systemica

VCM Report

1Q - 2025

April 2025

About Systemica

We are an ecosystem specialized in solutions for the generation and management of carbon credits and environmental assets. Our operations range from the financial structuring of the asset, through the development of projects that reduce and remove emissions, to the formulation of environmental public policies.

We create a continuous cycle of impact, ensuring that each action taken today becomes a legacy for the future, with effective and measurable results.

Our technical team delivers at a superior level. We combine experience, scientific knowledge, and a researcher's spirit to meet the strictest sustainability parameters.

As a result, our projects unfold into significant contributions in both environmental and social spheres.

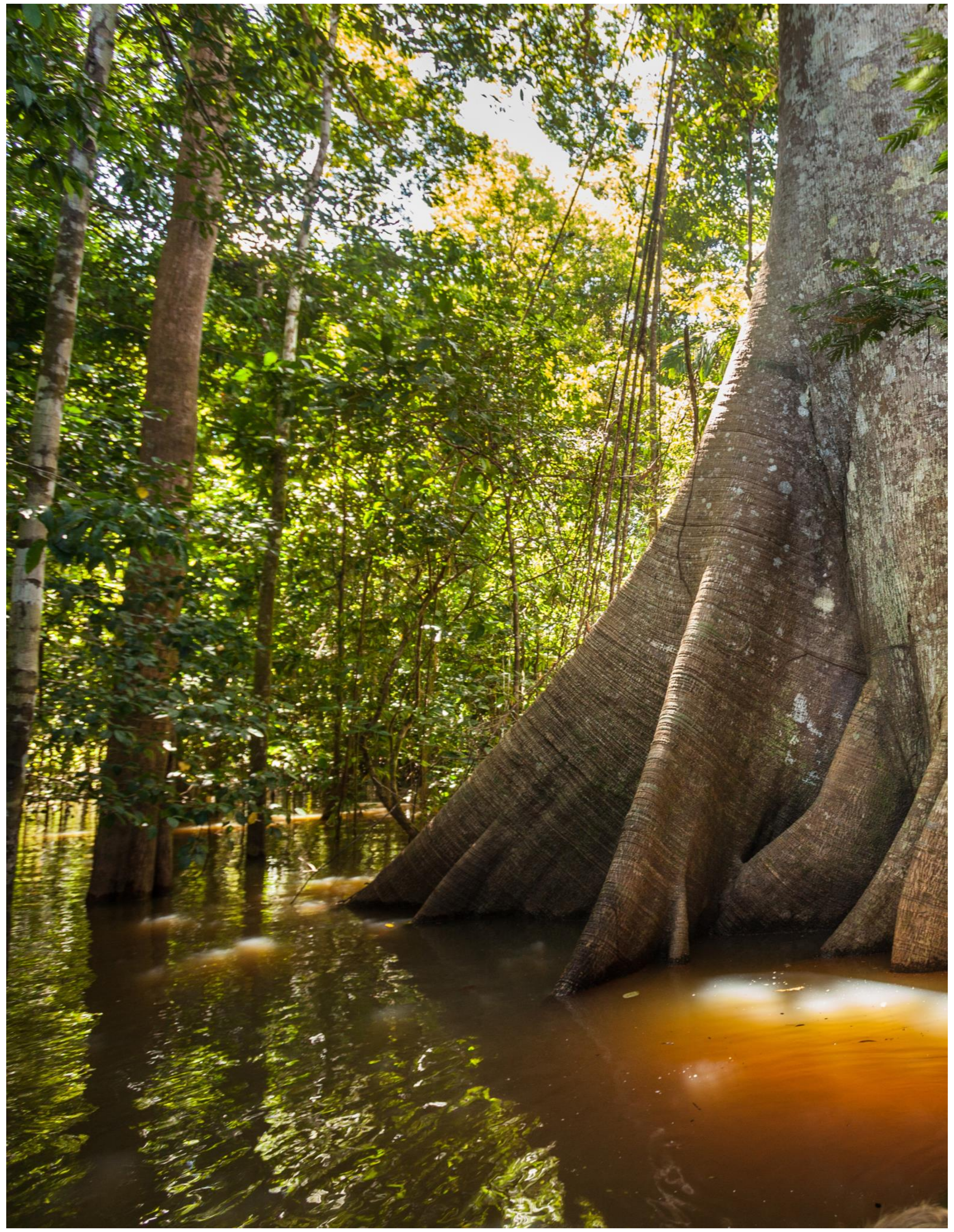
Introduction

The voluntary carbon market stands as a crucial instrument in addressing climate change, deforestation, and biodiversity loss.

Despite a challenging year, the market's value reached an estimated $1.4 billion in 2024[1], accompanied by demand exceeding 180 MtCO2e for the third consecutive year. Forecasts from Bloomberg suggest a potential annual market value of $0.5 - $1 trillion[2], contingent upon high credit integrity.

However, challenges persist regarding integrity and transparency, hindering the market's consolidation and effectiveness.

In response to these concerns, Systemica presents a comprehensive analysis of the market's performance in the first quarter of 2025 and offers insights into its outlook for the upcoming year.



[1]MSCI, 2025, Frozen Carbon Credit Market May Thaw as 2030 Gets Closer
[2]BloombergNEF, 2024. Mega Boost for Carbon Offsets Market Seen from SBTi Easing.

