Patch

Rebalance the planet

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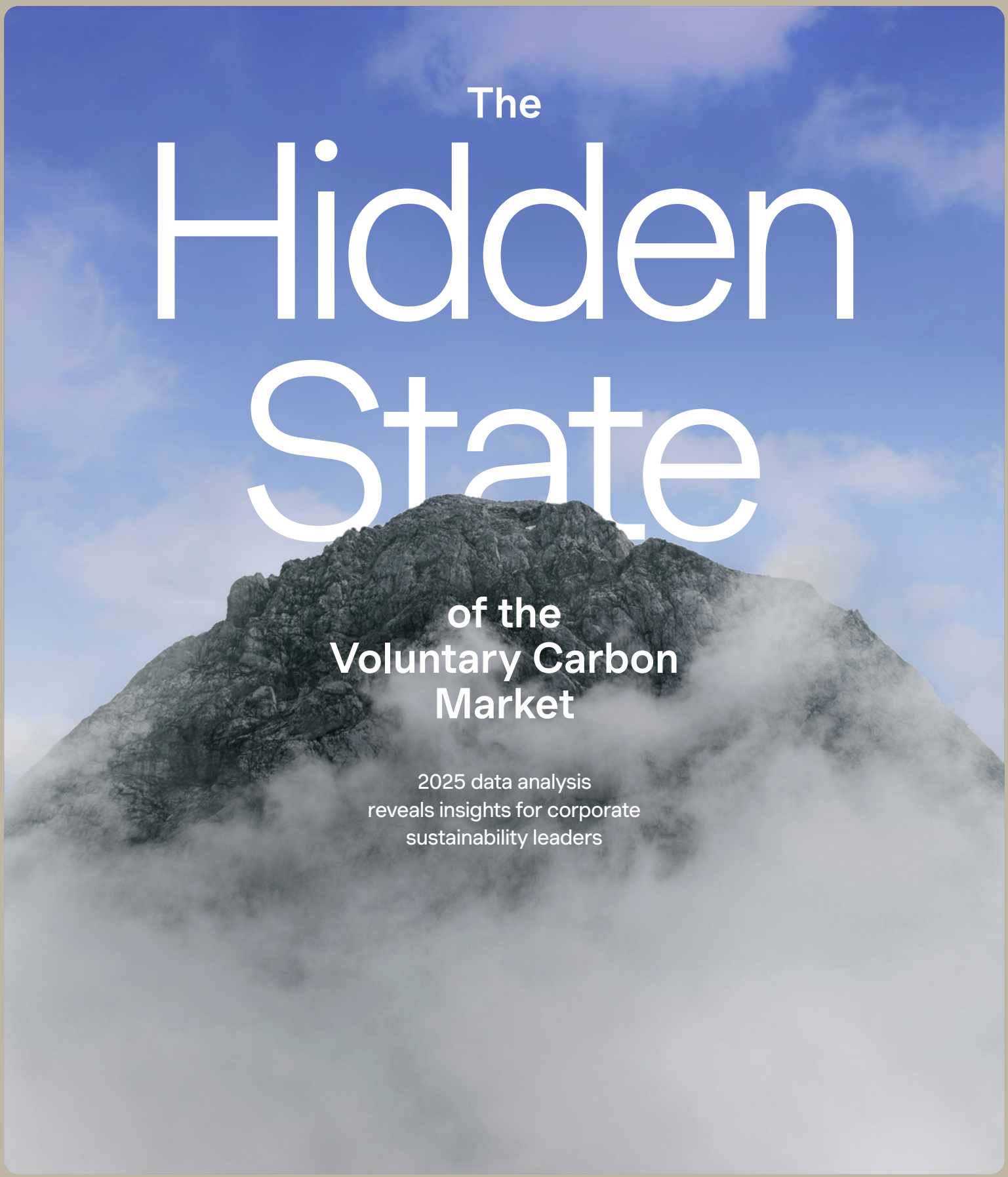


The Hidden State

of the Voluntary Carbon Market

2025 data analysis reveals insights for corporate sustainability leaders

Summary

More companies are retiring fewer credits as a result of the move from compensation to contribution, which is driving a bifurcation of carbon credit quality* tiers.

In the high-quality tier, demand is further segmented by project type, ratings, and other factors.

This is leading to a supply crunch among certain carbon credits.

Key data points

- 6% increase in companies retiring credits vs. 17% decrease in total retired credits
- Biochar, Reforestation, and Afforestation are the most-requested project types
- 79% of buyers want a BBB or higher BeZero rating; 83% want a Tier 2 or higher Sylvera rating.
- 44% of buyers want a removals-only portfolio

*Credit integrity refers to the confidence third-party experts have that a credit represents true and legitimate avoidance or removal that would not have occurred without the project activity.

Credit quality refers to the general attributes of the credit that make it more or less desirable from a buyer's perspective, including project type, ratings, co-benefits, and other characteristics

Introduction

Are carbon markets at a crossroads?

January 20, 2025
The White House withdraws the U.S. from the Paris Climate Agreement for the second time

January 21, 2025
The White House pauses disbursement of funds under the Inflation Reduction Act and the Infrastructure Investment and Jobs Act

March 12, 2025
The EPA cancels $20 billion in climate grants under the Greenhouse Gas Reduction Fund

April 8, 2025
The White House instructs the Attorney General to block states from implementing climate laws (including California's cap-and-trade system)

April 11, 2025
The White House outlines a budget plan to dismantle climate science and research by gutting NOAA and forcing it to help boost U.S. fossil fuel production and implementing deep cuts to NASA's science programs

Three months into the new U.S. presidential administration, the world feels more chaotic than it's ever been. From federal spending cuts to tariffs to energy policy — it's clear that we're in the midst of a generational shift: a complete break in all the trendlines.

The approach to the climate crisis specifically represents one of the most dramatic breaks. The whiplash between the policies of the previous administration and the current one has impacted climate action in the U.S. — but will also have major ramifications for companies all over the world.

Surely this must mean major changes for carbon markets. Are they at a crossroads?

Since election day, the question of how this administration will impact the worldwide voluntary carbon market (VCM) has been one of the most-asked by our friends, family, journalists, and customers — both in the U.S. and Europe. We wanted to answer that question with data.

It's impossible to predict the future — especially when the present moment is as fluid as ever. But we now have six months' worth of data since election day that can tell us how both the demand and supply sides of the VCM have reacted so far.

It turns out that despite the wider ramifications of the current administration for the world and for the climate, voluntary carbon market trends from the last year have mostly continued apace since November, reflecting longer-term behaviors among carbon credit buyers. These trends don't appear to be strongly affected by the political changes we've seen, but they're no less meaningful for corporate sustainability leaders.

The key trend our data has shown is that the market has bifurcated into two broad tiers of quality. For a long time, forecasters have predicted this, and now we can demonstrate that it's here — and along with it the supply crunch. But that supply crunch is not evenly distributed among project types or across credit ratings.

This report will dig into the data to understand how global carbon buyers are responding to both seismic political shifts and incentives that have shifted over longer periods of time. We'll offer our analysis and guidance for corporate sustainability leaders looking to engage impactfully with carbon markets.

01

Are companies pulling back from voluntary carbon markets?

What would you expect to see from companies in response to major changes in climate policy? One hypothesis is that they'd begin pulling back from voluntary climate action. This is because major changes within a company's value chain tend to happen on much larger time scales than three or even six months. Additionally, you'd expect to see immediate responses from any company directly benefitting from the specific funds that have been delayed.

The voluntary carbon market has some qualities that make it a perfect "canary in the coal mine" for corporate climate action.

1. Carbon credits are transferred digitally. Buyers can (in theory) transact and retire them instantly, which means the market can be highly responsive to changes in demand on shorter time scales.
2. So far, the new administration hasn't enacted or changed policies that target carbon credit buyers, and the largest impacts on the supply side could lag for some time.
3. The VCM is crucially "voluntary," and market actors can disengage almost at will.
4. The VCM is global. U.S. climate policy doesn't just impact U.S.-based companies, so changes in the market will reflect changes in behavior from a global sample of companies.

If companies around the world are deciding to draw back from — or double down on — climate action, we should be seeing it in the VCM first. Are we?

Our data tells a different story:

- **Corporate VCM participation grows, while overall credit retirement contracts**
- **As a result of the move from neutralization to compensation *and* contribution**
- **Which is driving a bifurcation of carbon credit quality tiers**

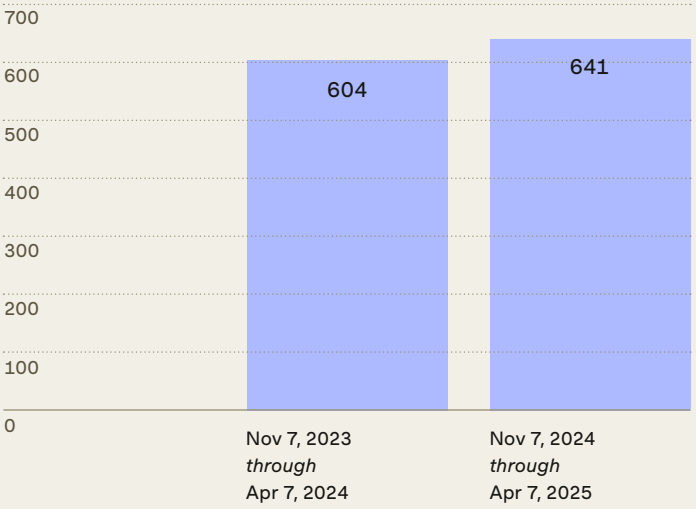
Corporate VCM participation grows, while overall credit retirement contracts

There was a **6% increase** in the number of unique companies retiring carbon credits during the post-election period (641 companies) compared to the same period a year prior.

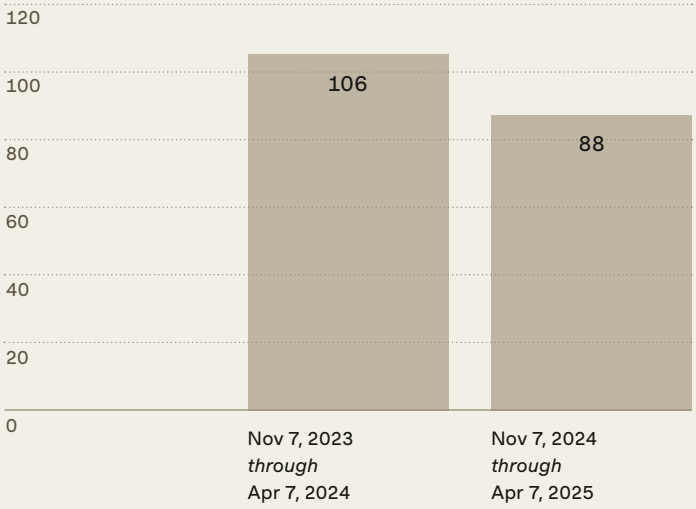
However, the **total volume of carbon credits retired dropped by 17%** between the same periods. Companies retired **smaller volumes on average** in the post-election period.

It appears companies haven't lost their appetite for this market — but what explains the drop in overall credit retirements?

Number of companies retiring carbon credits



Total volume of carbon credits retired (millions)



Source: Historical carbon credit retirements on ACR, CAR, Gold Standard, Puro, and Verra registries

… As a result of the move from neutralization to compensation *and* contribution

In the past few years, there's been tremendous scrutiny around corporate climate claims — with terms like "carbon neutral" and "offsetting" suffering reputational damage. Some of this stems from reporting that criticized the integrity of the REDD+ methodology (a U.N. protocol for monetizing the preservation of forest land), which contributed to a softening in demand for the overall market and for nature-based emissions avoidance credits like REDD+ in particular. By the time scientists could demonstrate the effectiveness of the REDD+ approach, the damage had been done.[1]

Meanwhile, the idea of "offsetting" — or rather buying carbon credits to cancel out emissions as part of a carbon neutral claim — was growing more unpopular among corporate sustainability leaders. Above all, there is a growing acceptance that carbon offsetting does not absolve the act of emitting pollution.

On top of that, in the E.U. specifically, the Green Claims Directive has taken aim at carbon neutrality claims (particularly at the product level) driven purely by offsetting behavior and other sustainability claims that the European Commission deems to be greenwashing. The end result is that many companies have moved away from compensation schemes like carbon neutrality in favor of contribution approaches.

