size.
- Up to 2022, projections forecast exponential growth of the VCM, with a value of between \$5 and \$50 billion by 2030.
- Media scandals involving the VCM in 2023 presented a more contrasting picture of future market trends, with a 61% drop in value compared to 2022. However, the arguments put forward to justify strong growth in this market in the medium and long term remain true today.
- Accurately estimating the rate of growth of this market and carbon credit price trends is a complex exercise that requires prudence and flexibility.

The high expectations of stakeholders in a still relatively small market suggest fluctuating growth patterns, driven by overhaul/restructuring cycles accelerating the strengthening of the market. However, estimates continue to predict strong market growth in the medium and long term.



Conclusion

Contrary to popular belief, carbon credits have an **established place in corporate climate strategy**. Well defined and integrated into long-term **planning**, they allow companies to meet their climate goals and actively contribute to **global decarbonization**.

Although this is a complex and moving market, the claims associated with **the use of carbon credits** and expectations regarding their **quality** are gradually being clarified through the work of several climate standards. These voluntary clarification efforts will be accompanied in the future by **regulatory obligations** that will strengthen market integrity and reputation.

The **carbon credit market is set to grow** in the coming years to meet growing demand from companies that have made voluntary commitments. These increasingly numerous commitments, toward Net-Zero or for carbon contribution actions, require companies to understand and seize the issues in order to meet the expectations of their stakeholders.

Each company must choose the most appropriate carbon contribution strategy. The wise use of carbon credits, in addition to internal **efforts to reduce GHG emissions**, will strengthen their commitments and their active role in the fight against climate change. However, considerable **management** efforts will be required **over time** to comply with the most recent **best practices**.

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