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UN analysis finds only one in 10 countries likely to buy Article 6 credits

At the end of last month, the UNFCCC uploaded presentations from a recent event in South Korea's capital Seoul outlining expectations for participation by countries in Article 6 carbon markets, based on Nationally Determined Contributions (NDCs) submitted ahead of COP30 summit in Belem, Brazil, late last year.

A positive was that more than 75% of countries, or Parties as the UNFCCC calls them, had given an explicit signal to participate in Article 6. The figure rises to 99% if it includes countries that left the possibility open to take part in these UN carbon markets – excluding Parties that have said for definite that they will not participate.

However, just 10% of countries that submitted a 2031-2035 target are thought to be on the buy-side of the market for Article 6 credits, the presentation showed. And, in addition, demand for Internationally Transferred Mitigation Outcomes (ITMOs) to meet nearer-term 2030 targets appears to be modest.

To an extent the small percentage on the buy-side is not surprising. Only a handful of countries are currently active in looking to purchase and become involved in Article 6 projects, such as Japan, Norway, Singapore, South Korea, Switzerland, and Sweden.

Although the presentation acknowledged that buyer participation currently remains limited to these relatively small number of countries, it did flag up that various compliance markets, such as the Corsia aviation decarbonisation scheme, and the

EU's recently-adopted 2040 climate target, have the potential to increase demand by billions of credits.

It also included New Zealand as a potential buyer, but latter has sent ambiguous signals on whether or not it will enter this market. Just this week New Zealand unveiled new measures aimed at boosting the voluntary market in the country.

"This work is needed because pressure on nature and climate is bigger than public funding alone can meet. Because of this, New Zealand has been missing opportunities to attract private investment into local projects," the government said. This looks more like continued focus at home than moving to buy reductions or removals from overseas.

Another 'positive' from the presentation was that as well as the number of Parties participating in or planning to participate in Article 6 continuing to grow, countries are also "bending their combined emission curve further downward". But, despite this, "major acceleration is still needed" for countries to bend their combined emissions curve further, it said.

On the supply side, the presentation said the carbon market "exists at scale" but "remains latent. It flagged core deliverables governments must resolve for countries to realise their Article 6 supply potential. These include credible, supervised standards, host-country readiness, price discovery, and clear visibility into project pipelines.

Particularly on pricing it said

"fragmented registries and opaque pricing discourage institutional investors" and that standardised reporting under the Paris Agreement's transparency framework is essential to enable price benchmarking and risk assessment".

On host country readiness the presentation noted that countries require capacity to issue the Corresponding Adjustment carbon accounting procedures to avoid double counting when ITMOs are transferred without "jeopardising" climate goals under NDCs.

But it did not elaborate on what is perhaps the biggest unknown going forward. How long will countries remain sellers before they need the 'mitigation outcomes' themselves?

The UN climate change arm's recent series of events in Seoul aimed to marshal greater co-ordination and urgency in the various steps being taken by multilaterals to enable the Paris Article 6.4 Agreement Crediting Mechanism (PACM) to become increasingly operational.

Although the UN says PACM is now 'open for business', with the first transactions expected this year, it acknowledged that more methodologies need to be agreed over the course of the year, with five to six of these expected by December.

While the presentations show that a lot of progress has been made on Article 6, they also show that much work still needs to be done and that there are lot of unknowns that could still impact these markets.

The global carbon market this fortnight

Singapore will allow companies covered by its carbon tax regime to roll over any of the 5% offset quota for 2025 that is unused to 2026, because of a lack of supply of credits to the market.

China's deputy environment minister has urged the government to allow for some financial institutions to begin trading China Emission Allowances in the national emissions trading market this year under a phased approach.

Zimbabwe blamed Gold Standard to have unilaterally refused to label emissions reductions from a cookstoves programme as eligible under the UN aviation scheme Corsia. The **Switzerland**-based registry rejected the contention, saying the International Civil Aviation Organization Council, and not Gold Standard, "has exclusive authority for determining which credits are eligible".

Taiwan and **Paraguay** are looking to advance their existing bilateral carbon credit deal and agree on projects in the South American country that will generate Article 6-backed units to the Asian island. Both countries are considering signing an Implementation Agreement aligned with Article 6.2.

Brazil has pre-authorized 80 projects from the Kyoto Protocol's Clean Development Mechanism to transition the Article 6.4 Paris Agreement Crediting Mechanism, after it had received 96 requests with some projects yet to send all the requested documents to the Ministry of Environment.

Switzerland's Federal Office for the Environment has approved the first four 'industrial' carbon removal projects eligible to generate

domestic carbon credits, called 'attestations', for Switzerland-based companies seeking to meet net-zero targets, including two bioenergy with carbon capture and storage projects, a CO₂-mineralisation project and a project which sequesters CO₂ in recycled concrete.

Sweden and **Switzerland** have agreed two symbolic cross-border CO₂ removal credit trades under a bilateral pact stemming from a 2023 cooperation framework, in a move aimed at encouraging international CDR deals under the Paris Agreement.

Japan and **Vietnam** have advanced cooperation under their existing bilateral Joint Crediting Mechanism agreement, formally aligning with the Paris Agreement's Article 6 market mechanisms.

New Zealand has selected US-based environmental markets operator Xpansiv to run quarterly auctions for its emissions trading scheme, starting this September, and replacing current operator, the country's Stock Exchange.

A bioenergy with carbon capture and storage project in **Denmark** listed on the UK-based standard Isometric will be inaugurated on May 20, according to the project's developer. The Kalundborg Bioenergy facility will generate biogas and is expected to capture 27,000 tonnes of CO₂ a year, Denmark-based Bigadan said.

Vietnam is poised to enter into more talks with US non-profit Emergent on finalising the potential sale of 5 million carbon credits generated from a REDD+ programme in the country's central regions at a floor price of \$10 a

tonne of CO₂ equivalent with negotiations due to start in June.