Key problems with carbon neutrality claims

- Lack of a single standard creates confusion and misinformation around carbon neutrality, sometimes leading to greenwashing accusations
- Some carbon neutral claims do not require third-party certification; companies may try to "self-certify" or claim neutrality without certification
- Pursuing and achieving carbon neutrality doesn't inherently incentivize emissions reduction
- These claims often result in a "race-to-the-bottom" in terms of purchasing the cheapest carbon credits instead of incentivizing the most impactful climate solutions

1 Mitchard, Edward and Carstairs, Harry and Cosenza, Riccardo and Saatchi, Sassan S and Funk, Jason and Nieto Quintano, Paula and Brade, Thom and McNicol, Iain and Meir, Patrick and Collins, Murray and Nowak, Eric, Serious Errors Impair an Assessment of Forest Carbon Projects: A Rebuttal Of West Et Al. (2023) (December 12, 2023). *Swiss Finance Institute Research Paper No. 23-120.*

But what is a contribution approach?

Contribution in this context means supporting climate action beyond a company's value chain — including through mechanisms like carbon credits — without making any corresponding claims about company emissions or making purchases commensurate with those emissions.

Contribution climate claims:

Change Climate – The Climate Label

VCMI Carbon Integrity Claims

In practice, a contribution approach tends to incentivize fewer overall credits being purchased, but at a higher price point — and crucially, a higher level of quality.

Imagine you had a climate budget of $2,000,000 for the year, and a company CO_2 footprint of 100,000 tonnes. Your average price-per-tonne to compensate for those emissions would be $20. That precludes you from meaningfully supporting more cutting-edge projects with higher prices-per-tonne (such as carbon mineralization) that desperately need forward investment to reach commercial scale by the 2030s.

What if you weren't beholden to compensating for 100 percent of those 100,000 tonnes? You could instead allocate your budget towards maximum climate impact. Any project would be available to you — albeit at lower volumes.

As more companies move toward contribution and hybrid compensation approaches and away from pure neutralization schemes, you'd expect to see lower retirement volumes without a corresponding reduction in overall carbon market participation — which is exactly what our data shows.

Sophie Graham
Chief Sustainability Officer, IFS

This quote is from our webinar, "How to maximize the impact of your climate claims with Sophie Graham, CSO at IFS."

Watch the webinar to hear more about IFS' sustainability strategy.

"One of the targets that had been set in 2021 was around achieving carbon neutrality in 2025. I came in looking at that target and started to define what it would take to achieve it.

It was a starting point. It spurred the conversation that I had with Patch around how we can go about achieving this with integrity. How do we go into the voluntary carbon market and start looking at the different levers we can pull internally to decarbonize in parallel with investing in high-quality carbon removals?

It was the right target for the company at the time. But targets are iterative, and it's also right to revisit them and consider what the best ways of driving decarbonization and having impact across the business really are.

A couple of years ago, we started working on a Science-Based Target for emissions reduction, which is widely considered a gold standard. Coalescing the business around that Science-Based Target then naturally took us away from the preexisting carbon neutrality target. After a lot of reflection and analysis from our key stakeholders, what was right for us was to focus on that Science-Based Target as our key corporate climate goal.

And that didn't mean stepping away from any of the action that we'd been doing. We'd built a strong decarbonization strategy. We'd identified sustainability business partners within functions such as procurement and marketing and HR. So we had the governance and the strategy then in place, and it was really in a very different position than we were back in 2021."

… Which is driving a bifurcation of carbon credit quality tiers

As demand grows for higher-quality credits with higher prices, unless carbon budgets increase commensurately, we expect to see lower volumes at higher price points. And there are incentives beyond sentiment that drive this trend.

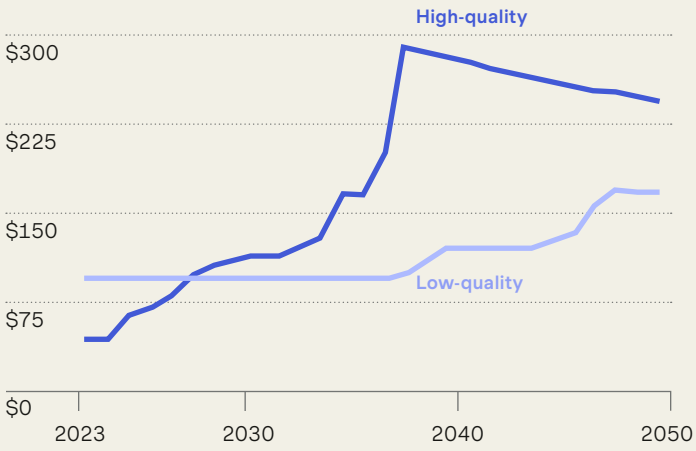
Disclosure laws around the use of carbon credits in corporate climate claims are in effect in various jurisdictions in the U.S. and Europe. Increased disclosure requirements means increased public scrutiny over the types and quality of credits purchased. And the market is responding by increasingly separating into two tiers of carbon credit quality — a trend referred to as bifurcation — but it's happening much sooner than forecasted.[2]

First, there's a higher priced tier consisting of nature-based projects with strong integrity credentials, engineered solutions for carbon removal, and several other types of highly rated projects including destruction of high-global warming potential greenhouse gasses. Then there's the rest, including a large number of older renewable energy credits at lower price points.

We'll dig into market trends by project type later.

Key takeaway
Companies are not disengaging from carbon markets. A significant cohort of buyers appear to be refocusing on smaller volumes of higher-quality carbon credits. That behavior is most likely due to long-term realignments within the VCM rather than a response to the U.S. presidential election.

Carbon credit prices: Bifurcation scenario
(USD/tonne)



Source: Bloomberg NEF

2 "Long-term carbon offsets outlook 2023 | Insights." 2023. *Bloomberg*.

02

Are companies pulling back from climate commitments?

Even though the number of companies retiring credits grew slightly post-election compared to the previous period, it's still possible that fewer companies entered the market than would have otherwise. Perhaps the election results deterred even more ambitious action from even more companies.

One leading indicator for that could be companies refraining from setting climate targets, since it's often the very first step a company takes toward sustainability.

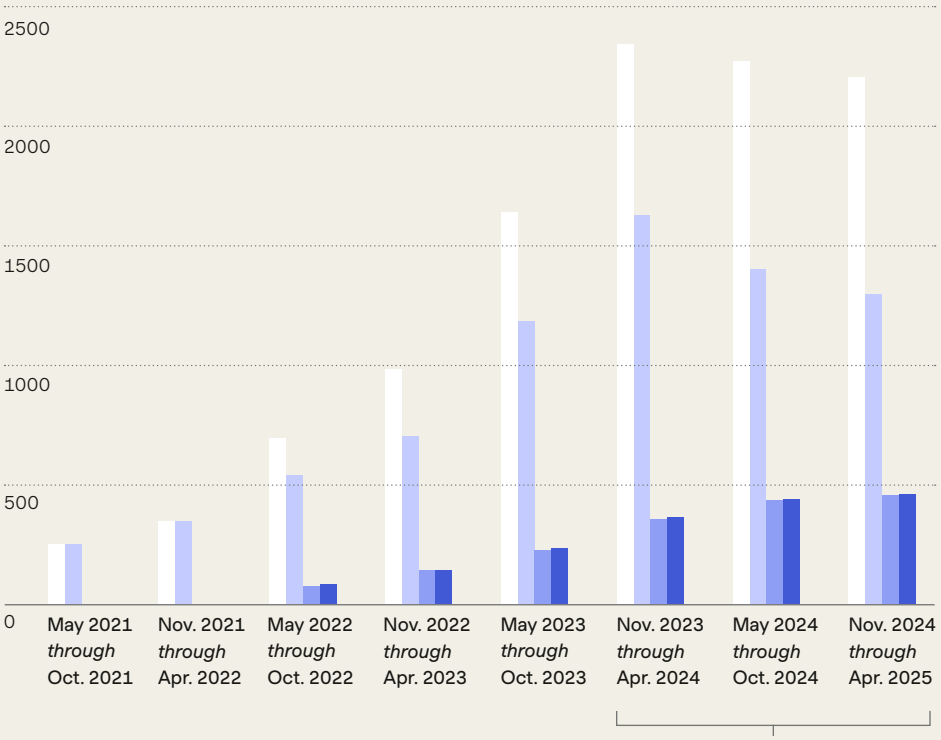
Let's look at the trends in the Science Based Targets initiative's (SBTi) target-setting activity. SBTi is the largest decarbonization target-setting organization, with more than 10,000 companies that have targets or commitments.

SBTi target setting trends by type

SBTi's Corporate Net-Zero Standard offers a progression of targets that function as a pathway for companies to credibly reduce emissions and eventually achieve net-zero.

- **Total SBTi targets**
- **Near-term targets:** Roughly 50% emissions reduction before 2030.
- **Long-term targets:** Typically over 90% emissions reduction before 2050.
- **Net-zero targets:** After achieving long-term targets, companies must use permanent carbon removal and storage to neutralize the remaining 10% of residual emissions.

Note: The Corporate Net-Zero Standard is currently undergoing a major revision.

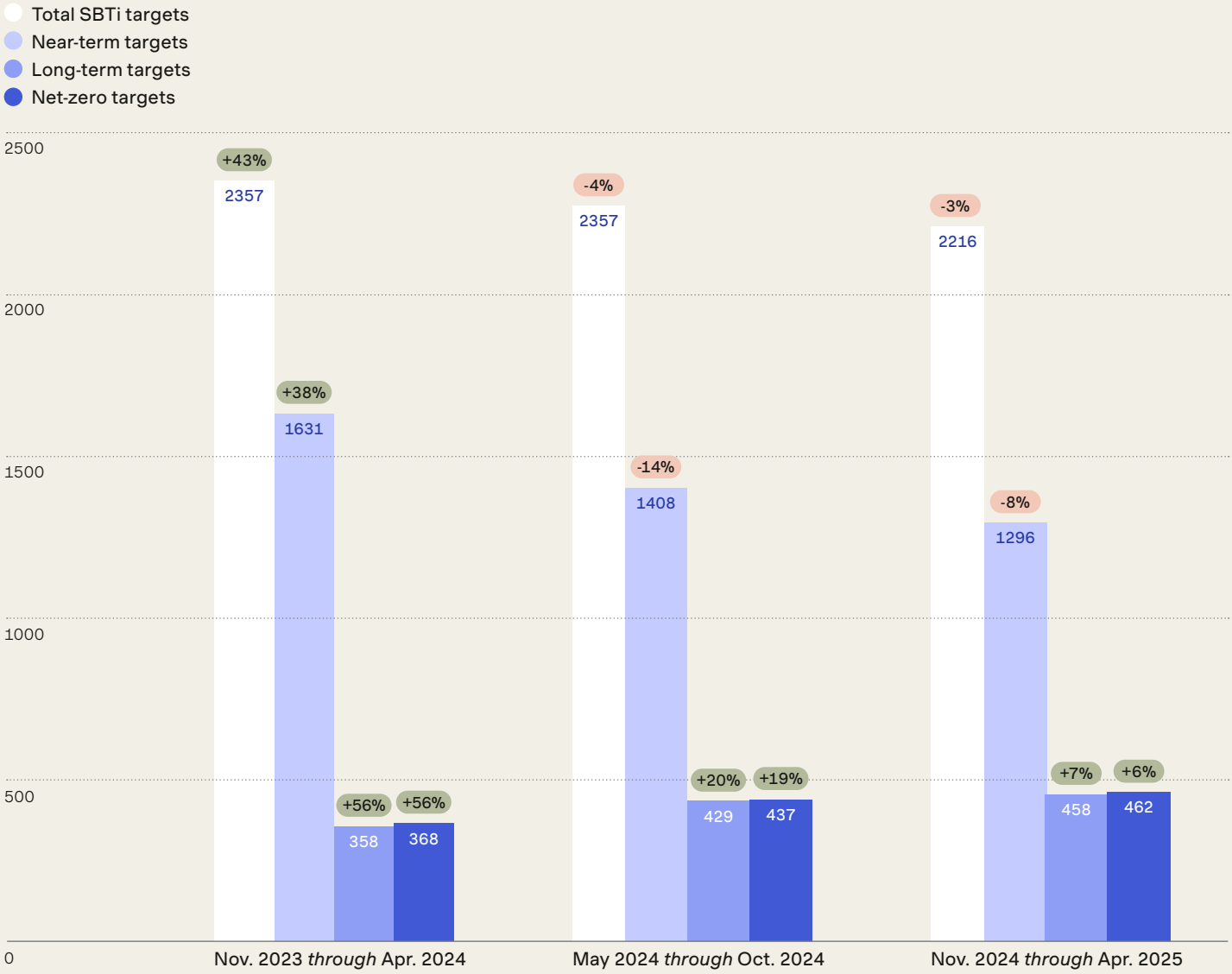


Source: SBTi's Target Dashboard, which lists companies and financial institutions that have set science-based targets, or have committed to developing targets

When we look at the six-month period immediately following the U.S. elections versus the six-month pre-election period, total SBTi target setting is very slightly down (-3%). But that's hiding a surprising trend: **near-term target setting (-8%) is responsible for all the overall decrease, masking an increase in long-term targets (+7%) and net-zero targets (+6%)** — despite ongoing uncertainty around the evolution of SBTi's Corporate Net Zero Standard.