Key Insights

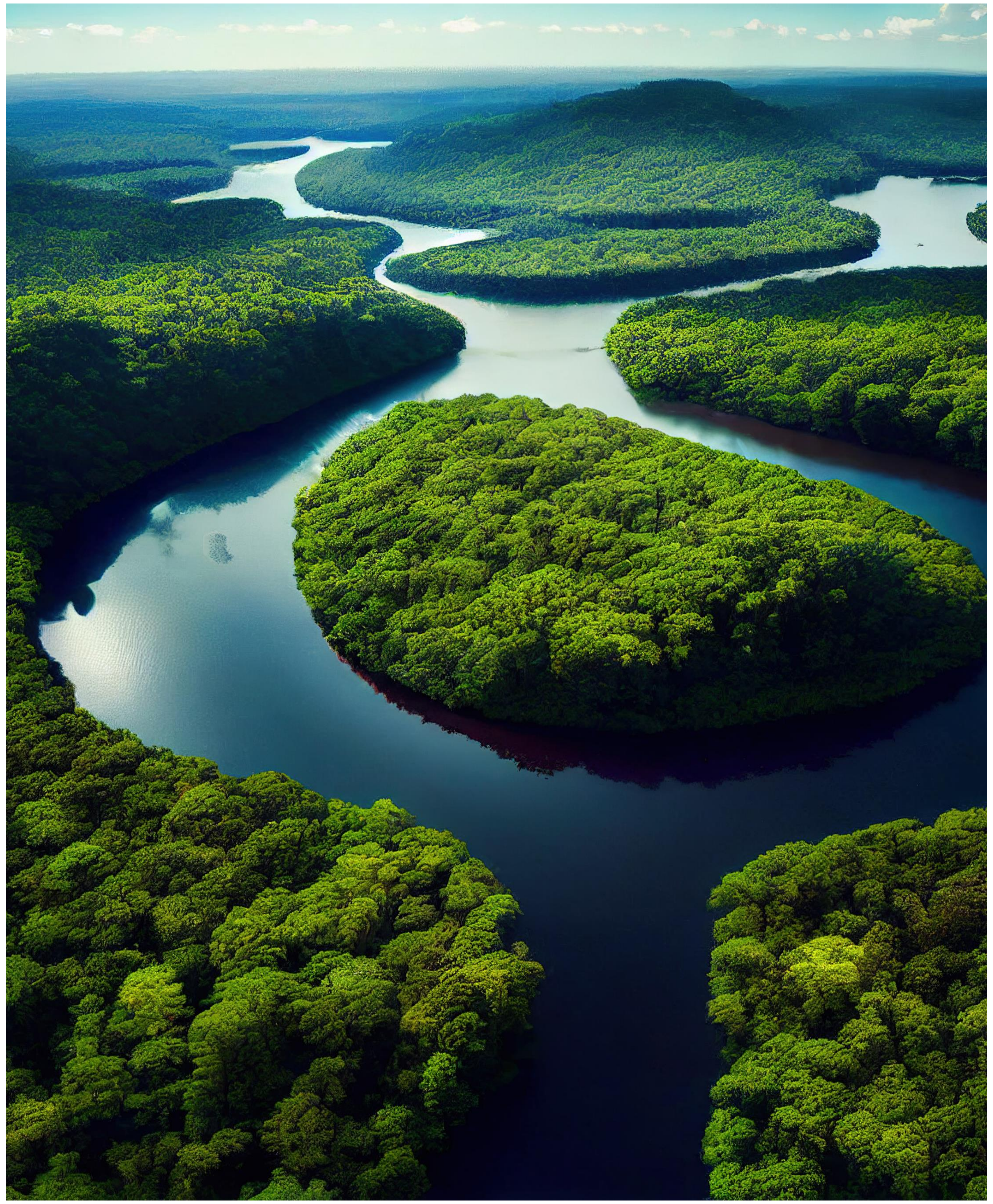
- ✓ **New credit issuance declined 27,5% year-over-year**, driven primarily by a sharp reduction in the issuance of nature-based solution (NBS) credits, particularly from REDD+ projects. In contrast, **retirements exceeded 55 $MtCO_2e$, representing the fourth-highest quarterly total to date.**

- ✓ The overall **surplus remained just above 1 billion tCO_2e**, with a continued **deceleration in its growth rate**. Based on current issuance and retirement trends, the **surplus is projected to increase by less than 1% by the end of 2025**.

- ✓ SBTi participation surpassed **10,000 companies**, but the **quarterly growth rate in new participants declined by 29% relative to 4Q-2024**, indicating a slowdown in corporate climate commitment momentum.

- ✓ **Average market prices held steady at USD 4.80/tCO_2e**, with no material change compared to the previous quarter.

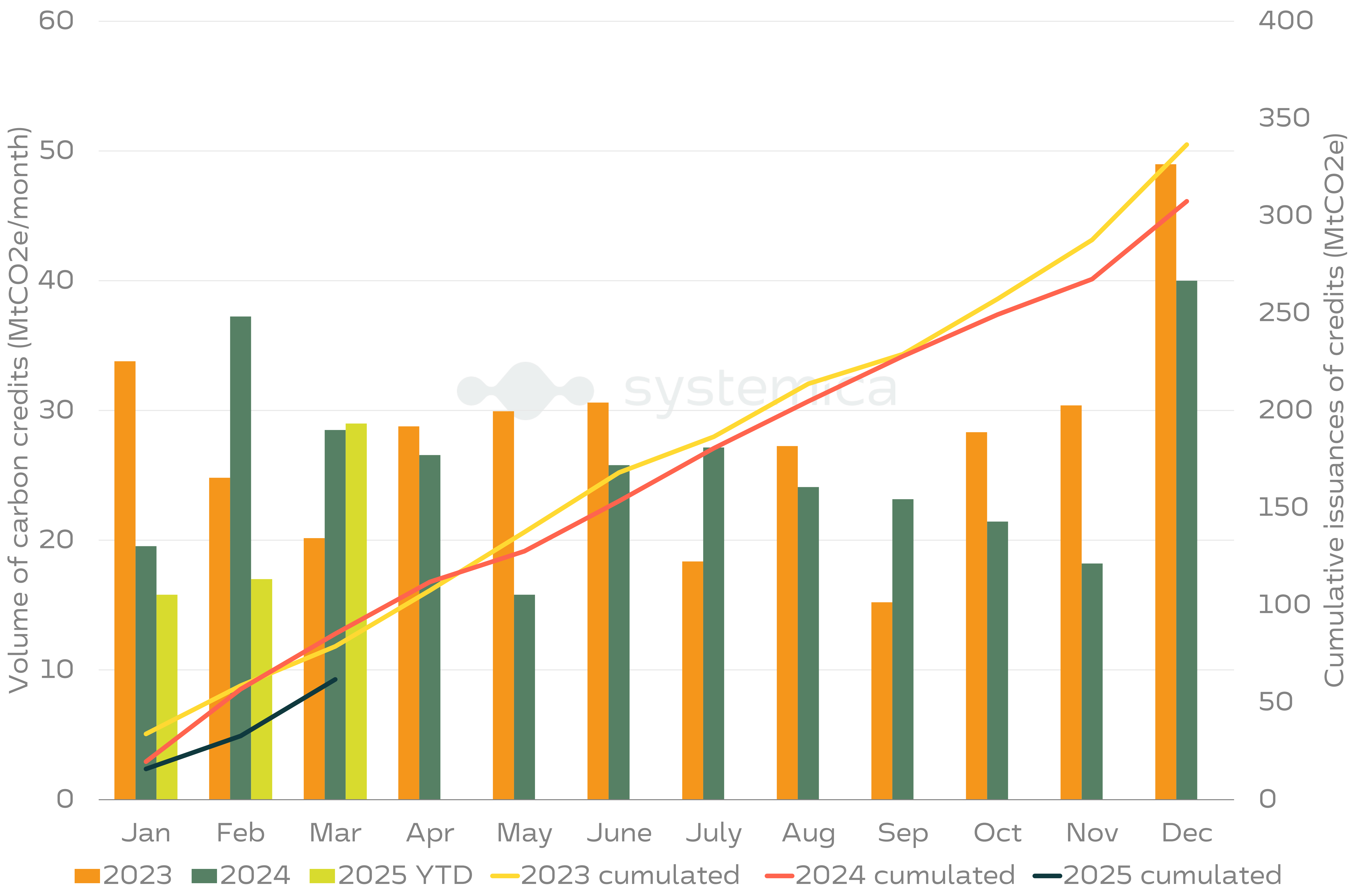
- ✓ **High-integrity credits traded at average premiums of up to 52%**, but continue to **account for less than 15% of overall market supply**, highlighting limited availability of higher-quality credits.