The **Philippines'** government body responsible for overseeing national climate policy and implementation, the Climate Change Commission, has met with officials from the Netherlands' embassy to explore cooperation on nature-based solutions.

Morocco and **Norway** have signed an Implementation Agreement to cooperate on carbon market mechanisms under Article 6.2 of the Paris Agreement, with plans to support 2 gigawatts of renewable energy in the North African country over the next decade.

The **California** Energy Commission has opened applications for grant funding of up to \$11 million in total to support the development and deployment of advanced direct air capture technologies.

Korea Environment Corporation, a **South Korean** government entity, has opened its second call for local companies to apply for support to develop carbon projects overseas under the Paris Agreement's Article 6 mechanism.

Singapore has signed an Implementation Agreement under Article 6 of the Paris Agreement with the Philippines, solidifying how the two countries will trade international carbon credits, and the city-state 11th such deal.

Kazakhstan's environment ministry has signed a tripartite memorandum of understanding with a local company and the Switzerland branch of a German state-owned energy group to develop an afforestation project in the Central Asian country.

EU's plans for global carbon credit use in the 2030s sparks range of responses

The European Commission received 154 responses to its call for evidence on how to use Article 6 carbon credits to help meet the EU's recently adopted 2040 climate target.

The submissions came from a wide range of market watchers including carbon-intensive industry groups and individual companies that are covered by the EU Emissions Trading System (ETS), carbon market intermediaries and service providers, project developers, think tanks, and other governments such as Brazil.

They will feed into the debate among EU lawmakers and member states on the mechanisms that filter the types of credits that should be permitted through Article 6, how offsets would be financed and bought, and necessary guardrails.

Under the Commission's current proposals to cut EU greenhouse emissions by 90% by 2040 versus 1990 levels, up to 5% of that target to be covered by international carbon credits (ICC) from 2035.

Organisations that support emissions trading, such as trade group IETA, and trade groups that represent industries with carbon compliance obligations under the EU ETS are understandably in favour of the use of ICCs. Some calling for the use before 2035.

The European Chemical Industry Council (Cefic) said ICCs provide "necessary flexibility" and "enhance cost efficiency". But, it added, that ICCs "must play a clearly defined and operational role as of 2031, reflecting

technological, infrastructural and economic realities".

This is because the "delivery of the 2040 target is conditional not only on achieving the 2030 target, but also on the timely availability of key enabling conditions, including infrastructure, affordable low carbon energy and demand for low carbon products", Cefic said.

"Alongside these fundamentals, sufficient policy flexibility will remain essential to ensure feasibility, underpin viable business cases and preserve industrial competitiveness," it said.

The pan-EU business lobby BusinessEurope said that sectors covered by the EU ETS must benefit from the use of international credits. One option is an indirect integration of international credits into the ETS through a purchasing authority at the European level that can inject new liquidity in the market in the late 2030s, it said.

Germany-based energy giant RWE was also in favour of the use of ICCs, which it said could "mobilise high integrity mitigation activities abroad, enhance global climate action and cooperation, and deliver the regulatory clarity urgently needed by project developers and investors".

In addition, the "EU should also consider the continued use of international credits beyond 2040, including for achieving climate neutrality by 2050 and the net-negative emissions goal thereafter," it said.

But other EU-based energy companies opposed the use of

offsets. Denmark-headquartered Orsted said the focus should instead be on linking the EU ETS with similar cap-and-trade schemes.

ICCs have previously been allowed in the ETS through the Kyoto Protocol's flexible mechanisms between 2005 and 2020. But they had been removed "due to their negative impact on long-term decarbonisation and innovation, and with questionable efficacy as quality was hardly assessed in a robust way", Orsted said.

"Reintegrating these credits into the EU ETS could weaken the carbon price signal, increase market uncertainty, raise investor risk premiums, and drive investments outside the EU, making non-EU industries more competitive," it said.

"Even allowing for a small number of credits could significantly hurt the trust in the ETS system, as the market will need to factor in the risk that politicians may choose to increase the number of credits at a later point in time," it added.

Several NGOs, including Klima-Allianz Deutschland, Environmental Action Germany, Carbon Market Watch (CMW) and Transport & Environment (T&E), are against the Commission's proposals. The inclusion of ICCs "would represent a significant risk to achieving emissions reduction targets in Europe and that their use should not undermine domestic ambition at any costs", said T&E.

CMW, which is typically sceptical of many types of carbon credits

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and frameworks that facilitate the use of offsets, urged separate targets for emission reductions, land-based removals, and permanent removals. It called for prioritising domestic action, not international offsets.

The proposals also ignore the EU's own scientific advice, with the European Scientific Advisory Board on Climate Change having recommended reducing EU 2040 emissions by at least 90-95% without any flexibilities, the NGO added.

Another NGO, Carbon Gap, also opposed allowing ICCs to meet the 90% target, but did not rule out the use of offsets altogether. "International carbon credits should complement not substitute domestic action and should be reserved for ambition beyond 90% or as a hedge against unforeseen shortfalls," Carbon Gap said.

"Institutionalise international credits as an EU-level reserve driving additional ambition, enabling compliance with Paris Agreement reporting and transparency obligations and within clear limits acting as a flexibility to member states in case of unexpected performance shortfalls," it said.

"A single, centrally administered credit reserve (i.e. a centrally managed pool of credits accessible under predefined conditions) avoids governance complexity that would arise if Member States had to report international cooperations as individual parties within the UNFCCC," it added.

But criticism of the Commission proposals did not just come from NGOs. The Ministry of the Environment, Climate and Energy of the German region of Baden-

Württemberg said the plan would mean that "credits equivalent to 50% of the emissions still allowed at that time can be purchased in addition to these, and that in practice there is only a reduction of 85% within the EU compared to 1990 emissions".