The trend is even starker when comparing the six months post-election with the same period a year prior, where **a 21% decline in new near-term targets set counterbalances 25%+ growth in both new long-term and net-zero targets set**. This suggests a longer-term trend of slowing growth in new near-term target-setting, rather than a reaction to the U.S. presidential election. However, the **fast growth in long-term (28%) and Net-Zero (26%) target setting suggests that corporate climate leaders are actually expanding their climate ambition** despite U.S. policy changes.

SBTi target setting trends by type, year over year (last 18 months)

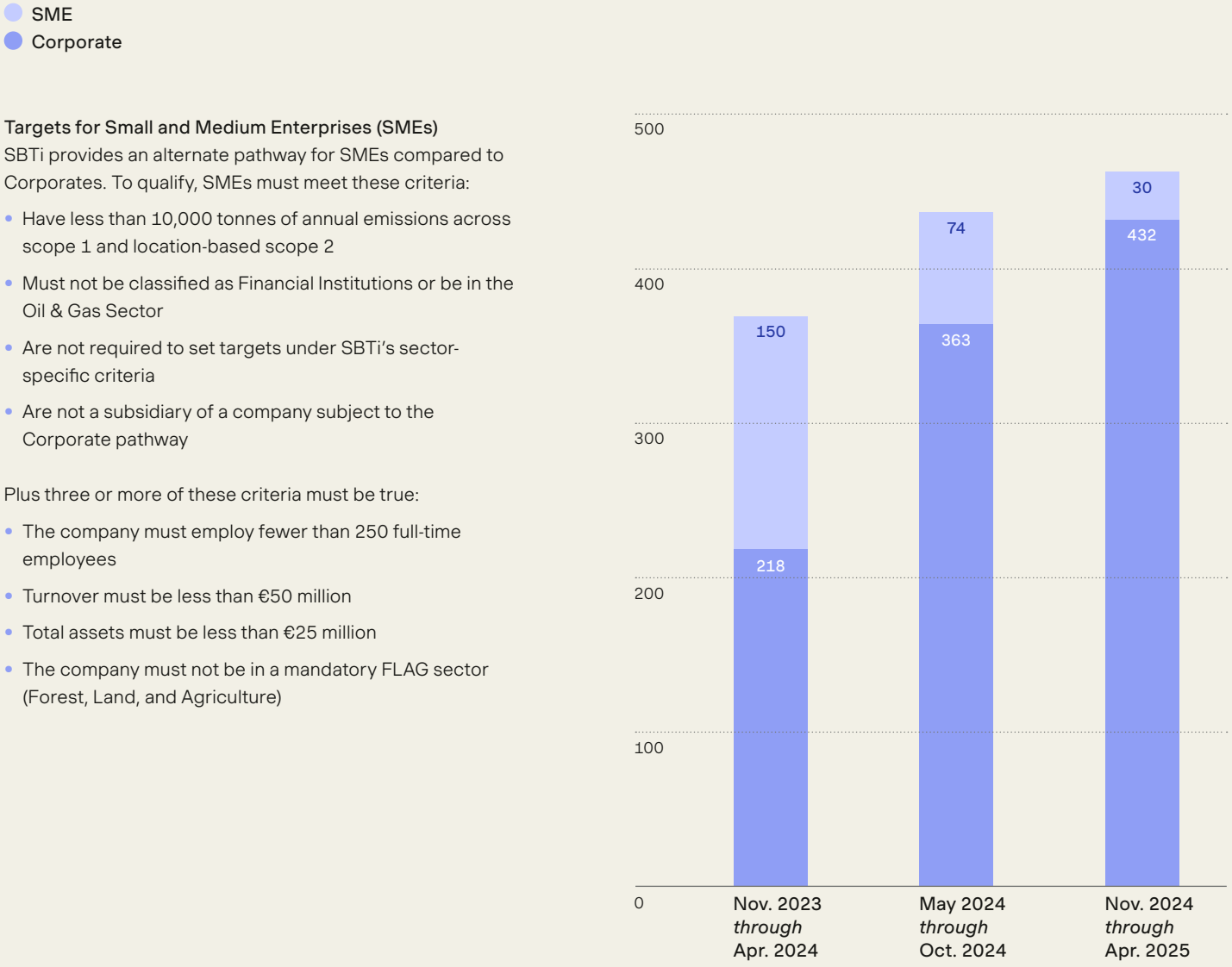


Source: SBTi's Target Dashboard, which lists companies and financial institutions that have set science-based targets, or have committed to developing targets

And when we look at new net-zero targets broken out by SME (small and medium enterprises) versus Corporate cohorts, it's clear the trendlines differ by company size. **Corporate net-zero target setting increased after the U.S. election by 19%** — a clear counterpoint to the popular sentiment that large companies are backing away from ambitious climate action. These companies could theoretically be exposed to greater risk of so-called "ESG backlash" due to their higher profiles.

On the other hand, **SME net-zero target setting has dropped dramatically (-59%) since election day**. This could suggest some kind of acute response, however the preceding six-month period also showed a steep decline in new SME net-zero targets (-51%).

New SBTi net-zero targets set, SMEs vs. Corporates



Targets for Small and Medium Enterprises (SMEs)
SBTi provides an alternate pathway for SMEs compared to Corporates. To qualify, SMEs must meet these criteria:

- Have less than 10,000 tonnes of annual emissions across scope 1 and location-based scope 2
- Must not be classified as Financial Institutions or be in the Oil & Gas Sector
- Are not required to set targets under SBTi's sector-specific criteria
- Are not a subsidiary of a company subject to the Corporate pathway

Plus three or more of these criteria must be true:

- The company must employ fewer than 250 full-time employees
- Turnover must be less than €50 million
- Total assets must be less than €25 million
- The company must not be in a mandatory FLAG sector (Forest, Land, and Agriculture)

Source: SBTi's Target Dashboard, which lists companies and financial institutions that have set science-based targets, or have committed to developing targets

There's no way to establish causation without some sort of insight into the minds of the leaders making these calls. But there's reason to think that they've got other data feeding into their decisions with regards to SBTi.

In March of 2024, SBTi published the final results of a campaign they ran with the goal of rallying a large number of companies to set ambitious decarbonization targets.[3]

It's clear that scope 3 emissions are a huge problem for companies — and for SBTi. In March of this year, the organization released its initial consultation draft of Version 2.0 of the Corporate Net Zero Standard. While it did provide a pathway for companies to use carbon dioxide removal in the context of scope 1 emissions and strengthened its approach to scope 3 emissions by focusing on relevant sources rather than percentage coverage, it didn't offer companies a path to addressing them through carbon markets — a major point of contention for many sustainability leaders.[4]

We've called for SBTi to act with more urgency to give companies guidance on how carbon credits can be used to address scope 3 emissions.[5] It's clear this question is a major barrier to more companies setting science-based targets — and likely much more so than any election results.

SBTi business ambition for 1.5°C campaign final report

1,045

1,045 companies joined the campaign

284

284 of those companies have had their commitments removed

53.6%

53.6% of surveyed companies said scope 3 emissions are "too much of a challenge"

3 Science Based Targets. (2024, March 7). Business Ambition For 1.5°C Campaign. *Science Based Targets Initiative.*

4 Hargreaves, Lucy. 2025. "SBTi Draft Corporate Net-Zero Standard 2.0: What's new and why it matters." *Patch.*

5 Spellacy, Brennan. 2024. "The need for speed and decisive guidance on corporate use of high-integrity carbon credits." *Patch.*

Greenhushing

Surveys indicate that greenhushing has remained stable from 2022 to 2025

23%

According to the 2022 South Pole Net Zero and Beyond Report, 23% of responding companies are greenhushing

25%

According to the 2025 Weinreb Group Chief Sustainability Officer Report, 25% of responding companies are greenhushing

Another theory of corporate climate action in 2025 is that companies are "doing more but saying less."[6] In other words, they're maintaining or increasing their climate change mitigation efforts, but taking care to draw less attention to what they're doing as a way to shield themselves from potential backlash from the new administration.

It's a trend known as "greenhushing," and one problem with the theory of "doing more but saying less" is that the trend goes back much further than the past six months. South Pole's 2022 Net Zero report first popularized the term, finding that 23% of organizations with net zero targets were choosing not to publicize their work.[7]

Three years and one president later, a new survey from the Weinreb Group found that even in the midst of documented anti-ESG backlash, 90% of respondents are still committed to sustainability.[8]

The problem?

25% of them choosing to soften external comms on their ESG action — in other words, greenhushing.

In 2022, it's possible that corporate sustainability leaders engaged in softening or silencing their external communications were seeking to avoid criticism from other activists within the climate movement. In 2025, it could be a response to backlash from an entirely different set of critics.

Either way, the proportion and — critically — the action remains roughly the same.

Greenhushing is a huge impediment to global climate action, since the scale of the problem demands a truly massive response from many stakeholders, including corporations. One of the most important ways companies can make a bigger impact is to talk about what they're doing loudly and proudly to inspire others to follow suit. By committing to meet your company's sustainability goals and speaking out about your processes and successes, you can help educate your market and challenge the broader business community to increase their efforts to keep pace. It gives implicit permission for others to take action and to talk about what they're doing too.

If we hide our climate action either by choice or indecision, we miss a golden opportunity to lead and to learn from others' successes and failures.

Key takeaway
While overall trendlines remain positive in the direction of more corporate climate action, it's clear that a certain minority of companies are pulling back from both public climate commitments and external communications around their action. However, factors like SBTi's guidance and fear of greenwashing accusations are more likely than political shifts to be causing these trends.

6 Spencer, Ben. 2025. "The rise of greenhushing: embrace ESG, but don't talk about it." *The Times.*

7 Kähkönen, Nadia, Elliot Bourgeault, and Isabel Hagbrink. 2022. "Net Zero and Beyond." *South Pole.*

8 Weinreb, Ellen. 2025. "2025 Weinreb Group Chief Sustainability Officer Report." *Weinreb Group.*

03

A deep dive into the hidden supply crunch in carbon markets

So far we've been looking at the underlying drivers of the changes our data shows in the global market — an increasing buyer demand for quality rather than only (or even mostly) changes in the political landscape. But beneath that demand for quality, there's even more nuance to unpack.

Let's look more closely at what buyers are looking for — and what they're ultimately purchasing.

In 2024, climate projects issued about 305 million tonnes of carbon credits across the 12 major registries.[9] Meanwhile, we've already established there were roughly 88 million tonnes of credits retired in the post-U.S. election period. How could there possibly be a supply crunch with such a mismatch between issued inventory and retired inventory?

On the other hand, Patch regularly sources highly competitive credits from projects with huge demand. Prices can spike during these bidding wars, and companies often miss out on the inventory they had at the top of their short lists. We know the market is "lumpy" — in other words, the supply crunch exists, but only for a certain part of the market.

Let's look at the data.