Supply of carbon credits on the market

Carbon credit issuances remain below two-year averages amid market uncertainty

Evolution of issued credits (MtCO2e)

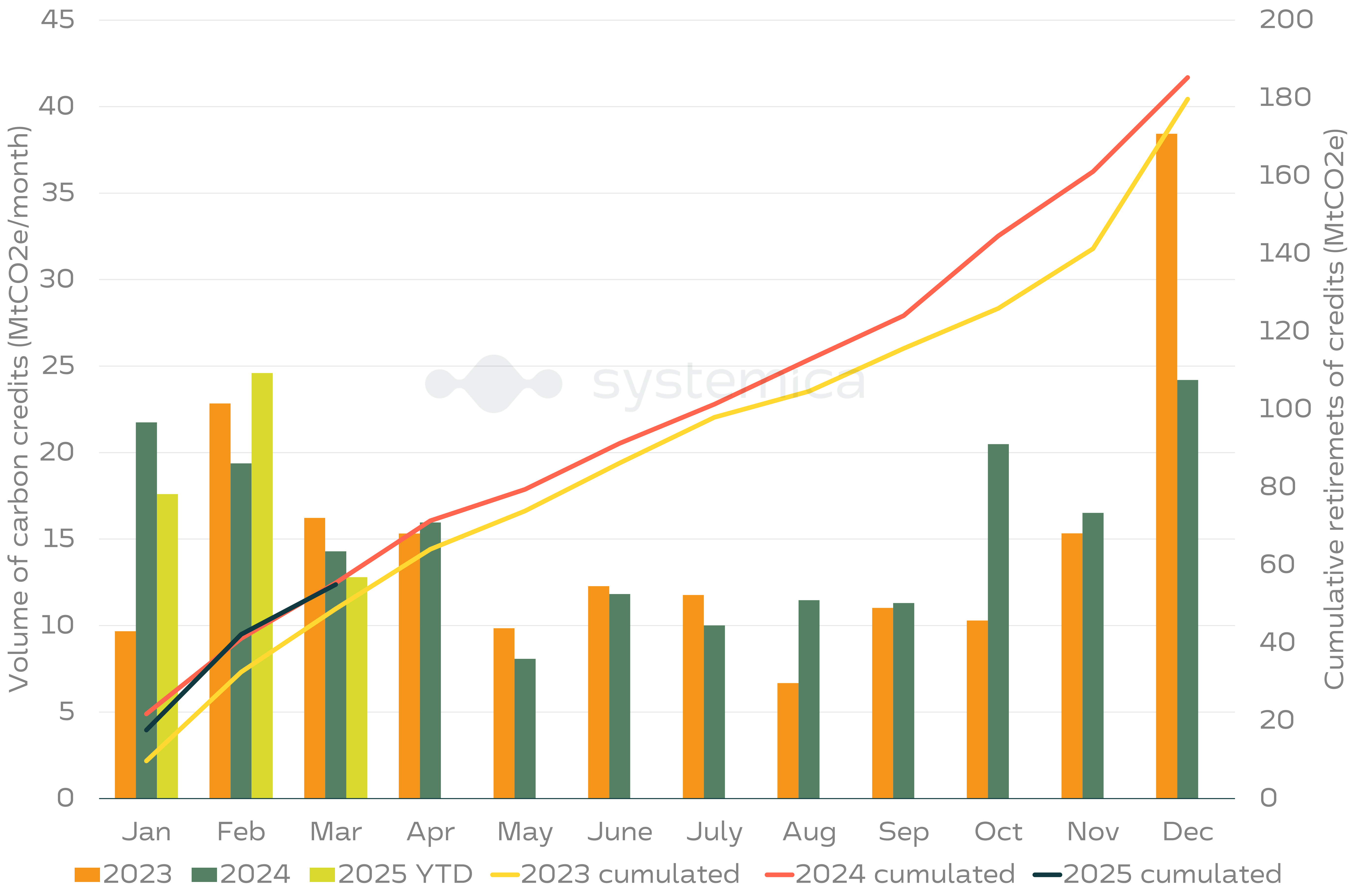


- The issuance of new carbon credits maintained its downward trajectory observed since 2022, reflecting the ongoing challenges in restoring positive price signals in the voluntary carbon market since 2023.
- Despite this trend, March saw an increase in emissions compared to the previous two years, driven by the **issuance of almost 9 MtCO2e of J-REDD credits from Guayana registered under the ART-TREES** standard. For non-jurisdictional NBS projects however, the first quarter of 2025 marked the lowest volume of emissions since 2017.
- By the end of the first quarter of 2025, **total issuance of new credits reached 61.8 MtCO2e.**
- This volume marked **declines of 21,5% and 27,5% compared to the same periods in 2023 and 2024.**
- Contributing factors to this decrease include lower market prices and delays in the verification in the primary registries throughout the year.