The ministry suggested that the proposals deliver the wrong incentives and would create "stranded assets" in the EU. "There is a double burden due to the short-term purchase of credits and the transformation that will be needed in the medium and long term, which will only be postponed," it said.

The International Swaps and Derivatives Association, the main lobby group for over-the-counter derivatives trading, and the Association for Financial Markets in Europe in a joint submission said the "inclusion of high-integrity international credits would materially strengthen the EU's climate leadership while supporting the achievement of targets in an economically balanced manner".

But, the duo stressed, ICCs should be a complement to domestic action to cut GHG emissions and the "scaling" of carbon removals in Europe. "A well-designed legal framework for international credits will not only help the EU reach its 2040 targets cost-effectively but will also incentivise climate action in the Global South," they said.

Commodities trader Vitol called on the EU's decision-making institutions to treat the 2026 ETS review, international credits framework and energy price relief as a joint policy package rather than separate decisions.

An EU 'Quality Seal' should be the universal baseline for all

procurement, and detailed rules for Article 6 should implement a credit-backed 'front-loading mechanism' to enable forward-based financing," it said.

The World Bank said that the "limited use" towards the 2040 goals could be an "effective instrument". This is because the move "could help mobilise climate finance at a critical time, generate development co-benefits, and provide flexibility in achieving EU climate objectives, while creating incentives for increased ambition in developing countries. At the same time, achieving these benefits will depend on design", the bank said.

A number of project developers also submitted to the call. These included Wildlife Works, Residual, Anew Climate, American Forest Foundation (AFF), and Imperative Global Solutions.

Residual said that a proposed pilot phase should start in 2031 to give developers time to generate sufficient volume from 2036. It noted that Article 6.4 projects can take four to seven years from feasibility to first issuance, with engineered durable removals requiring significant construction.

Imperative and AFF both argued for the use of carbon credits from nature-based solutions. "We submit that nature-based solution removal credits produced under rigorous quality standards should be eligible for use in EU compliance frameworks on equivalent terms to engineered removals," said the former.

The call for evidence closed on May 4. With a Commission response described as "upcoming" and adoption of final proposals set for the fourth quarter of the year.

Feature

Sky Harvest readies for the first 'True Credits'

US developer Sky Harvest plans to issue the first carbon credits from its improved forest management (IFM) project later this year, under a framework which the company says could be rolled out more broadly across the nature-based sector to address issues of reversal risk and over-crediting.

Project Nimbus, a grouped project spanning around 7,500 hectares of privately owned forestland across the US states of Virginia, North Carolina, Mississippi, and Louisiana, expects to issue approximately 60,000 tagged removals credits in the summer or autumn.

The project incentivises small and independent, family-owned foresters to store more carbon by deferring timber harvests. It is currently under validation by Iceland-based standard International Carbon Registry (project ID 304) with the credits to be generated under Sky Harvest's True Credit Framework.

Unique

The framework is unique in accounting for the full impact of CO2 emissions, while issuing credits representing verified storage with no reversal risk, the Texas-based company's chief executive, Will Clayton, told Quantum.

"We've implemented it in our Project Nimbus, but we spend a lot of our time advocating for this broadly across the market, because it applies to all kinds of credits," Clayton said.

The question of permanence is a key area of debate in the nature-based market, he noted.

"The permanence problem is that one tonne emitted does not equal

one tonne from a carbon credit. CO2 emissions have a warming effect in the atmosphere for thousands of years," said Clayton.

"That effect diminishes over time, but it persists for a very long time. Even after 100,000 years the warming effect is still 22% of what it was on day one," he said.

"Most carbon credits aren't accounting for that. Most carbon credits do not store carbon for thousands of years, therefore on a tonne-for-tonne basis carbon credits incompletely offset the warming effect of emissions," he added.

What Sky Harvest refers to as "partial offsetting" — where a carbon credit is claimed to offset a tonne of emissions, but in reality offsets a fraction of a tonne — "is the norm, it's the way the market operates today and it's doing a lot of real, positive good for climate mitigation," said Clayton.

"But it's also creating a risk for the standards and for buyers alike who are claiming that they're offsetting their emissions."

The True Credit Framework calculates and applies a so-called "durability deduction" to factor in the long-term effect of the emissions.

"Relative to traditional credits it's moving from one-dimensional to three-dimensional measurement, implicit temporal assumptions to explicit temporal measurement, and decadal time horizons to offsetting the full atmospheric time horizon," Clayton said.

"One tonne per credit is how the whole market operates today. We require multiple tonnes per credit.

Because if one tonne is a fraction of an offset, you need multiple tonnes to make a complete offset."

The framework also focusses on credit issuance only retrospectively, once the carbon storage has occurred and been measured and verified, thereby eliminating reversal risk, he said.

"A reversal happens because most carbon credits today make a promise that the carbon will be stored for the next 'X' number of years," with the accompanying reversal risk managed via buffer pools, Clayton said.

"In the True Credit Framework, it's not that we magically ensure that carbon stays there forever — that would not be credible — it's a fundamentally different claim," he said.

"True Credits don't claim that the carbon will be stored there in the future. They avoid reversal risk altogether — they are irreversible — by never making that promise in the first place."

Stored

Credit issuance takes place only after the carbon has been stored, measured and verified, with no promise of future storage. "Sometimes we call it 'ex-post-post,'" said Clayton.

"In a world where 'ex-ante' credits haven't even been issued yet, and 'ex-post' credits have been issued with the promise of future storage, we call it 'ex-post-post' because not only have the credits been issued, but all of the impact claimed by that credit has already occurred in the past, and been verified."

Feature

Credits issued under the True Credit Framework “offset 100% of the impact without reversal risk, because a reversal requires a future promise and no future promise is made,” he said.