305 million

In 2024, climate projects issued about 305 million tonnes of carbon credits

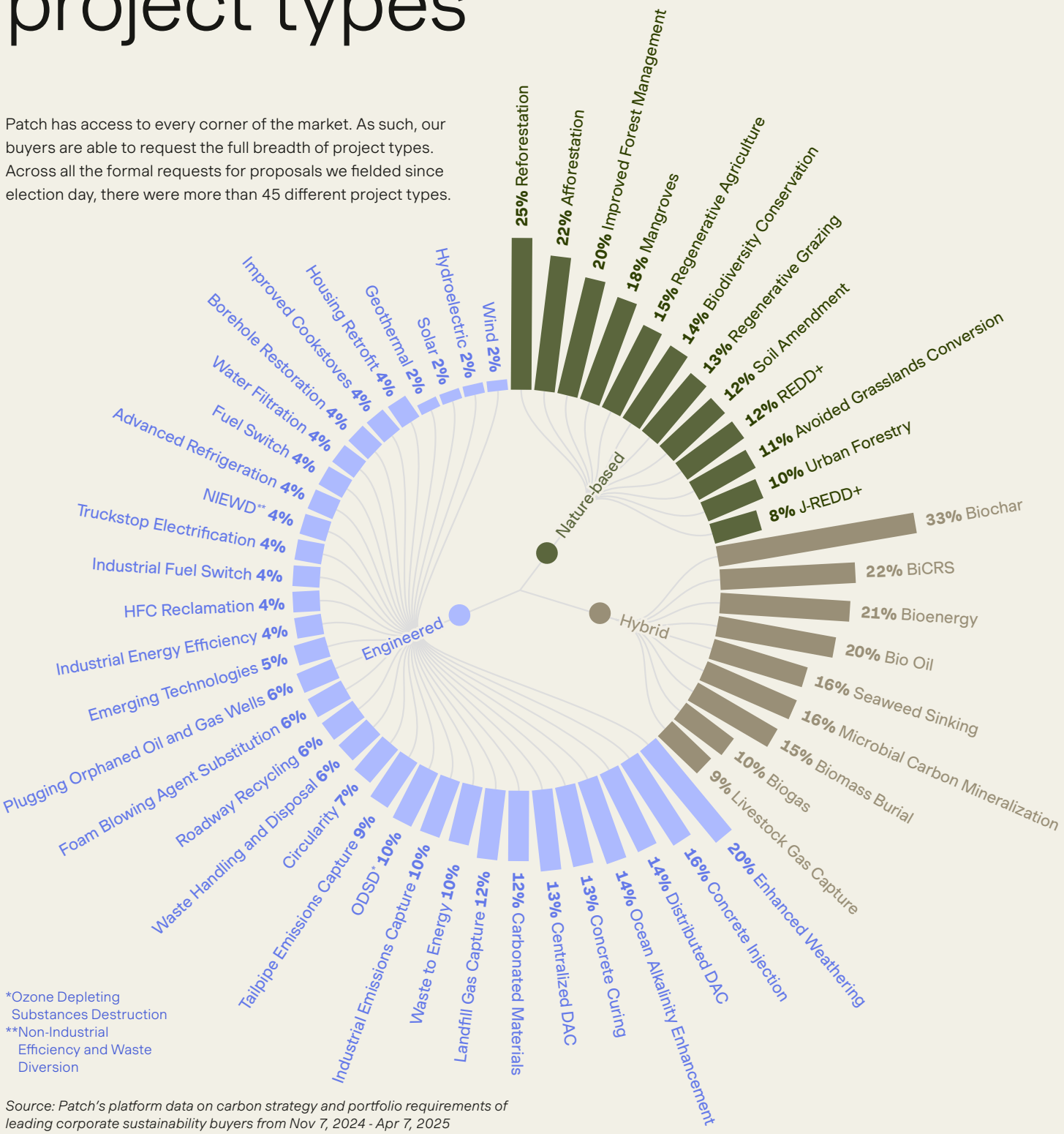
88 million

In the post-U.S. election period, roughly 88 million tonnes of credits were retired

9 Turner, Guy, Jamie Saunders, Utkarsh Akhouri, and Jamie Lambert. 2025. "Frozen Carbon Credit Market May Thaw as 2030 Gets Closer." *MSCI.*

The most requested project types

Patch has access to every corner of the market. As such, our buyers are able to request the full breadth of project types. Across all the formal requests for proposals we fielded since election day, there were more than 45 different project types.



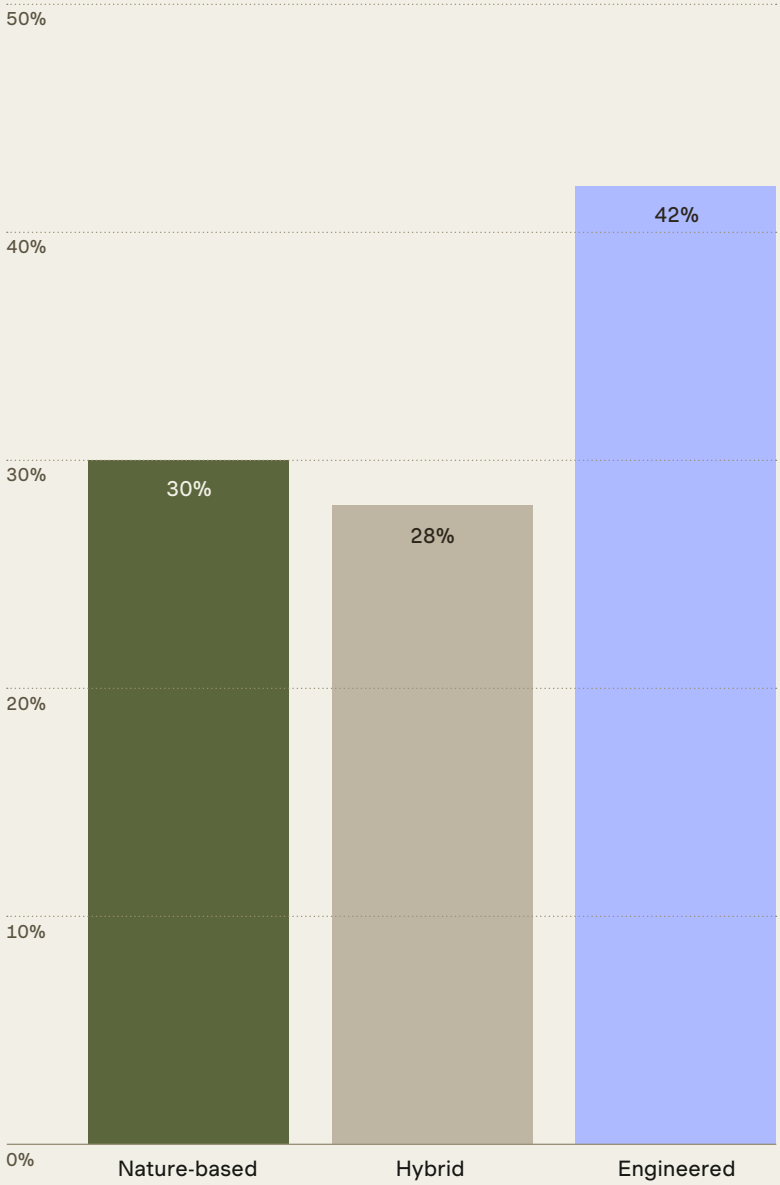
*Ozone Depleting Substances Destruction
**Non-Industrial Efficiency and Waste Diversion

Source: Patch's platform data on carbon strategy and portfolio requirements of leading corporate sustainability buyers from Nov 7, 2024 - Apr 7, 2025

While some of the differences are slim, by grouping project types into categories, we can get a more insightful picture of what buyers are looking for.

Most requested technology categories

- **Nature-based solutions (30%)**
  Carbon credit projects that leverage natural ecosystems such as forests, wetlands, or grasslands to sequester carbon through conservation, restoration, or improved management practices.
- **Hybrid solutions (28%)**
  Carbon credit projects that combine both natural and technological approaches to maximize carbon sequestration potential, such as biochar, biomass burial, or microbial carbon mineralization.
- **Engineered solutions (42%)**
  Carbon credit projects that use technological interventions like direct air capture, landfill gas capture, or enhanced weathering to remove or avoid CO_2 emissions.



Source: Patch's platform data on carbon strategy and portfolio requirements of leading corporate sustainability buyers from Nov 7, 2024 - Apr 7, 2025

The most requested mechanisms

Carbon credit demand cross-referenced by technology category and mechanism

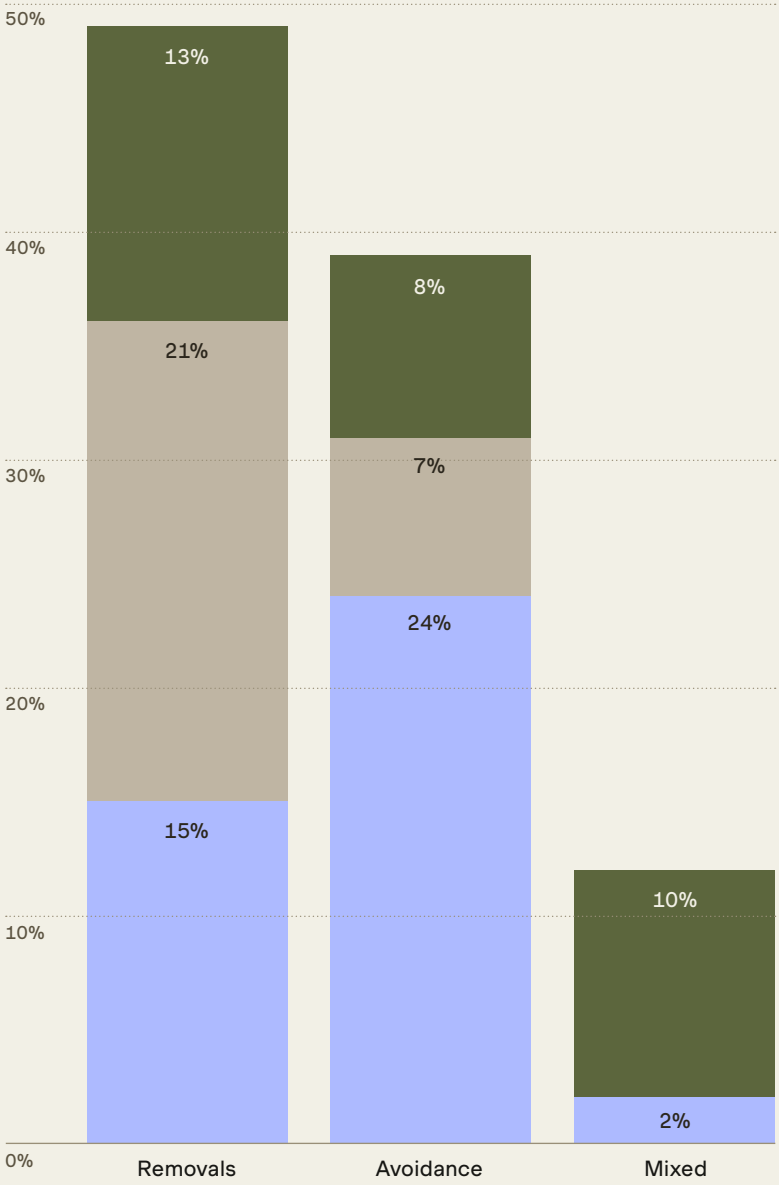
Purchasing a diverse portfolio of different projects and project types is science-aligned best practice in carbon markets. Not only does it hedge against the risk inherent to any single project, it channels funds toward a variety of projects — all of which could play a role in helping mitigate climate change. Building a portfolio also allows you to blend differently priced credits to achieve a blended price-per-tonne that can fit your specific budget.

There are two macro-level categories for carbon credit methodologies: avoidance and removal.

For avoidance credits, the goal is to prevent or "avoid" carbon that would otherwise be emitted without the project. For removal-type credits, the project must remove CO_2 from the atmosphere.

Hybrid projects include a mixture of carbon avoidance and removal. For example, a regenerative agriculture project may avoid CO_2 that would have otherwise been emitted through conventional farming practices and also remove CO_2 by sequestering it in the soil.

In their portfolios, buyers can request a mix of avoidance and removal credits, or all of either type.