Supply of carbon credits on the market

Credit retirements recorded the fourth-highest quarterly result on record, indicating signs of demand consolidation

Evolution of retired credits (MtCO2e)



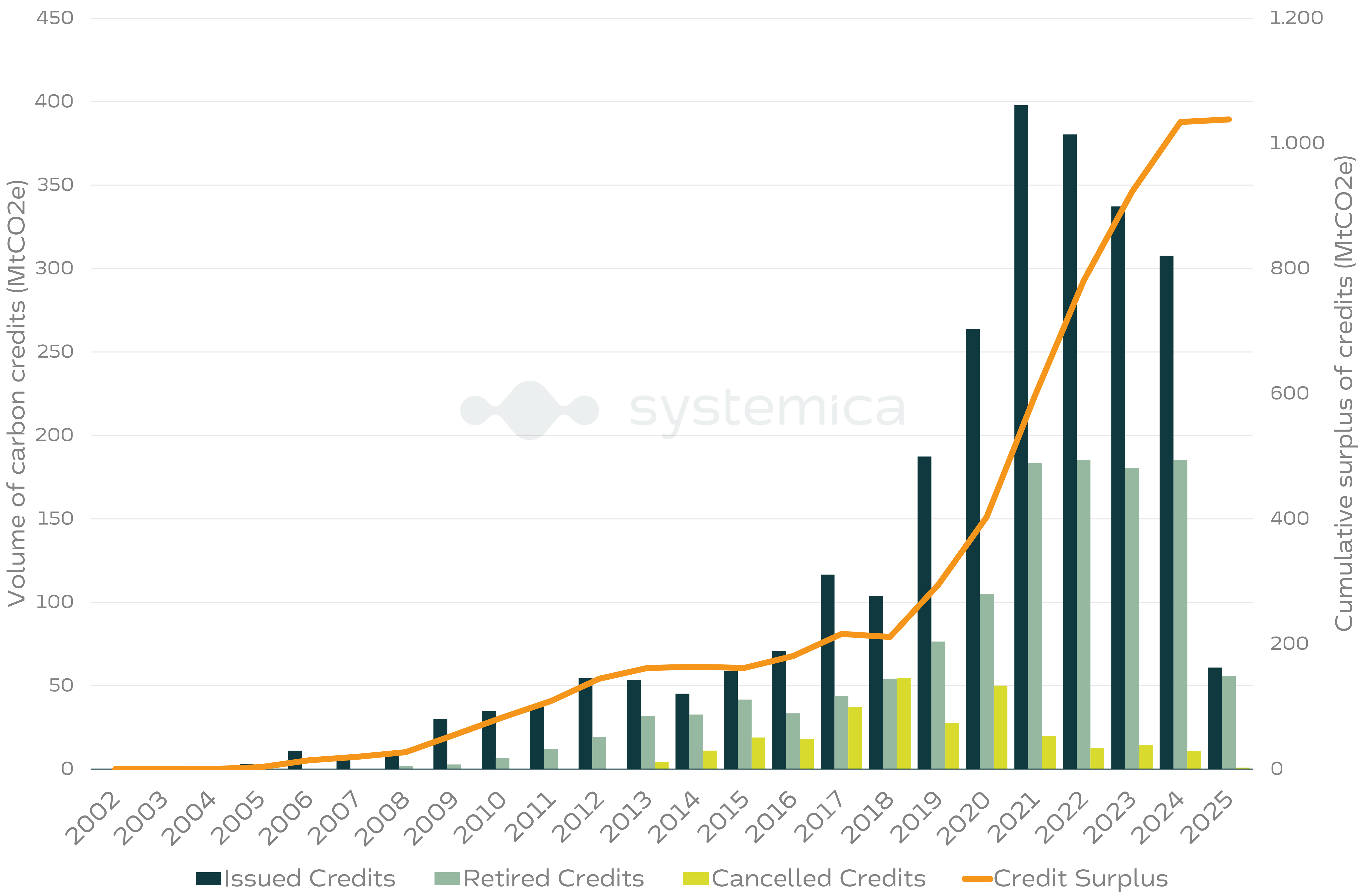
- Credit retirements in 1Q-2025 maintained the levels seen in the same period last year, **with a modest increase of 1,3% compared to the same period in 2024 and 15% compared to 2023.**
- The volume of **credit retirements exceeded 55 MtCO2e in the first quarter of 2025, the fourth best quarterly result ever recorded**, indicating stable demand despite broader market challenges.
- Market demand has shown **resilience in 2024 and early 2025**, supported by the introduction of new quality benchmarks, including the **approval of the first CCP-eligible standards and methodologies**, which gave positive signals to established investors.
- **CCP-eligible credits available on the market have seen an increase in demand (+90%) compared to the same period in 2024**. This consolidation of quality standards could position the market for renewed growth in demand for carbon credits in 2025.

Source: Includes data from ACR, CAR, Gold Standard, EcoRegistry, Climate Forward, Verra, CDM-NDC Eligible, BioCarbon, Art Trees, Puro Earth, GCC. Data as of 31/03/2025

Supply of carbon credits on the market

The surplus of credits available on the market remained stable, driven by the continued decline in new credit issuances.