Project Nimbus has received an ‘A.pre’ ex-ante rating from UK-based carbon ratings agency BeZero Carbon, Sky Harvest announced late last month. Credits rated ‘A.pre’ provide a “high likelihood” of achieving one tonne of CO2 equivalent removal. Notably, the rating included an ‘AA’ permanence score.

“There is no technical risk of reversal after issuance... Therefore, standard permanence risks such as fire, drought, etc, do not apply to Project Nimbus,” BeZero’s report said.

The True Credit Framework does represent a more conservative approach to credit issuance, Clayton said.

Sky Harvest ran a comparison with a representative “typical” IFM project and found that the latter would issue more than three times as many credits over its lifetime — albeit with accompanying reversal risk.

“This framework creates some pros and some cons for developers. One of the cons is that you’ve got to wait for carbon to be stored before you issue credits,” he said, noting that it has taken five years for Project Nimbus to begin issuing credits.

“One of the pros is that it creates more flexibility — for example, here we’re able to measure carbon stored for a shorter period of time, verify that and issue credits,” he said.

“It depends how long you store carbon for, but the shorter the

period of time, the heavier the durability deduction is.”

Sky Harvest has made prepurchase deals for a portion of its forthcoming issuance, but not for the majority of the credits.

“We’ve been focussed for five years now on building this project and developing it. And so we’re just now starting to lift our heads up and think about commercialising these credits,” said Clayton.

“From a buyer’s perspective, the benefit of the True Credit Framework is the confidence that once those credits are delivered and retired, they’re good — there’s no reversal coming. They don’t have to stay up at night worrying about wildfires”

The company is open to offtake agreements, but not reliant on them, he said.

From a buyer’s perspective, the benefit of the True Credit Framework is “the confidence that once those credits are delivered and retired, they’re good — there’s no reversal coming. They don’t have to stay up at night worrying about wildfires,” said Clayton.

“Our belief is that the buyer shouldn’t have to take that risk,” he said, adding that they should also not have to navigate issues around varying project durations. “This framework standardises all of that for the buyer.”

In terms of prices, “we’ve designed the project to be cost-competitive with nature-based removals. But we want to blow them out of the water on quality,”

Clayton said.

“That’s our whole strategy – we want to be competitive on price but superior on quality. That’s the way that a framework like this grows and eventually becomes the new norm in the market.”

The potential applications of True Credit Framework go beyond CO2 emissions to include other greenhouse gases with shorter-lived climate impacts, he said. “You can do it with methane, you can do it with CO2, you can do it with nitrous oxide,” said Clayton.

“You just have to have the curve of something called radiative forcing, and once you have that curve you can run the True Credit Framework on any gas and convert it to CO2 equivalent.”

Getting the message out on the framework remains a work in progress, with Sky Harvest participating in US standard Climate Action Reserve’s permanence work group, and also hoping to participate in meta-standard the Integrity Council for the Voluntary Carbon Market’s new continuous improvement work group on permanence.

The company is also working on a white paper on the True Credit Framework concept in conjunction with a leading climate scientist.

“It’s all lots of little nudges. It’s complex, and it takes longer for people to let it soak in, and you have to educate people. But once people start to understand it, they’re like ‘this makes a lot of sense. This is the way we should be measuring it,’” said Clayton.

“And so that makes me very hopeful, but five years ago I would have naively thought that we’d be there already.”

Carbon procurement needs a portfolio mindset

Axelle Ducos is chief growth officer at Land Life, a global restoration company and nature-based carbon project developer.

The question sustainability leaders are asking has changed. It used to be which credits to buy. Now it is also how to buy them — and whether the approach they have relied on will still work in two years.

Demand for high-integrity carbon credits is rising faster than supply can absorb it. Most credible market analyses point to a supply crunch within the next two to three years, particularly for nature-based removals with strong co-benefits.

Spot buyers are already seeing early signs of pressure: average global spot prices for high-quality afforestation, reforestation and revegetation credits rose from around \$14 to \$26 per tonne of CO₂ equivalent over the course of 2025, according to UK-based carbon rating agency Sylvera's Carbon Market Trends 2026 report.

At the same time, companies are navigating a world marked by deepening uncertainty — from geopolitical instability and inflation to shifting regulation and growing scrutiny of corporate climate claims.

In this environment, sustainability leaders face a genuine dilemma: how to remain ambitious without overexposing their organisations to risk.

This is not a temporary dislocation, but a structural shift in which corporate buyers are increasingly competing for a limited pool of credible supply, with the most sought-after projects being spoken for earlier in their lifecycle.

The most experienced buyers are already responding. They are not only diversifying across nature-based and engineered removals, or balancing credits across geographies. They are also making deliberate choices about how they buy, combining spot credits, offtake agreements and direct investments in future supply.

The market has become more sophisticated in how it talks about the what — project type, location, methodology. It is still evolving in how it approaches the how. But as competition intensifies, procurement structure is becoming just as important as project type in shaping cost, access and long-term strategic value.

Understanding the role each procurement model plays, and how they fit together, is central to building a credible and future-ready carbon strategy.

Three models, three roles

Spot credits, multi-year offtake agreements and direct investment are not competing choices. They are complementary tools serving different needs across different time horizons. Each carries distinct trade-offs in price, supply certainty and project influence.

Spot credits remain useful. They are immediately available, straightforward to transact and compatible with annual reporting cycles. For near-term obligations, they are often the right tool. The constraint is supply: as high-integrity credits become scarcer, relying exclusively on the spot market is increasingly a bet on availability and price stability — neither of which are to be assumed.

Offtake agreements shift the logic. A buyer commits to purchasing a defined volume of future credits from a project developer, typically over five to 15 years, at an agreed price. The value is predictability: insulation from market volatility, guaranteed access to supply, and stronger alignment with medium to long-term decarbonisation targets.

The trade-off is cost. Because offtake structures typically require third-party financing to fund development before credits are issued, that capital cost flows through to the buyer. Offtakes generally command a meaningful premium over spot prices.