Source: Patch's platform data on carbon strategy and portfolio requirements of leading corporate sustainability buyers from Nov 7, 2024 - Apr 7, 2025

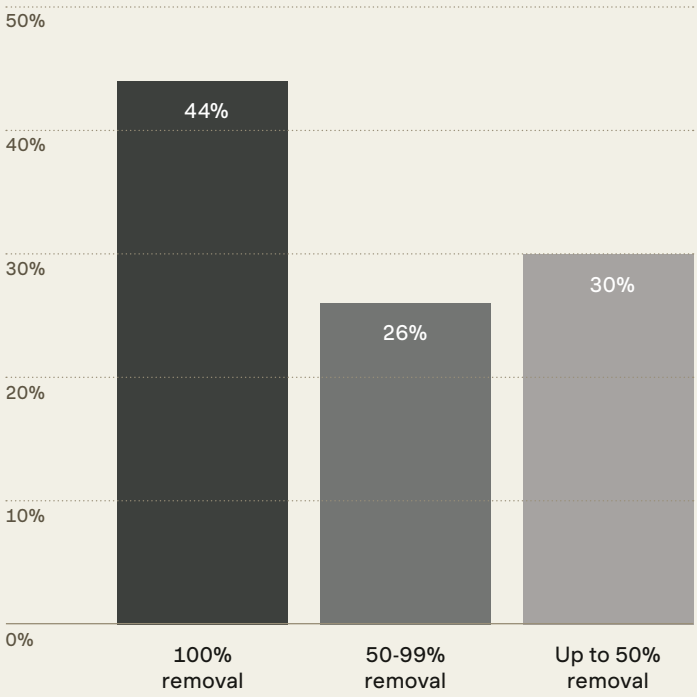
Of the top 20 most requested project types, 14 are removal-only projects, four are mixed avoidance + removal, and only two are avoidance. And when we look at portfolio mix overall, every request includes at least some removal. 44% request *only* removals. Some climate claims have strict requirements around carbon dioxide removal (CDR). This is increasingly driving the market toward these project types.

Seven of the top 20 most requested projects are purely nature-based, while another seven are hybrid. Today's buyers are valuing these mechanisms for their maturity and pricing, but also for their co-benefits — like biodiversity protection, Sustainable Development Goals, and others.

Nature-based removals, specifically — especially ARR (afforestation, reforestation, and revegetation) — have been in high demand. We've seen tranches of ARR credits go in and out of stock within weeks. In some cases, motivated buyers have missed out on fast-moving projects while their RFP and diligence processes played out.

Many times, those buyers will turn to IFM (improved forest management) projects as a similar nature-based removal option. However, biochar credits remain the most in-demand project type over the last six months.

Requested portfolio blends



Source: Patch's platform data on carbon strategy and portfolio requirements of leading corporate sustainability buyers from Nov 7, 2024 - Apr 7, 2025

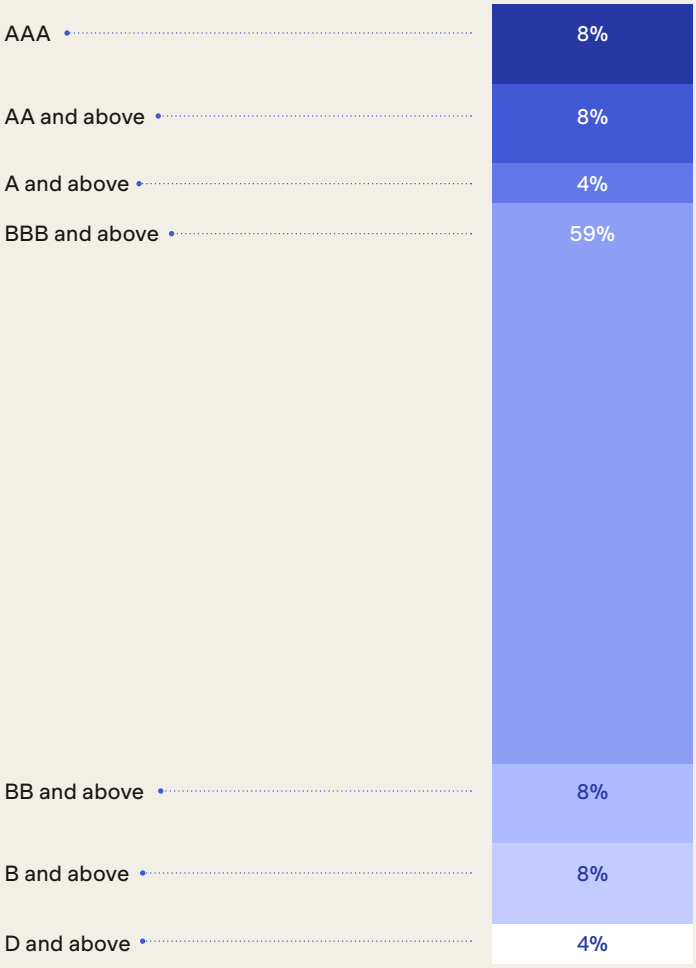
The most requested ratings

In addition to specific project types, buyers are increasingly using third-party ratings as a threshold for credit quality. Two of the most prominent ratings they request are BeZero and Sylvera. Overwhelmingly, buyers want to be sure any credits they consider pass a high bar for integrity. It's more evidence that the market bifurcation around credit quality is already here.

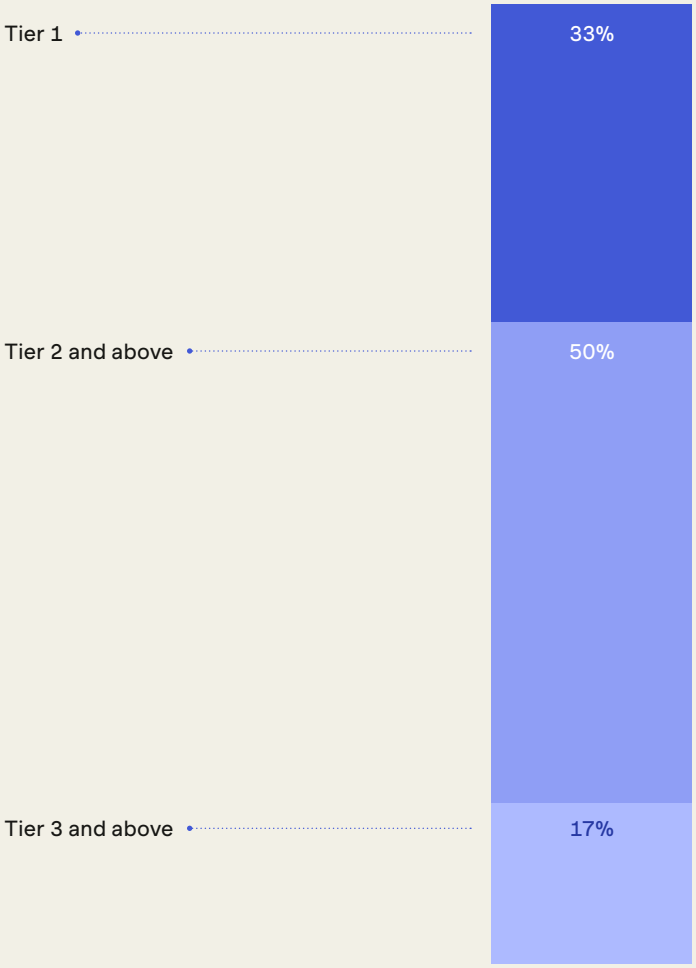
A vast majority of companies (**79%**) are looking to purchase credits from projects with a BBB BeZero rating or higher, while a similarly large majority of companies (**83%**) are looking to purchase credits from projects with a Tier 2 and above Sylvera rating.

BeZero ratings requests

Note: Percentages have been rounded and may not equal 100

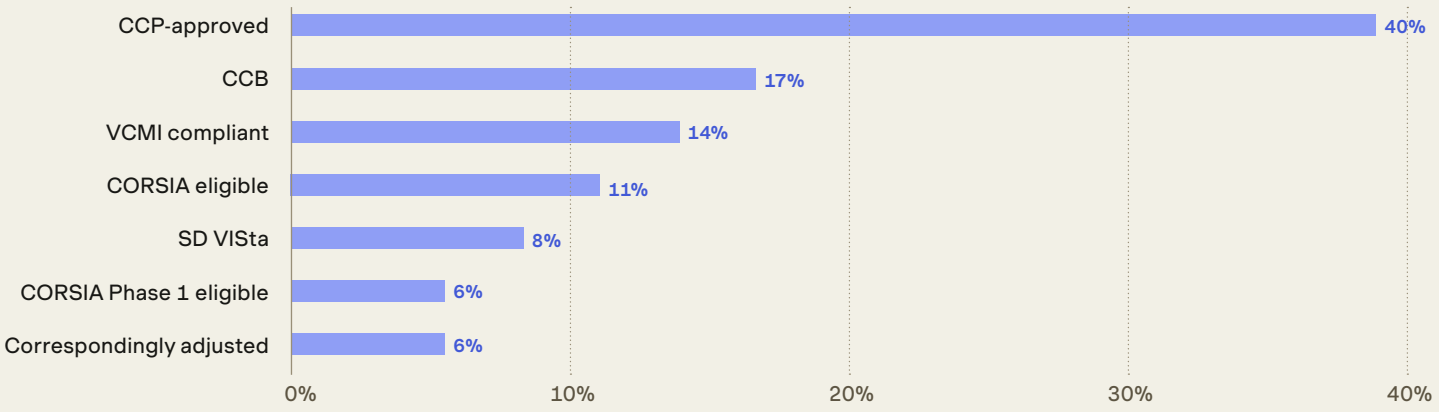


Sylvera ratings requests



Source: Patch's platform data on carbon strategy and portfolio requirements of leading corporate sustainability buyers from Nov 7, 2024 - Apr 7, 2025

Standards requests



Source: Patch's platform data on carbon strategy and portfolio requirements of leading corporate sustainability buyers from Nov 7, 2024 - Apr 7, 2025

Note: Percentages have been rounded and may not equal 100

Secondarily, almost 40% of buyers are looking for Core Carbon Principles (CCP) approved credits, which are issued under programs and methodologies independently assessed by the Integrity Council for the Voluntary Carbon Market (ICVCM). CCP-approved methodologies are designed to ensure high-integrity standards and meet rigorous criteria for additionality, accurate quantification of emissions reductions, permanence, and positive social and environmental impacts.

In financial markets, ratings and third-party assessments are critical proxies for the risk levels assumed by the buyer. But in carbon markets, the risk to the buyer is also a risk to the planet: the risk that the promised climate impact doesn't occur. And given the tremendous levels of scrutiny around climate action (both pre- and post-election), there's also a substantial reputational risk surrounding projects that fail to deliver or are perceived as low-quality.

These compounding risks are the main factors driving the move among voluntary carbon market participants to prioritize highly-rated carbon credits.

It's important to note, however, that ratings are just one proxy for quality. They can be limited by a lack of breadth — many types of project methodologies aren't covered by the major ratings companies — and by diligence focused narrowly on integrity, rather than holistic financial, operational, technological, and beyond-carbon diligence.

What buyers actually purchased

> *A note on the data:*
> *In this section, the data we're tracking is the* ***number of requests for any given project type and mechanism of project*** *and comparing it to the* ***number of projects sold of that type and mechanism*** *in order to compare them meaningfully.*

Looking closely at what buyers are requesting is the best means we have to understand the demand side of the equation. By aggregating buyer specifications and RFPs, we can see what buyers are looking for before they encounter the realities of the market. But it's still an incomplete picture, since credit scarcity and pricing are also part of the demand equation — not every company is able to ultimately purchase exactly what's in their specification.

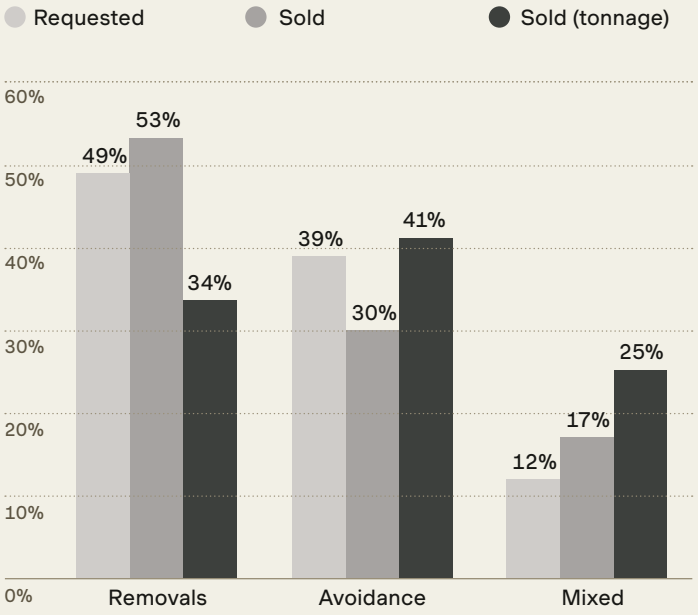
Now we'll take a look at what's actually been sold to better understand the hidden supply crunch many buyers are facing.