Evolution of credit surplus available on the market



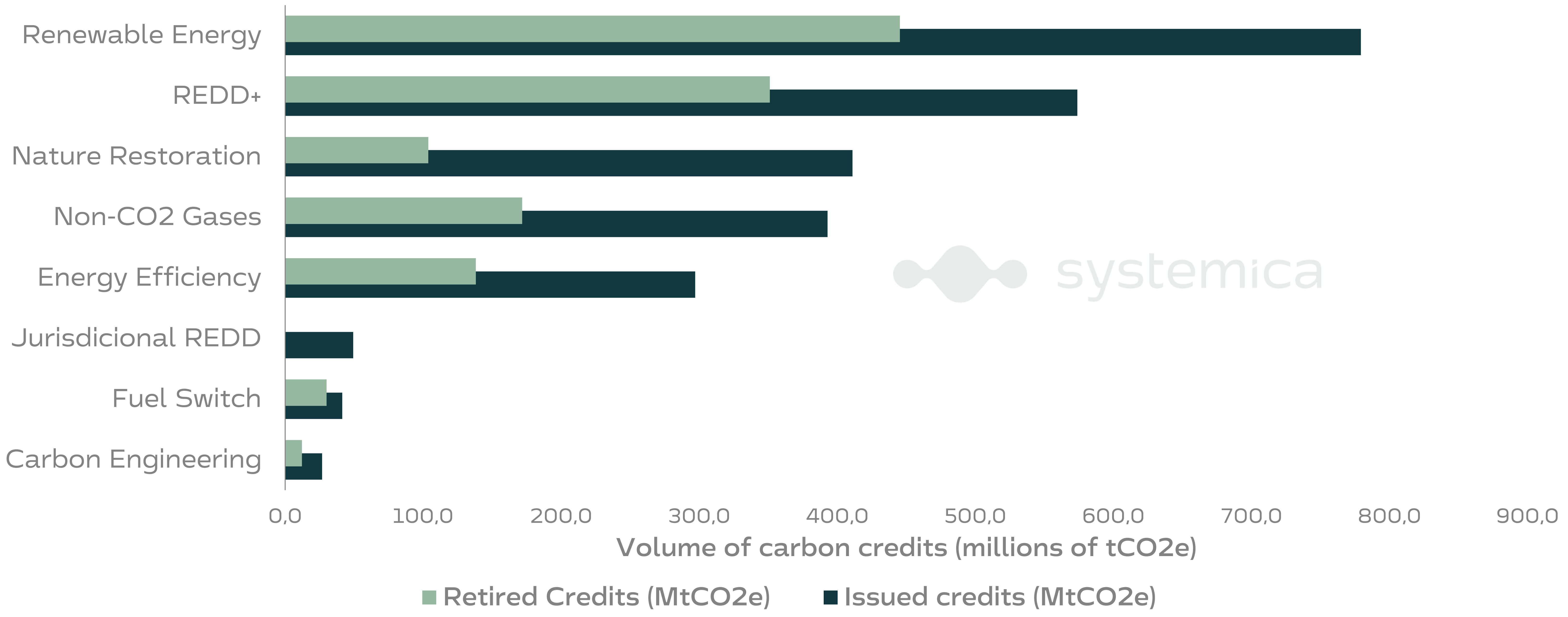
- The total **surplus of credits available on the market** in 1Q-2025 showed a **modest increase of 4 $MtCO_2e$ quarter-over-quarter**, surpassing 1 billion tCO_2e.
- **The surplus growth rate has declined steadily since 2021**, driven by a drop in the issuance of new credits—falling from 48% to 12% in 2024—with year-to-date projections **indicating a further decrease to just 1% in 2025.**
- The surplus of available credits is expected to continue increasing in 2025, though at a pace consistent with the ongoing downward trend.
- Despite the surplus, quality remains a key concern. **MSCI Carbon Markets estimates that 50% of available credits are rated B or lower**, highlighting a persistent quality gap.
- Projections indicate that if the issuance downturn persists, the **market could shift from surplus to undersupply by mid-2029**, particularly for high-quality credits, potentially driving price adjustments and increased competition among buyers.

Source: Includes data from ACR, CAR, Gold Standard, EcoRegistry, Climate Forward, Verra, CDM-NDC Eligible, BioCarbon, Art Trees, Puro Earth, GCC. Data as of 31/03/2025

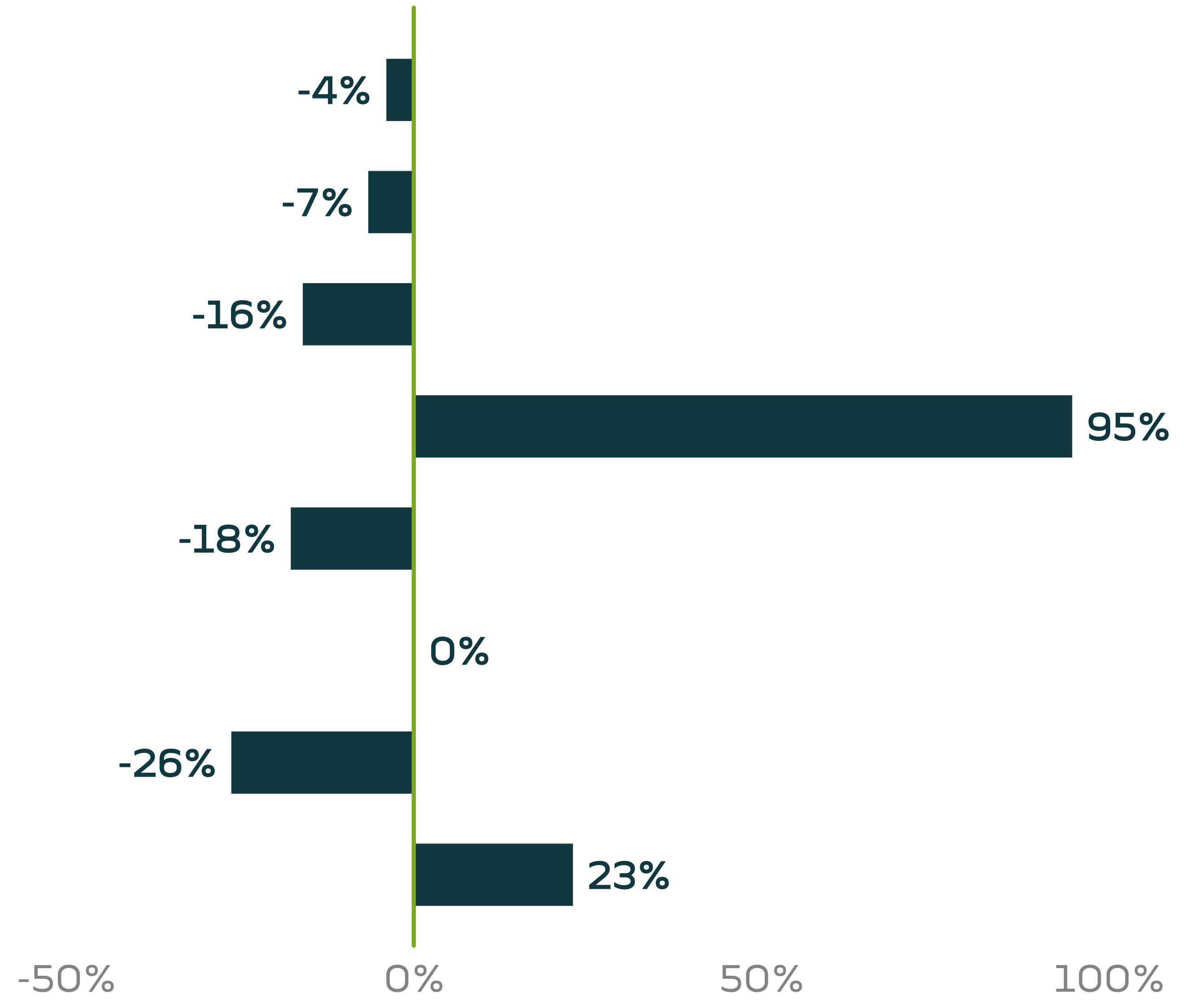
Supply of carbon credits on the market

Although retirement volumes remained stable, market dynamics indicated a notable shift in credit preferences, with increased demand for CCP-labeled credits, driven by quality and integrity concerns.