Direct investment changes the structure further. Here, a buyer commits capital to project development before credits exist, in exchange for the right to receive credits as they are verified over time. There are no volume guarantees — delivery may come in above or below projections. In exchange, pricing is substantially lower than offtake; projects with comparable quality characteristics can price 30 to 40% below an equivalent offtake agreement.

For companies willing to accept volume variability and engage seriously with project quality upfront, direct investment is also the most effective hedge against future price increases — locking in today's pricing before the anticipated supply squeeze drives costs higher.

The case for diversification

None of these models is universally superior. The more useful frame is to treat them as financial investors treat asset classes: different instruments serving different

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functions within a coherent strategy.

A company carrying significant unabatable emissions over the next decade is poorly served by an exclusively spot-based approach. A buyer focused purely on near-term reporting, with no multi-year climate commitment, may not need the complexity of a direct investment.

Most companies with serious climate ambitions sit somewhere in between — and a portfolio built across all three models delivers flexibility, price resilience and supply security simultaneously.

Beyond logistics, the mix of models also shapes credibility. Spot purchases alone offer limited opportunity to demonstrate meaningful engagement with the projects being funded, including limited input on location, impact metrics, biodiversity outcomes or community relationships.

Offtake and direct investment create the conditions for genuine participation: buyers can influence where projects are sited, what co-benefits are prioritised, and how impact is measured. In a market where scrutiny of corporate climate claims has intensified,

depth of engagement is increasingly part of what makes a procurement strategy defensible.

What leading buyers are already doing

The shift is visible in how more experienced buyers are structuring their programmes. Rather than treating procurement as an annual sourcing exercise, they are managing carbon as a multi-year exposure. The spot purchases cover near-term needs, offtake agreements provide medium-term certainty, and direct investments lock in future supply at cost-effective prices while deepening project relationships.

The Green Finance Institute — an independent, UK-based organisation that helps the public and private sectors to catalyse investment in net-zero and nature-positive outcomes — has noted the uptick in offtake adoption, pointing to a recognition among buyers with significant decarbonisation targets that spot purchases alone do not send durable demand signals to early-stage developers, and do not provide the price visibility needed for long-term planning.

Direct investment remains less

widely understood, but interest is growing among buyers who have worked through the logic and are comfortable with the volume uncertainty it involves. For those who engage with it seriously — with rigorous project selection and reliable carbon modelling — the pricing advantage is substantial.

The window is open, but narrowing

High-quality projects with strong co-benefits are being contracted earlier. Developers with credible pipelines are building long-term buyer relationships rather than holding inventory for the spot market. Companies waiting for conditions to stabilise before diversifying their approach may find the most attractive opportunities are already spoken for.

Carbon procurement has moved from a compliance tick box exercise to a strategic, resilient approach. The companies building resilient, credible programmes are the ones treating it accordingly — combining the right mix of tools, engaging earlier in the project lifecycle, and thinking about procurement as a long-term strategy rather than an annual cost.



IC-VCM seeks 'remedial action' from ART on two forest protocols

The Integrity Council for the Voluntary Carbon Market (IC-VCM) has asked US-based standard Architecture for REDD+ Transactions (ART) to take "remedial action" on two forestry-based protocols in order to be eligible for its Core Carbon Principles (CCPs) quality tags.

The protocols from ART are developed for areas that historically have had both high levels of forest cover and low rates of deforestation (HFLD).

IC-VCM has requested ART to require HFLD participants to supply evidence that historical emissions during the baseline period significantly underestimate likely future emissions.

In reference to 'ART Trees v2.0: HFLD Crediting Level', the US-based standard would also need to "require VVBs [verification and validation bodies] to assess whether this evidence confirms a significant threat of increased emissions in the first crediting period", IC-VCM said in the update on May 11.

A parallel protocol, ART's v2.0 Removals Crediting Level, will have to take similar remedial steps and would be subject to the same assessment process, IC-VCM said.

ART told Quantum it is "pleased to see a path forward for CCP eligibility" of the HFLD and Removals crediting approaches under Trees, regarding the request for remedial action.

"In consultation with our Board, ART will incorporate the IC-VCM

remedial actions into Trees 2.0 for HFLD and Removals and resubmit for IC-VCM Governing Board approval," it said.

The IC-VCM granted ART programme-level CCP approval in 2024, with individual methodologies assessed on a case-by-case basis.

The requests for remedial action for ART Trees were one of a series of updates that the IC-VCM made on Monday on a range of other methodologies and supplier programmes.

The IC-VCM gave conditional approval to US-based standard Verra's VMR0017 v1.0 'Grid-connected electricity generation from renewable sources' methodology and its ACM0008 'Abatement of methane from coal mines' (Versions 6-8). Isometric's Mangrove Restoration Protocol v1.0 was also approved for CCPs.

Qatar-based carbon standard Global Carbon Council was also approved at the programme-level for CCP under its 'GCC Standard on IC-VCM Eligibility of Projects and Issuances v1.1'.

"IC-VCM found that the standard meets the relevant criteria for CCP-Eligibility, provided that projects are registered under GCC 2.0 and follow the Standard on IC-VCM Eligibility of Projects and Issuances v1.1 or later," IC-VCM said.

This standard now incorporates strengthened provisions introduced to meet the requirements of the CCPs, it said.

News in brief

Singapore will allow companies covered by its carbon tax regime to roll over to 2026 any of the 5% offset quota for 2025 that is unused, because of a lack of supply of credits to the market, the second such compromise in two years.

Thailand-based developer Enable Earth is progressing certification of the Chiang Rai biochar project with Finland-based standard Puro.earth, despite a brief stint and recent cancellation under the UK-based Isometric standard.