Even though avoidance projects have been scrutinized by the media lately, they are showing up a lot in proposals. While there are many removal projects in the world, the amount of tonnes issued by those projects — especially engineered projects —is typically not as abundant in supply as avoidance-type. That means more companies have to consider avoidance projects to meet their climate goals.

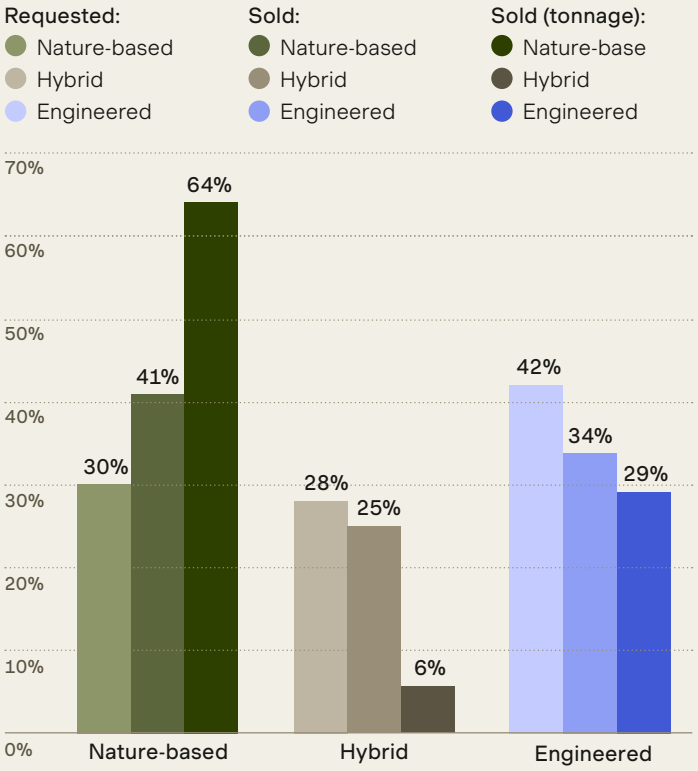
Removals projects represent 49% of requests. The number of available removals projects allows those requests to be met **(53% of projects sold are removals)**, however they represent 34% of overall tonnes sold.

Meanwhile, nature-based approaches (including removal, avoidance, and mixed mechanisms) are requested 30% of the time and account for 64% of tonnes sold.

Percentage of requests, projects sold, and tonnes sold by mechanism (avoidance vs. removal)



Percentage of requests, projects sold, and tonnes sold by tech type category

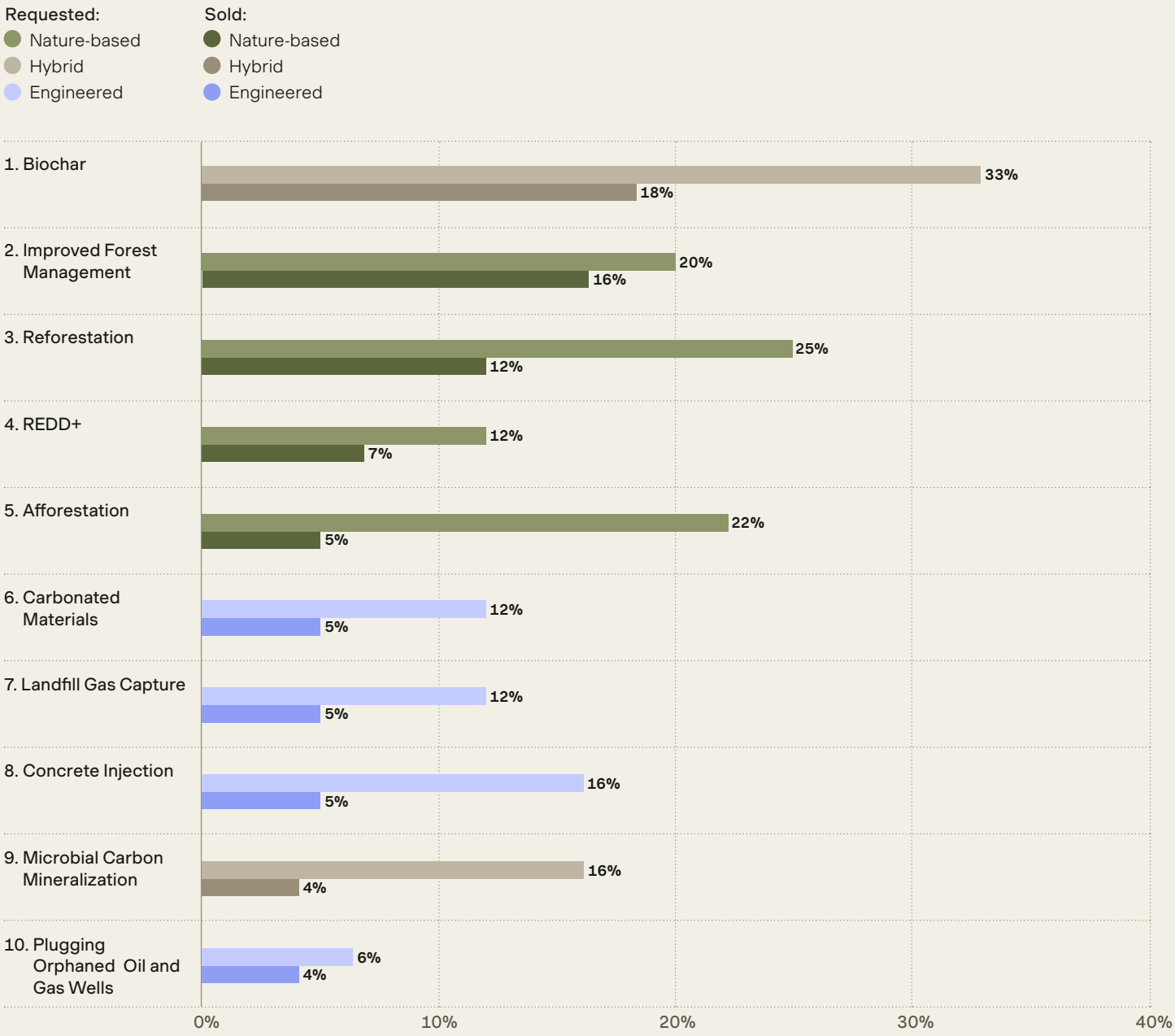


Source: Patch's platform data on carbon credit purchases executed between Jan 1, 2024 – Apr 1, 2025

Reforestation and afforestation projects offer an insightful look inside the hidden supply crunch. They're the second and third most requested project types at 25% and 22% respectively. However, these types account for only 12% and 5% of projects sold.

The supply availability of these credits — especially factoring in buyers' ratings and pricing requirements — is ultimately preventing buyers from accessing them. And oftentimes forward supply is most likely locked up into offtakes. But there's another type of nature-based removal project that hasn't been experiencing the same supply constraints: improved forest management (IFM).

Top 10 most frequently sold project types



Source: Patch's platform data on carbon credit purchases executed between Jan 1, 2024 – Apr 1, 2025

IFM credits represent 20% of requested projects, and 16% of sold projects. Some buyers looking for highly-rated nature-based removal credits who weren't able to secure fast-moving ARR (afforestation, reforestation, and revegetation) projects had an easier time securing tonnage of IFM at prices that fit their sustainability budget.

Despite 44% of buyers looking to make removal-only purchases — and 70% looking for at minimum half removals — removals-only purchases reflect 34% of actual sales. Engineered projects are in high demand (42%), but the available supply hasn't scaled to match — the share of projects lags behind nature-based credits.

This supply crunch affects not only the credits buyers are able to procure, but also the prices they're paying.

44%

44% of buyers are looking for their portfolios to be 100% removals

70%

70% of buyers are looking for their portfolios to be at least 50% removals

04

Price compression and inflation in the voluntary carbon market

Basic economics says that when demand outpaces supply, prices go up. But in the VCM, there are other complex factors that can affect — or even distort — the prices being charged for credits. Because the market is highly fragmented, it's hard to accurately compare prices for the same project across all suppliers and intermediaries.

Ultimately, a vibrant, impactful carbon market must dynamically, competitively, and accurately price credits against demand. Over time, market forces will push prices up while economies of scale and innovation push prices down.

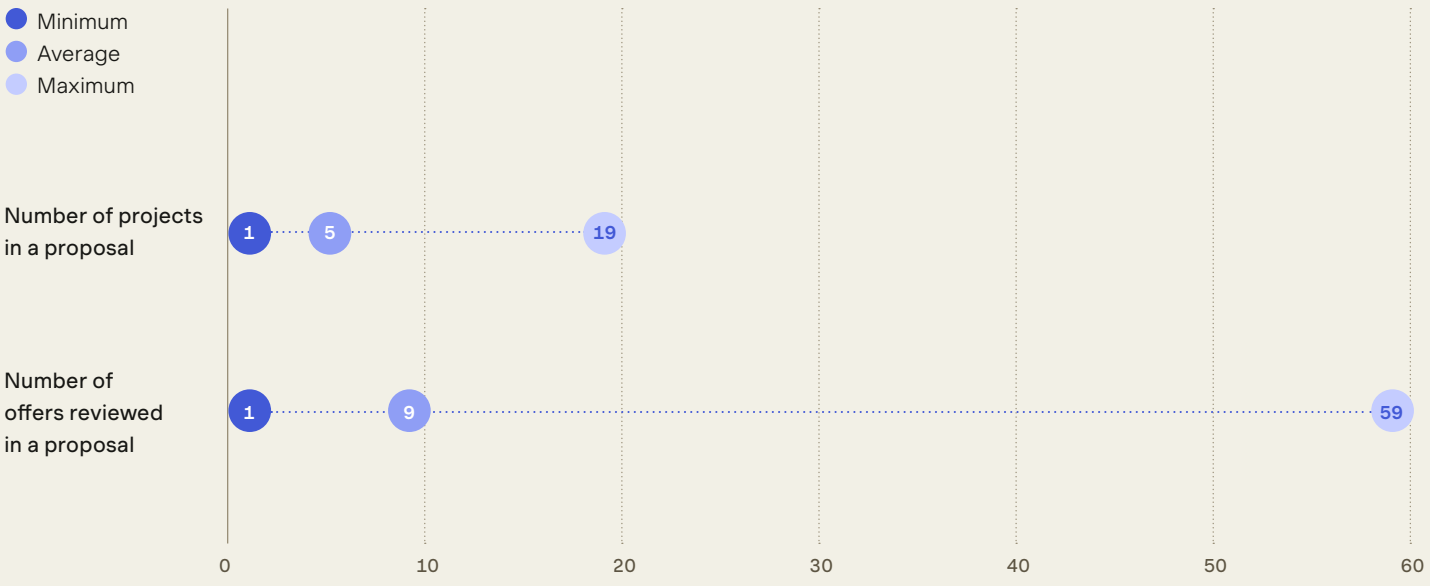
Buyers looking to get an accurate snapshot of the market will want to query a large number of suppliers — especially since the same project and vintage may be sold by multiple suppliers. More queries means more RFPs, and apart from the operational workload, it can be possible to artificially inflate prices by creating misleading demand signals among intermediaries — a phenomenon we've directly observed on multiple occasions.

A portfolio approach creates a multiplying effect on offers

A portfolio approach to carbon credits is a clear win-win for both buyers and the climate. Buyers want to hedge their risk across a diversified set of projects. It's the same principle when it comes to planetary risk: we don't know which climate solutions will ultimately be the most effective or scalable — all of them could play a role. Buyers understand this, and are building portfolios of about five projects on average.

As the portfolio moves through diligence into procurement, buyers will review credit price and volume offers from suppliers. If you're proposing to purchase five projects, you may review twice as many offers or more. In fact, the average number of offers reviewed by buyers is nine — almost double the average number of projects in a proposal — as purchasers compare prices and offers for a project from multiple suppliers.