Comparative table of historical issuance volumes among project types



Retirements variation 1Q25 vs 1Q24



- Renewable Energy, REDD+, and Nature Restoration credits represent the largest share of credits available in the market.
- Credits from Non-CO_2 Gases projects—the only category with **CCP-labeled credits** currently available—reached their highest-ever quarterly retirement volume in 1Q-2025, marking a **95% increase compared to 1Q-2024**. This reflects **growing market interest in high-quality credits**, with CCP-eligible projects **commanding premiums of up to 20%.**
- In contrast, credits from **other project types experienced a decline in retirement volumes** compared to the same period last year.

Source: Includes data from ACR, CAR, Gold Standard, EcoRegistry, Climate Forward, Verra, CDM-NDC Eligible, BioCarbon, Art Trees, Puro Earth, GCC. Adapted based on MSCI Carbon Markets[8] classification framework. Data as of 31/03/2025

Supply of carbon credits on the market

Major players consolidate their participation in the carbon market

Comparative table of the volume of emissions between the types of carbon credit certification

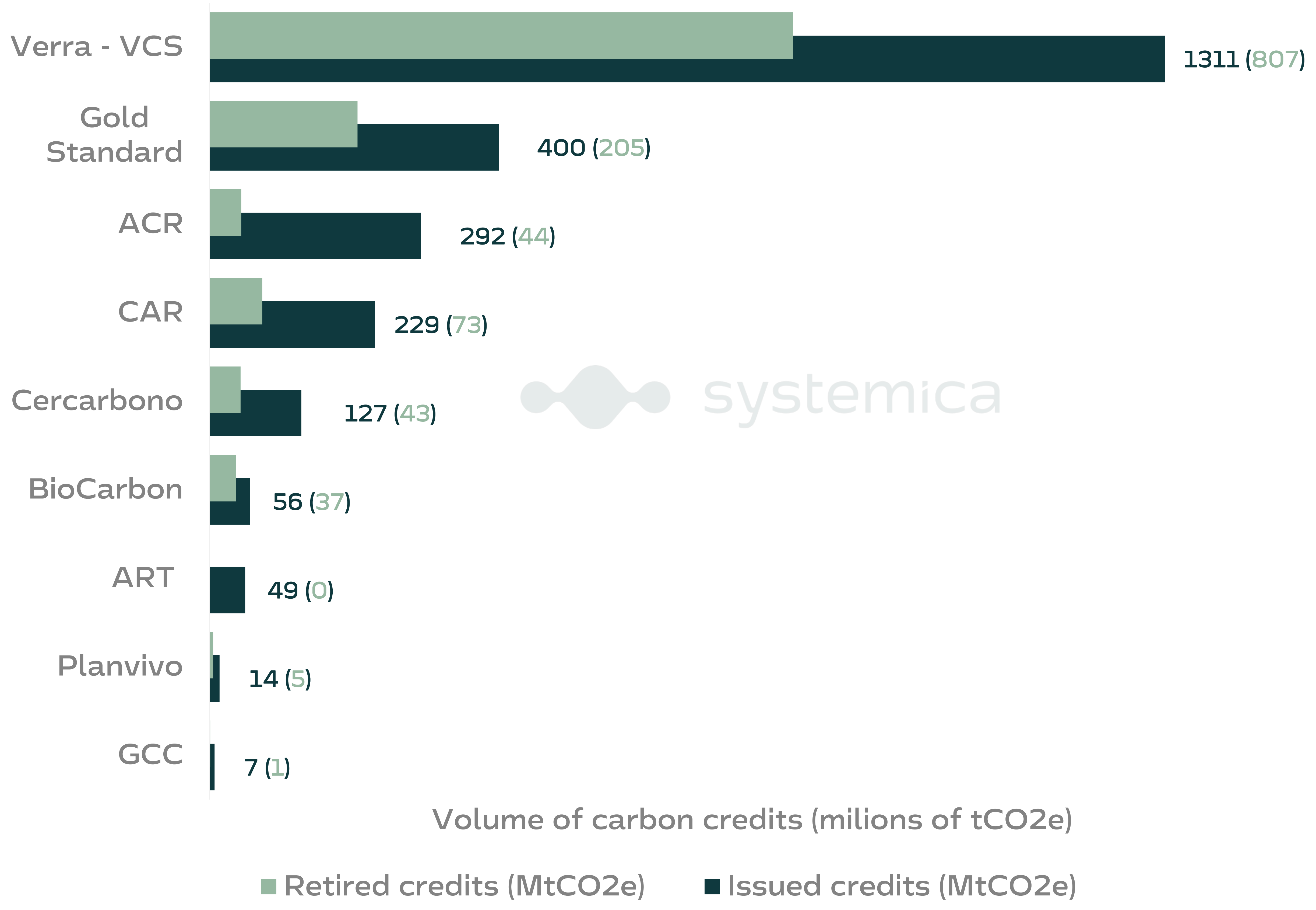
- **Verra and Gold Standard together represent around 83% of the market by retirements.**

- In the first quarter of 2025, **Verra issued 33 $MtCO_2e$ in new credits**, remaining stable year-over-year. **Retirements,** however, declined significantly—falling 30% **to 23 $MtCO_2e$** compared to Q1 2024.