US-based non-profit Arbor Day Foundation is expanding a collaboration with compatriot forestry developer Funga to help sell the latter's carbon credits generated through soil restoration to boost forests in the country.

Africa-focussed developer Iroko Analytics is partnering with the Directorate of Resource Surveys and Remote Sensing, the Kenyan government body responsible for land use and environmental monitoring, to support development of afforestation, reforestation and revegetation projects in the country.

UK-based biochar developer Carbogenics has secured \$80,000 in workforce funding from the US state of New Mexico's Job Training Incentive Programme to support the former's expansion into the country. The support will fund the hiring and training of three employees at Carbogenics' facility in northern New Mexico as the company expands its operational presence in the US market.

New Zealand releases 'assurance' framework to boost domestic VCM

New Zealand has released a new "assurance" framework to support the growth of voluntary nature and carbon markets in the country, aimed at giving buyers, landowners and project developers more confidence in the market.

The new approach allows two pathways: one that "recognises schemes already accredited by reputable international bodies"; and a second that allows an "opt-in" for domestic schemes, the government said Monday in a statement.

"This work is needed because pressure on nature and climate is bigger than public funding alone can meet. Because of this, New Zealand has been missing opportunities to attract private

investment into local projects," it said.

"High-quality schemes accredited by reputable international bodies will be recognised by the government from the outset, so landowners and investors know what they can trust," the government said.

Two approved bodies were named by the government that take effect immediately. They are the Coalition to Grow Carbon Markets and The Integrity Council for the Voluntary Carbon Market, it said.

Domestic schemes that opt in to a "New Zealand endorsement pathway" will need to be assessed by an independent assurer against New Zealand's integrity principles.

Cameroon eyes biochar projects under Article 6.4

Cameroon would allow the development of biochar and other engineered carbon removals projects under Article 6.4 of the Paris Agreement, if methodologies are developed for the sectors, according to a document submitted to the UN's climate arm.

The 'Host Party Participation Requirements for Article 6.4' document submitted by the Ministry of Environment, Protection of Nature and Sustainable Development to the UNFCCC.

So-called "removal-focussed activities", such as biochar for long-term soil carbon storage, other unnamed engineered CO₂

removals (CDRs), and nature-based CDRs, including forest restoration and peatland/mangrove conservation, was one of six sectors highlighted in the document.

Cameroon also eyes REDD+, avoided deforestation, afforestation/reforestation, sustainable forest management, agroforestry, and mangrove restoration for Article 6. Other sectors in the document are: renewable energy; projects to cut methane and waste emissions, such as landfill gas; energy efficiency, including clean cookstoves; sustainable agriculture and soil carbon.

News in brief

The UK national weather office has released a tender worth £750,000 (\$1 million), excluding VAT, seeking a supplier to provide local nature-based carbon removal credits until October 2030, when the agency aims to achieve carbon neutrality. The five-year supply contract is estimated to start from October 2026, according to the tender published by the Met Office on Tuesday, with the deadline to submit an expression of interest until June 2.

UK-based developer DelAgua is expanding its operations into Uganda with a cookstoves project in conjunction with a unit of global energy company Union Energy. The partnership with Carbon Horizon will bring DelAgua's 'Live Well' programme to rural communities in south-western Uganda, beginning with a pilot phase of 10,000 improved cookstoves, before scaling to other regions across the country.

The number of carbon credits used by companies under Chile's Carbon Tax Scheme fell from more than 4 million tonnes of CO₂ equivalent (tCO₂e) in 2024 to less than 1.7 million tCO₂e last year.

CO₂ removal buyers' coalition Frontier has approved France-based carbon standard Rainbow as a credit issuer. Suppliers can now work with Rainbow to certify their removals for Frontier offtakes, subject to Frontier also approving the relevant Rainbow protocol. Rainbow's registry currently lists 115 projects with a total verified climate impact of 421,437 tonnes of CO₂ equivalent.

California govt. agency to push forward with cap-and-invest rulemaking proposal

The chair of the California Air Resources Board (CARB), Lauren Sanchez, has signalled during a state Senate hearing that the agency plans to move forward with the cap-and-invest rulemaking proposal outlined in April, ensuring an assessment can start on linking with Washington state.

The joint Senate Committee hearing was convened to determine whether CARB's proposed amendments to California's cap-and-invest scheme truly reflect the legislature's intent and maintain the balance lawmakers negotiated when they reauthorized the system in 2025.

"On May 20 is the quarterly auction, and on May 28, we will hold a hearing for the board to

consider the proposed changes," said Sanchez.

"On September 1, the proposed amendments would go into effect if adopted by the board," she said. This will allow "CARB to begin evaluations of a potential linkage of our market with Washington state", she added. "Timely action is essential now to deliver on our legislative mandates and provide the certainty that businesses, communities, markets, and our global partners rely on," she said.

Lawmakers raised concerns that CARB's April proposed revisions to the scheme could undermine Greenhouse Gas Reduction Fund revenues, shift costs onto consumers, weaken emissions reductions, or reward industries without accountability.

Developer launches €20m raise for BECCS project in Netherlands

Netherlands-based developer Jalo has launched an equity fundraising round to support the development of a bioenergy with carbon capture and storage plant in Almelo.

The aim is to raise €20 million (\$23.5 million) for the facility, which is designed to combine domestic biomass conversion with industrial offtake and permanent storage of biogenic CO₂ in the Netherlands, the developer said.

Once operational, the plant is expected to process around 125,000 tonnes of biomass pellets annually and capture approximately 56,000 tonnes of

biogenic CO₂ per year, it said. Captured CO₂ will be either used in industrial applications or permanently stored underground.

"The Almelo project has an estimated total capital requirement of approximately €52.5 million, with around €32.5 million expected to be funded through a combination of vendor financing, senior debt and public-sector support," Jalo said.

The €20 million equity raise is intended to complete the project's capital structure and support the plant through construction, commissioning and commercial scale-up.