Number of projects in a proposal vs. offers reviewed



Source: Patch's platform data on carbon credit purchases executed between Jan 1, 2024 – Apr 1, 2025

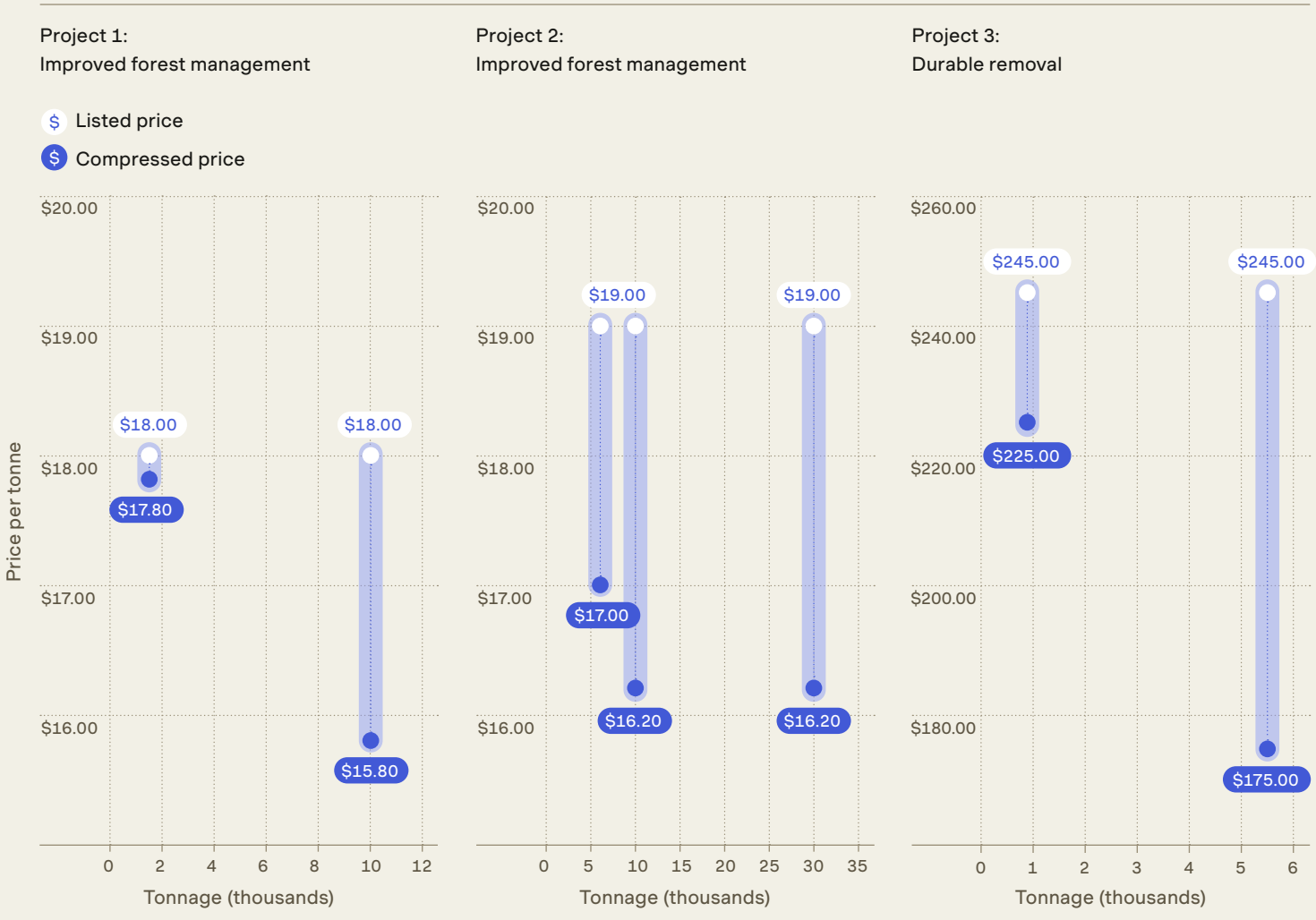
How buyers are getting better prices via demand aggregation

One strategy to overcome the fragmentation of the VCM is demand aggregation. It's the same principle as buying in bulk: when you buy more, you can unlock advantageous pricing from suppliers. The Patch platform gives companies the ability to aggregate demand for carbon credits across multiple buyers.

Let's take a look at three real-world examples of price compression through demand aggregation. These are recent purchases made via the Patch platform.

When tonnage demand is aggregated across multiple buyers, every buyer wins and gets a more competitive price that they wouldn't have achieved on their own. In other words, demand aggregation supercharges volume-based discounting.

In the three project examples where demand was aggregated, every buyer won. Buyer 2 of the Durable Removal project unlocked a **29% savings on an expensive, high-durability removal project.**



Source: Patch's platform data on carbon credit purchases executed between Jan 1, 2024 – Apr 1, 2025

Analysis

Patch is in the business of accelerating climate solutions by unlocking billions of dollars in climate finance. When buyers pay compressed prices, it may feel like money taken from the pockets of project developers — but that misses the whole point of the voluntary carbon market.

Projects monetize their impact through the sale of credits — not through donations. A charity-based approach is unlikely to drive the exponential scale we know we'll need to mitigate the climate crisis. As such, the VCM needs to operate like a true market, with prices responding dynamically to market forces. Moreover, suppliers are often not the project developers. They may be financiers, marketers, or resellers.

For carbon credit buyers, price-per-tonne remains one of the most important factors that impacts which credits they can buy, how many of them, and often whether they'll engage with the market in the first place.

For other types of markets, centralization helps drive that kind of dynamism. Carbon markets are still fragmented, but we believe the Patch platform can be a centralizing force to help catalyze the VCM.

Spot purchasing vs. advance purchasing

Because we've been looking at VCM trends within the context of the last six months, we've only been considering spot purchases. "Spot" simply refers to a one-time transaction. Carbon credit buyers often purchase on annual cycles. Historically, this has been driven by annual offsetting requirements — to compensate for the year's unabated emissions within the guardrails of a company's claim or commitment.

That's why — for many sustainability leaders — these buying cycles happen around the change in the calendar year.

As more of them move from compensation to contribution models, we expect buying cycles in spot markets to become less concentrated at the end of the year. Buyers competing for fast-moving inventory will gain an advantage by moving up annual purchasing cycles or else buying throughout the year so they can respond more quickly to new issuances of credits and reductions in prices.

The supply crunch for certain project types will also drive more opportunistic behavior among purchasers. There simply may not be enough credits of the types and quality buyers are looking for available at the end of the year.

More strategic buyers are taking a long-term view and locking in inventory and pricing by employing advance purchase agreements for multiple years. By agreeing to purchase carbon credits into the future, companies can get off the hamster wheel of annual buy cycles, as well as side-step the competition for in-demand projects.

We'll look deeper into this strategy in the next section, but it's important to note that this is a growing trend among many of the largest participants in the VCM.

Buyers competing for fast-moving inventory will gain an advantage by moving up annual purchasing cycles or else buying throughout the year so they can respond more quickly to new issuances of credits and reductions in prices.

Company	Duration	Tonnes	Project type	Location	Date signed
Microsoft	25 years	7 million	Afforestation	USA	January, 2025
Microsoft	25 years	3.5 million	Reforestation	Brazil	February, 2025
Microsoft	30 years	1.5 million	Afforestation	India	March, 2025
Meta	10 years	676,000	IFM	USA	March, 2025

Source: Public announcements (all)

Microsoft alone has purchased over 12 million credits in ARR (afforestation, reforestation, and revegetation) over the last four months. For these projects, advance purchase agreements are catalytic, providing stability, allowing them to raise capital to scale their project activities, and ultimately securing their long-term viability.

But they also further constrict the available supply of these types of projects on the spot markets. ARR projects with strong integrity credentials are sometimes only available through these types of advance purchase agreements.

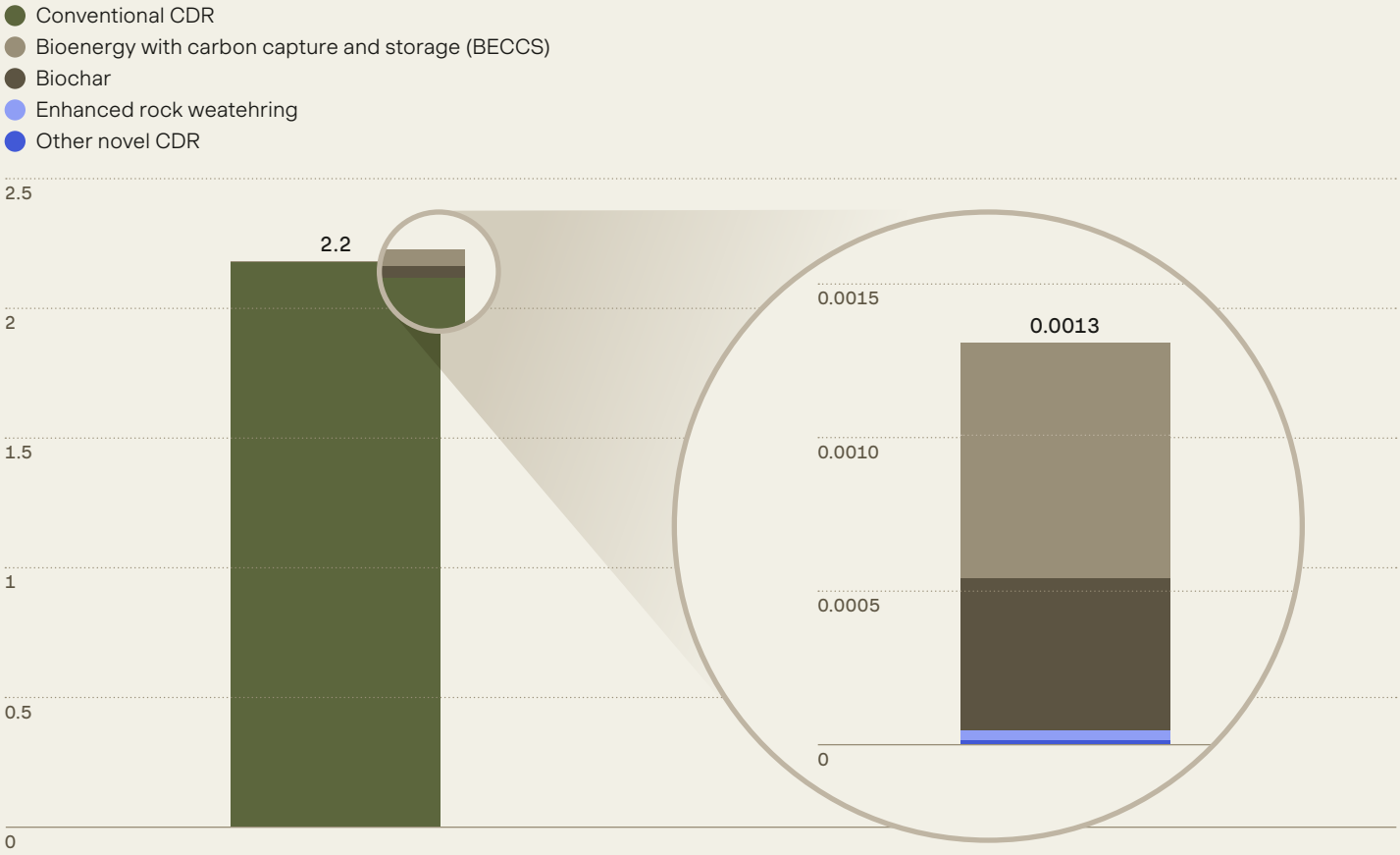
For companies turning to spot markets annually with demand for nature-based carbon removals, this leaves them with fewer options. This explains what we see in our data: companies requesting ARR often end up purchasing the more plentiful IFM (improved forest management) projects.

Engineered carbon dioxide removal

Just over 2 billion tonnes of CDR occurs each year through project-based interventions, and over 99.9% of it is accomplished through land use and forestry projects including ARR and IFM.[10] Of the remaining 1.3 million tonnes of carbon removal, hybrid projects like biochar and BECCS account for the overwhelming majority. Those are projects that typically rely on biological methods to perform the actual carbon removal and then make use of engineered methods to store or sequester the carbon for longer periods of time than occur naturally.

Because it's so nascent, engineered CDR is the most supply-constrained segment of the market when it comes to issued, ex-post credits (where the climate action represented by the credit has already happened). These credits are almost always the most expensive as well.