- At the **Gold Standard**, new **credit issuance fell 40%** year-over-year **to 12 $MtCO_2e$**, while **retirements increased 9%, also totaling 12 $MtCO_2e$.**

- The ratio of retired credits to issued credits is:

    - Verra: 61,1%
    - Gold Standard: 51,2%
    - ACR: 15,1%
    - CAR: 31,9%
    - Cercarbono: 33,9%
    - BioCarbon Registry: 66,1%

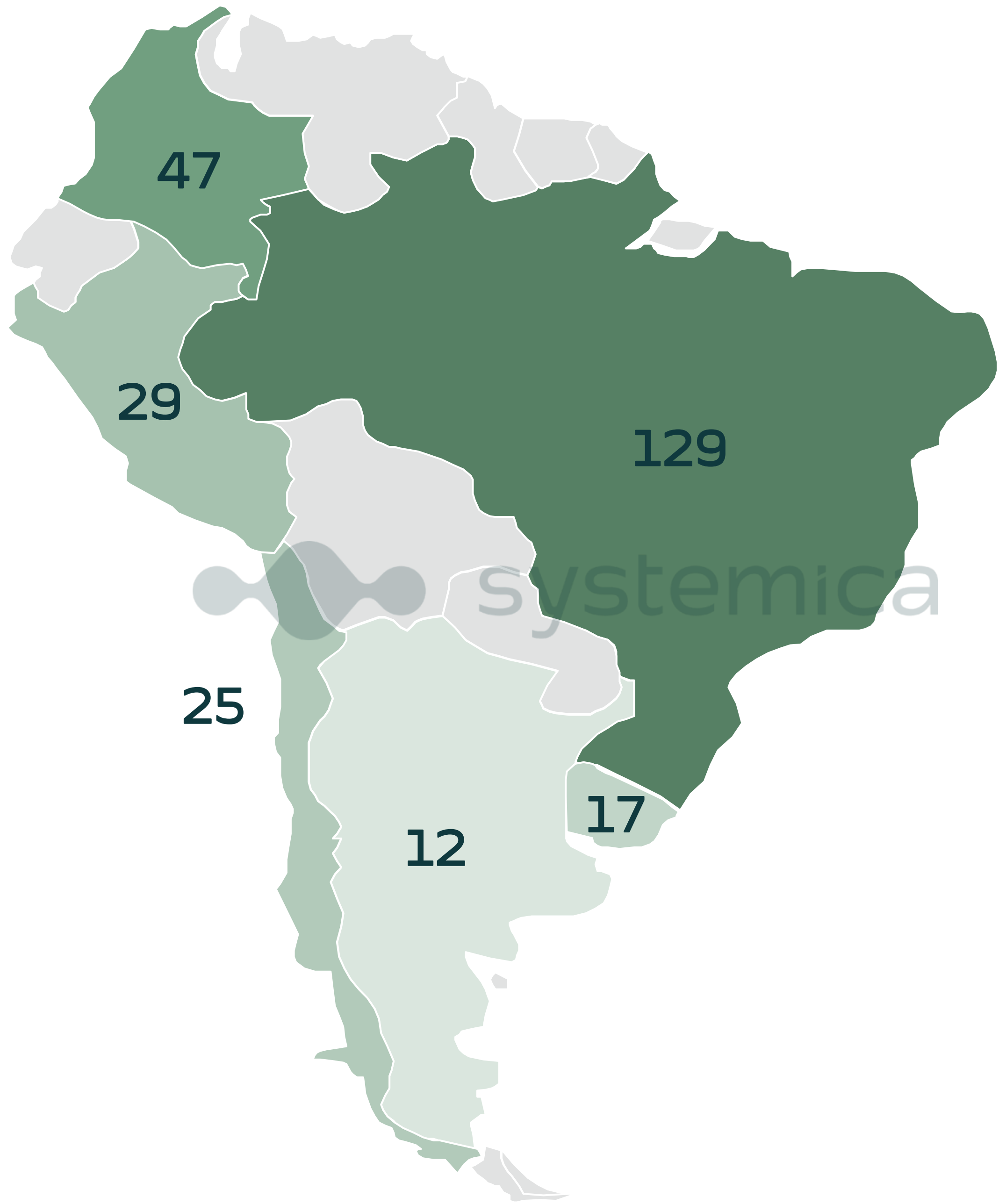


Source: Includes data from ACR, CAR, Gold Standard, EcoRegistry, Verra, CDM-NDC Eligible, BioCarbon, Art Trees, Puro Earth, GCC. Data as of 31/03/2025

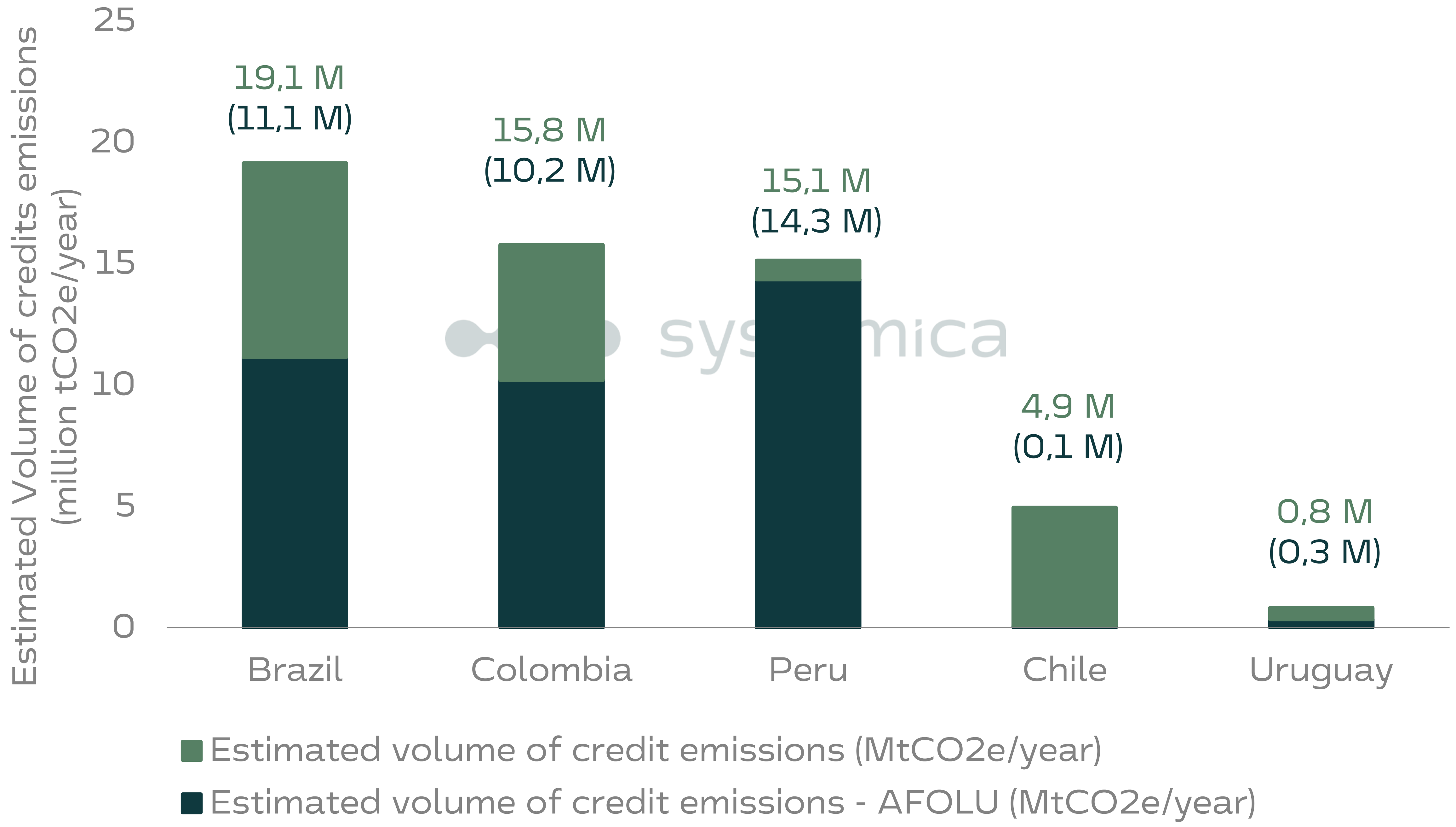
VCS Projects Registered in South America