News in brief

Brazil has pre-authorized 80 projects from the Kyoto Protocol's Clean Development Mechanism to transition the Article 6.4 Paris Agreement Crediting Mechanism.

Japanese agri-tech company Sagri has added a new AI function to its digital measurement, reporting, and verification platform SagriVision to help assess the carbon credit generation potential of regenerative agriculture projects. The feature, called Carbon Plan AI, is designed to simulate future changes in soil organic carbon storage, greenhouse gas reductions and carbon credit creation potential based on different farming scenarios.

State-backed South Korean electricity generator Korea Midland Power (Komipo) is collaborating with Seoul Metropolitan Landfill Management Corporation (SLC) to develop overseas carbon projects that will generate Article 6 credits by capturing landfill gas and biomethane for energy usage. Under the agreement, Komipo will be responsible for investing in projects and reviewing the purchase of credits, while SLC will conduct feasibility studies on landfill facilities.

Kenya-based direct air capture developer Octavia Carbon has injected its first CO₂ into geological storage at its site in the East African country's central Rift Valley. The first injection of less than 0.5 tonne still represents "a huge milestone on our path to scale", Octavia said in a social media post.

'Buy now, pay later' platform aims to spur near-term Corsia demand

The organisations behind a quarterly sales scheme for carbon credits under the Corsia aviation decarbonisation scheme have launched a platform for deferred payments. The aim is to give airlines more "flexibility and security" in meeting their obligations under the programme's current 2024-2026 compliance phase.

The Deferred Payment Platform on the Aviation Carbon Exchange (ACE) will give airlines the ability to buy Corsia Eligible Emissions Units (EEUs) today and pay at a later date.

This includes the ability to defer payment out as far as December 2027, just before the January 2028 compliance deadline for Corsia's Compliance Phase 1 (CP1)

The initiative has been drawn up by trade group International Air Transport Association (IATA), environmental markets infrastructure provider Xpansiv, and commodities trader Mercuria.

It aims to give carriers the ability to agree on pricing now, while payment and delivery would occur in the future.

The platform will give end-users of the credits the ability to access a "significant range of Corsia EEUs available on the market today," IATA said in a social media post.

The 'buy now, pay later', facility would also give airlines security that credits will be transferred by the seller today and held in ACE/Xpansiv escrow services until payment.

Italian transport infrastructure outfit backs Chile forest scheme

A subsidiary of an Italy-based mobility infrastructure company is planning to restore 170 hectares of native forest in southern Chile with a target to remove approximately 80,000 tonnes of CO2 equivalent (tCO2e) over 40 years.

Neya Società Benefit, the carbon project developer subsidiary of Mundys Group, is working with Canadian developer Taking Root and US-based Earthshot Labs on the reforestation project in the Valdivian temperate forest.

The Nothofagus: Bosques Nativos Chilenos project is being developed under US-based registry Verra's Verified Carbon

Standard and has the potential to scale up to between 7,500 and 10,000 hectares, Neya said.

Mundys will use 55,000 tCO2e to offset part of the emissions generated by its infrastructure assets worldwide, it said.

The project is currently in the pilot phase and aims to scale-up next year, said Troy Carter, chief executive at Earthshot.

"The plan will involve the planting of native species of tree such as Rauli, Coigüe and Roble, on degraded or marginal land, often used for grazing in the past," Mundys said.

News in brief

US-based non-profit American Forest Foundation has enrolled 200,000 acres (81,000 hectares) in its Family Forest Carbon Program, which was launched in 2021 to connect smaller landowners to the carbon credit market. The land in the programme is set to remove 3.5 million tonnes of CO2 equivalent and generate \$54 million in landowner payments over the next 30 years.

New Zealand has selected US-based environmental markets operator Xpansiv's subsidiary CBL Markets (Australia) to run quarterly auctions under its emissions trading scheme. CBL Markets (Australia) will replace the current operator, New Zealand's Stock Exchange, from the September auction, the Ministry for Environment said.

Morocco and Norway have signed an Implementation Agreement to cooperate on carbon market mechanisms under Article 6.2 of the Paris Agreement, with plans to support around 2 gigawatts of renewable energy capacity in the North African country over the next decade.

Sweden and Switzerland have agreed two symbolic cross-border CO2 removal credit trades under a 2023 bilateral cooperation framework, in a move aimed at encouraging international CDR deals under the Paris Agreement. Under the arrangement, the Swiss government authorised the transfer of Paris-backed CDRs equivalent to two tonnes of CO2 to two Swedish buyers.

Market Commentary

REDD+ spot demand firms; Corsia and N-GEO markets remain under pressure

Activity across the voluntary carbon market over the fortnight to May 11 showed diverging dynamics. There was stronger spot demand for REDD+ credits as some buyers shifted away from renewable energy offsets, while the Corsia market remained under pressure and nature-based futures fell to record lows.

In nature-based markets, market sources said some Europe-based corporates were increasingly rotating away from renewable energy offsets in China and India in favour of forestry projects.

Bids for Cambodia's Keo Seima REDD+ project (VCS1650) were heard around \$4 per tonne of CO2 equivalent (tCO2e) for 25,000t deliveries of vintage 2021 credits, indicating firmer spot demand for established REDD+ projects despite broader weakness across futures markets.

Prices for other REDD+ projects also continued to soften amid weaker bids and offers, while broader liquidity conditions remained thin. Quantum's assessment for Katingan REDD+ vintage 2020 credits from Indonesia (VCS1477) fell 15 cents over the fortnight to \$11.20/tCO2e for 20,000t delivery.