Total amount of carbon dioxide removal split into conventional and novel methods ($GtCO_2$ per year)



Amount of carbon dioxide removal is the sum of conventional CDR (2013-2022) and novel CDR (2023). Source: State of CDR

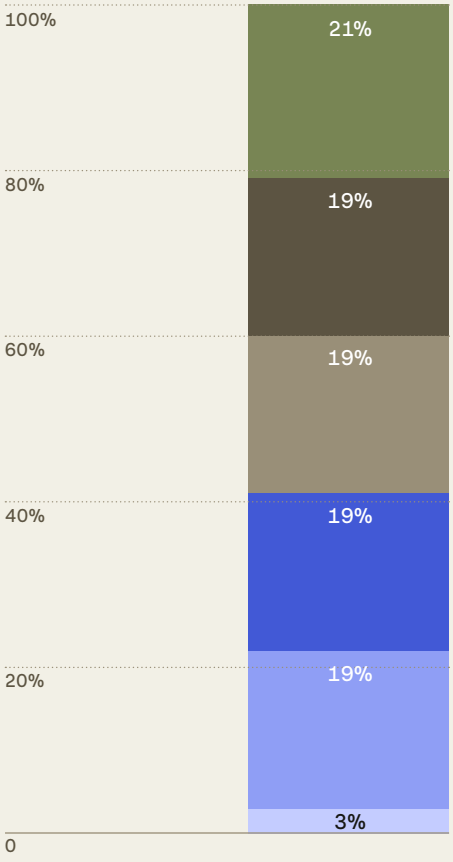
10 Smith, S. M., Geden, O., Gidden, M. J., Lamb, W. F., Nemet, G. F., Minx, J. C., Buck, H., Burke, J., Cox, E., Edwards, M. R., Fuss, S., Johnstone, I., Müller-Hansen, F., Pongratz, J., Probst, B. S., Roe, S., Schenuit, F., Schulte, I., Vaughan, N. E. (eds.) The State of Carbon Dioxide Removal 2024 - 2nd Edition. DOI 10.17605/OSF.IO/F85QJ (2024)

That's why buyers and project developers favor advance purchases for these projects — increasingly via multi-year contracts. Advance funding has a uniquely catalytic effect for engineered CDR because it de-risks early-stage deployment, unlocks the capital-intensive infrastructure these technologies require, and can drive the scale needed to ultimately get costs down.

While they dominate today, projects reliant on biomass face scaling limitations driven by the availability of suitable land and by the time it takes for biomass to grow and absorb carbon. With sufficient investment, engineered CDR has the potential to scale far beyond the limits of nature-based solutions — and to play a critical role in securing a livable planet.

Here's an example of a carbon credit buyer focused on creating catalytic impact by scaling new and innovative carbon removal technologies.

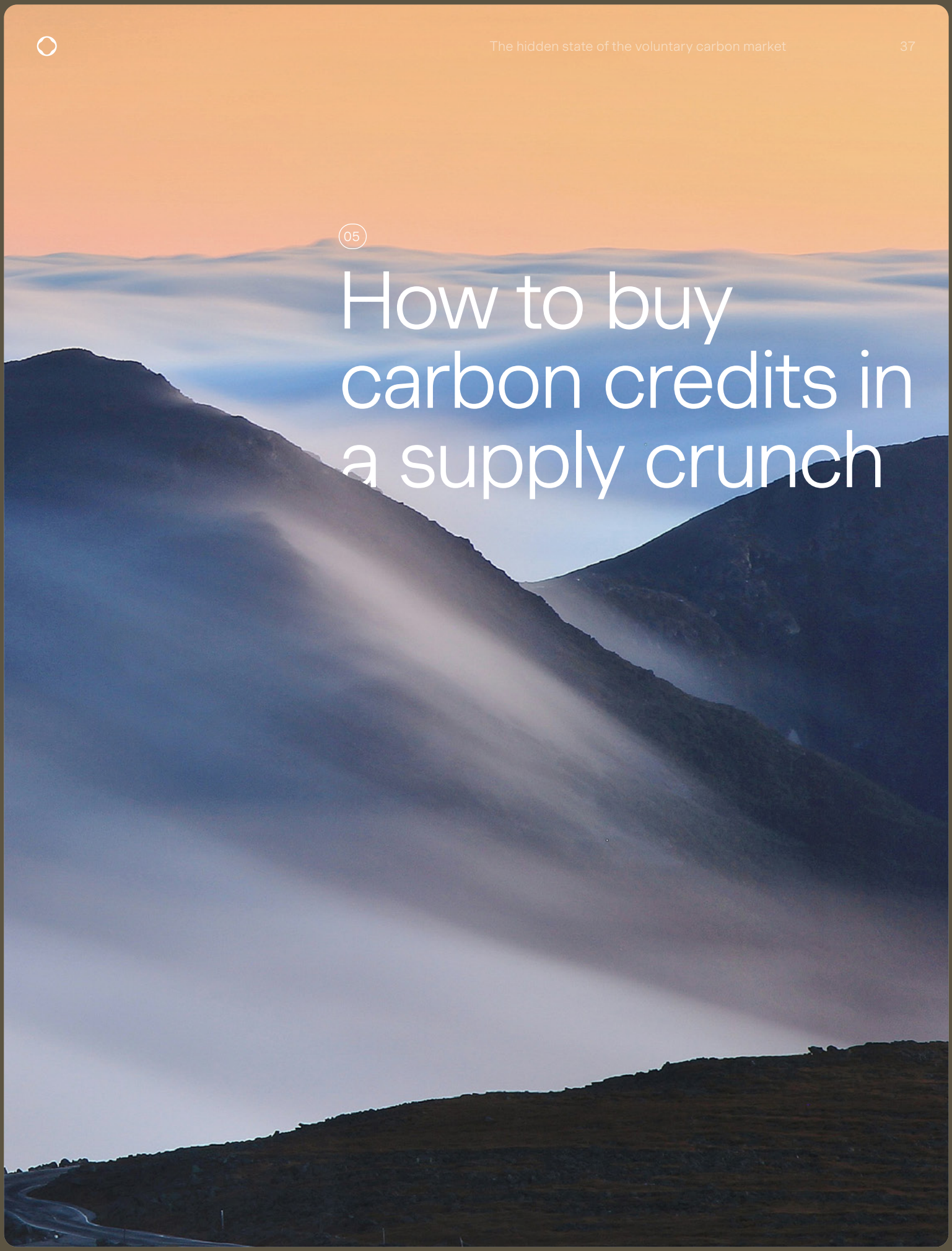
Europe-based global firm, removals-focused portfolio



Project name	Technology	Category	Mechanism	Vintage	Geography
Living Carbon	Afforestation	Nature-based	Removal	2026	USA
Charm Industrial	Bio Oil	Hybrid	Removal	2027	USA
Novocarbo	Biochar	Hybrid	Removal	2026	Germany
CarbonCure	Concrete Injection	Engineered	Avoidance & Removal	2023	USA
CarbonCapture	Direct Air Capture	Engineered	Removal	2023	USA
Noya Zephyr	Direct Air Capture	Engineered	Removal	2026 -2027	USA

05

How to buy carbon credits in a supply crunch



Compared to the chaos we've seen in stock and bond markets lately, the VCM has been relatively stable. In fact, the trends we've seen over the last few years are most likely to continue in the coming months.

Time will tell how the global trade realignment impacts carbon markets, but carbon credits themselves are not subject to tariffs. That means the VCM could be looking at a continuation of trends — at least compared to the rest of the economic landscape. Certainly, major upheavals will change the calculus for sustainability leaders looking to engage with carbon markets, but most of them are making major strategic decisions on longer timescales than a four-year presidential term.

They're working toward 2030, 2035, and even 2050 targets. While the political landscape is uncertain, the nature of the climate crisis is crystal clear: the world has to rapidly decarbonize as well as dramatically accelerate carbon removal and avoidance solutions. There's no alternative.

But what does directly impact sustainability leaders and the choices they face today is the nature of the market. How should they approach their strategy given the bifurcating market and the unevenly distributed supply crunch?

The most effective approach to securing scarce supply at stable and competitive prices is simultaneously the most catalytic way to help projects scale: multi-year purchase agreements, including offtakes.

Right now, businesses are understandably paralyzed given the uncertainty around international trade. It's impossible to know whether and where to make long-term investments given the unpredictability of the current tariff policy. But when it comes to carbon markets, it makes more sense than ever to take a long-term approach: you can ensure supply to in-demand projects at stable (and often reduced) prices while maximizing climate impact.

What is offtake?

A staple of commodities purchasing (especially mining), offtake agreements are long-term pre-purchase agreements where a buyer commits to purchasing a consistent annual volume of the commodity at a stable price over a time span of several years.

This type of demand signal is incredibly valuable to new projects looking to scale up, since it allows them to secure financing at much more favorable terms than would be available to them otherwise.

For carbon credit project developers, this gives them predictable revenue and allows them to finance their expansion. For carbon credit buyers, it gives them consistent access to in-demand projects at stable prices.

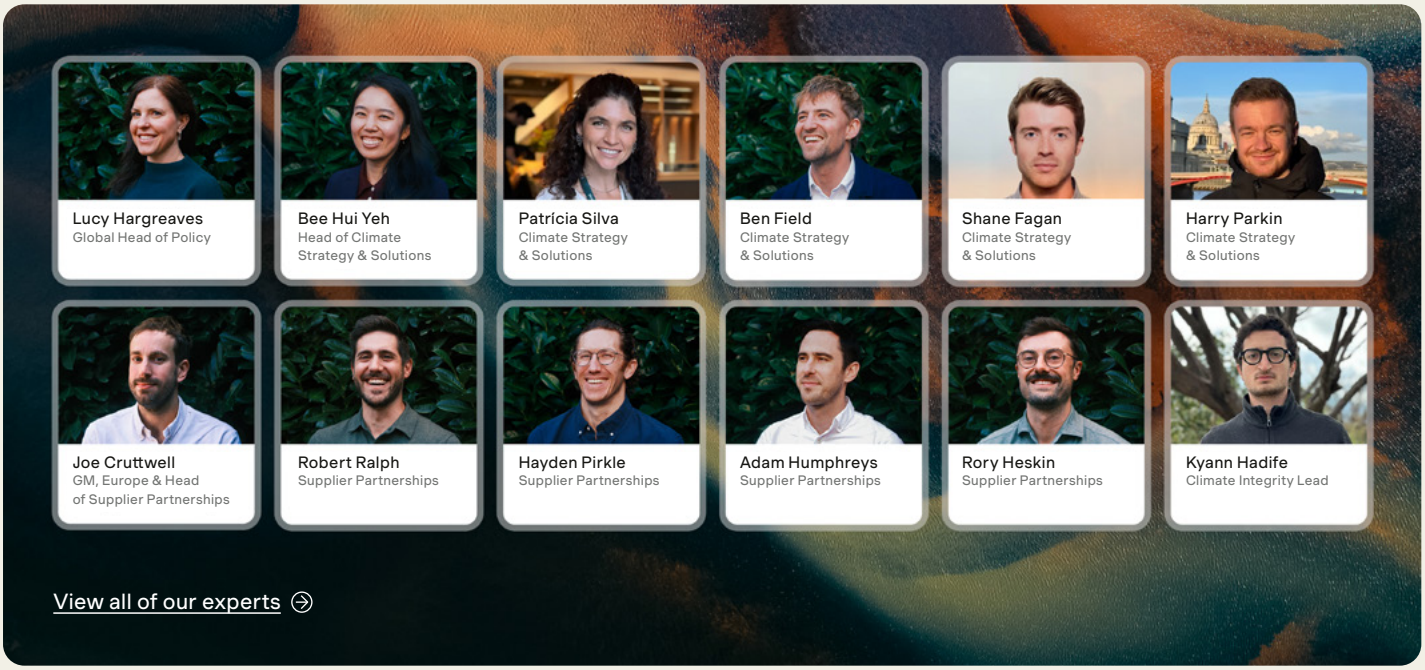
Increasing demand for offtake

50%

50% of buyers have expressed interest in multi-year pre-purchase agreements over the last two years*

Source: Patch's platform data on carbon credit purchases executed between Jan 1, 2024 – Apr 1, 2025

How Patch can help



If you're a sustainability leader looking for advice on building your carbon strategy, our expert team can offer guidance tailor-made for your business. Collectively, our experts represent decades of experience, offering a blend of deep scientific specialization with broad and current market knowledge.

Plus our end-to-end platform offers data, expertise, and software at every phase of the carbon credit buying journey.

Methodology

This data report is based on an analysis of Patch's proprietary platform data, public SBTi data, and data from the major carbon credit registries (ACR, CAR, Gold Standard, Puro, and Verra). This includes aggregated and anonymized data on past retirements of carbon credits as well as carbon strategy and portfolio requirements of leading corporate sustainability buyers and what they ultimately purchased.

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