Market participants further reported interest in Verra's updated REDD+ methodology, VM0048 Reducing Emissions from Deforestation and Forest Degradation. Quantum heard an offer for yet-to-be-issued VM0048 credits at \$15/tCO2e for a 200,000t delivery. A separate request for proposals was heard from a buyer seeking future

Quantum Carbon Credit Price assessments

		14d +/-	52wk H/L
Europe compliance			
EUA Dec '26 (€/t)	77.23	2.33	92.12/63.62
APAC compliance			
ACCU No AD spot (A\$/t)	37.55	0.05	38.25/33.3
Aus SMC spot (A\$/t)	37.55	0.05	38.25/33.3
NZU Dec '25 (NZD/t)	52.00	2.80	59.6/32.75
KAU spot (KRW/t)	17200.00	400.00	17400/8130
North America compliance			
RGGI spot (\$/st)	39.21	2.55	52.36/19.28
CCA spot (\$/t)	28.08	0.12	32.8/25.79
WCA spot (\$/t)	64.26	-1.44	78.5/54.76
Corsia (\$/t)			
Corsia Phase 1	15.85	-0.15	23.9/15.85
VCM (\$/t)			
Katingan V2020 20kt	11.20	-0.15	12.25/6.4
GS Clean cookstoves A6	11.30	0	12.3/11.3
LoA Africa V2023 20kt			
VCS Methane Bangladesh 2022 100kt	3.90	0	4.0/2.4
Puro biochar 1-10kt	135.00	0	180/135
Power Certificates			
I-REC India Wind (\$/MWh)	0.64	-0.01	0.95/0.48
LGC Aus. Spot (A\$/MWh)	2.25	0.2	21.25/2.0

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VM0048 supply, but willing to consider legacy credits in the interim, provided developers commit to transitioning once the methodology becomes operational. Participants said the discussions reflected growing

frustration with delays to VM0048 issuance rather than a drop off in underlying buyer interest.

In futures markets, CME Nature-based Global Emissions Offset (N-GEO) contracts extended losses,

Market Commentary

with the front-month May contract dropping to a record low of \$0.01/tCO₂e during the fortnight. Contracts across the forward curve also weakened as market participants continued to favour physical spot delivery over standardised futures exposure.

Corsia

Spot and futures prices under phase one (2024-2026) of the Corsia aviation decarbonisation scheme weakened further over the period amid continued uncertainty around future demand and potential fragmentation between EU and non-EU eligible supply.

Quantum's assessment for Corsia Phase 1 Seller's Option spot delivery fell to \$12.55/tCO₂e by the May 11, while ICE CP1 December 2026 futures slipped to around \$12.60/tCO₂e, close to the lowest levels seen since late March.

Concerns over airline demand persisted amid expectations that elevated oil prices could reduce long-haul travel activity, dampening future compliance demand, sources said. Uncertainty also emerged following reports that the EU may restrict the use of certain avoided deforestation credits, including some REDD+ categories, under its implementation of Corsia.

Against that backdrop, offers were heard for so-called 'EU Eligible Guaranteed' Corsia credits for delivery by late 2027 at \$17.50/tCO₂e, a substantial premium to standard Corsia futures.

In CO₂ removal (CDR) market, sentiment remained cautious following Microsoft's decision to pause new carbon market investments, though existing agreements appeared unaffected. Sweden-based

Stockholm Exergi said its existing 5 million tCO₂e offtake agreement with Microsoft remained in place.

However, market players continued to warn that the slowdown in buying from one of the sector's largest buyers could delay investment decisions for newer projects seeking financing.

Europe

EU Allowances (EUAs) experienced sharp intra-week volatility over the fortnight as geopolitical tensions in the Middle East and ongoing EU Emissions Trading System (ETS) reform discussions continued to drive sentiment.

The December 2026 EUA contract climbed as high as €77.11 (\$90.57)/tCO₂e earlier in the period after reports of a possible US-Iran agreement and a leaked EU document indicating continued tightness in EUA supply benchmarks.

However, the gains partially reversed during the period after renewed military exchanges between the US and Iran reignited concerns over broader economic impacts from the regional conflict. By May 11, however, Dec26 EUAs were trading around €77.23/tCO₂e, regaining momentum.

Market participants continued to monitor reforms to the EU ETS, particularly proposed benchmark updates that determine free allocation levels across industrial sectors. The proposals were broadly seen as supportive for long-term carbon prices, sources said.

Speculative positioning, however, remained softer, as Intercontinental Exchange data showed funds continued reducing net long exposure during the period, with the overall net long

position falling to levels last seen in August at under 35 million EUAs.

North America

Prices in the Regional Greenhouse Gas Initiative (RGGI) soared briefly on a feared squeeze in allowances resulting from Virginia's re-entry into the scheme, before sliding as the Intercontinental Exchange tightened margins for traders and RGGI said it was monitoring the volatility. December 2026 RGGI allowances reached \$58.89 per short ton (st) of CO₂ on May 5, then dropped 37% to \$37.21/st, down nine cents in the two weeks.

California Carbon Allowances, extended their holding pattern to three months, rising 10 cents the first week and falling 10 cents the second to stay at \$29.01/tCO₂e, while Washington Carbon Allowances slipped from \$67.30/tCO₂e to \$65.15. In Canada, prices under the Alberta Tier system rose 2% to CAD36.50/tCO₂e (\$26.68/tCO₂e).

Australia/New Zealand

Australian Carbon Credit Unit (ACCU) prices rose modestly over the fortnight, with Quantum assessing Generic ACCUs at AUD37.55 (\$27.12)/tCO₂e by May 11 amid increased trader buying and several large tenders totalling more than 600,000 tCO₂e.

Soil carbon ACCU offers emerged between AUD40/tCO₂e and AUD42/tCO₂e, while a 5,000t parcel reportedly traded at around AUD45/tCO₂e in April.

In New Zealand, NZ Unit prices rose NZD4.60 (\$2.70) to NZD52/tCO₂e on May 11 on improving sentiment and stronger buying from offshore traders and fuel companies ahead of the May 31 compliance deadline.