Brazil stands as regional leader followed by Colombia and Peru as powerhouses of AFOLU projects

Projects Registered in the Main Countries of South America



LATAM Countries with the Highest Volume of Annual Credit Issues



- The Latin American market is led by Brazil, which contributes 40% of total projects and 25.6% of annual emissions reductions in terms of volume.

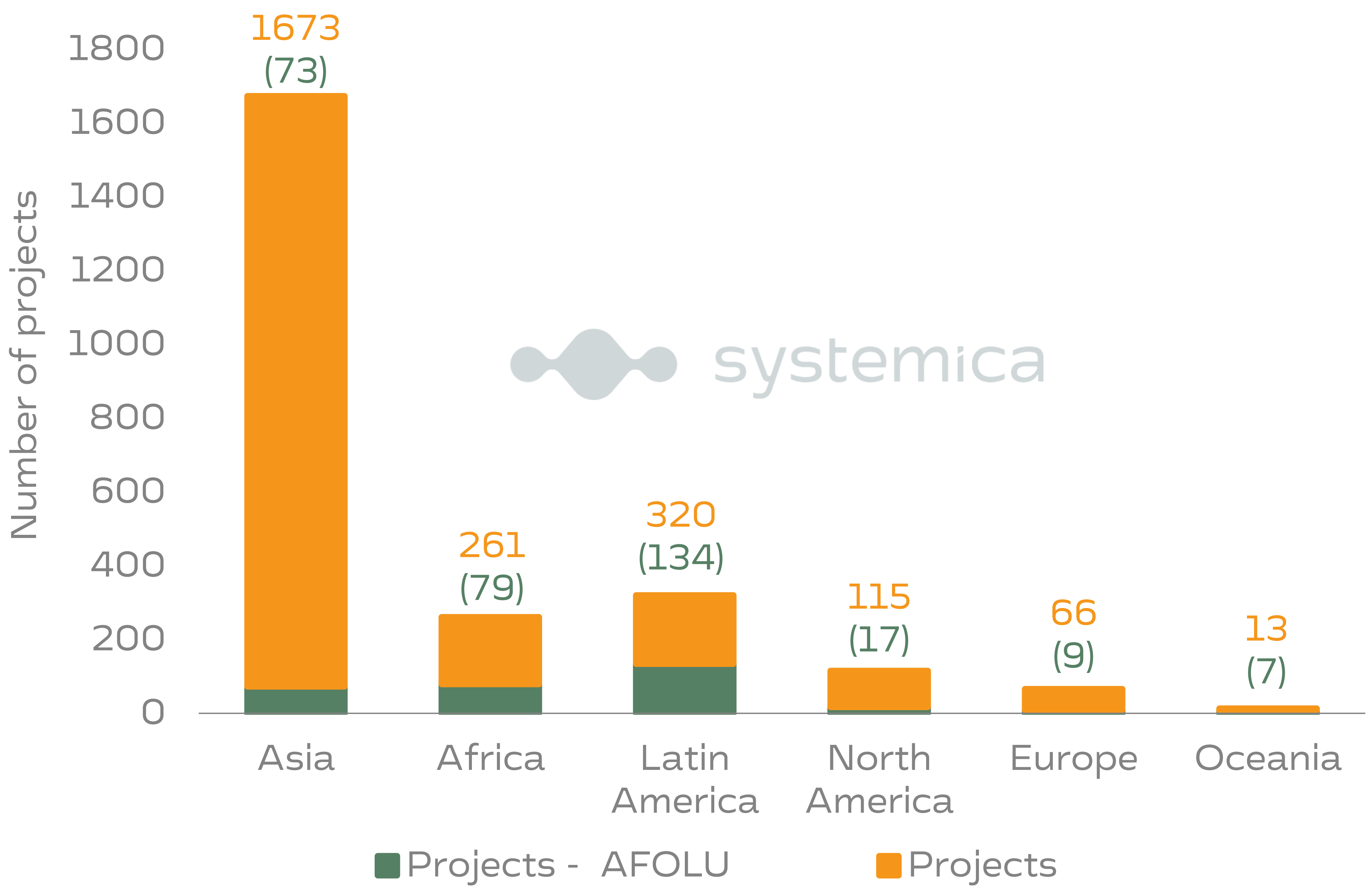
- 1Q2025 saw the addition of 15 Latin American projects to Verra's registry, bringing the total to 320 projects registered on the platform. Brazil, Colombia and Peru continue to lead Latin America in both project registrations and projected credit issuances.

Source: Verra Data – VCS Standard. Data as of 31/03/2025

VCS Projects Registered Worldwide

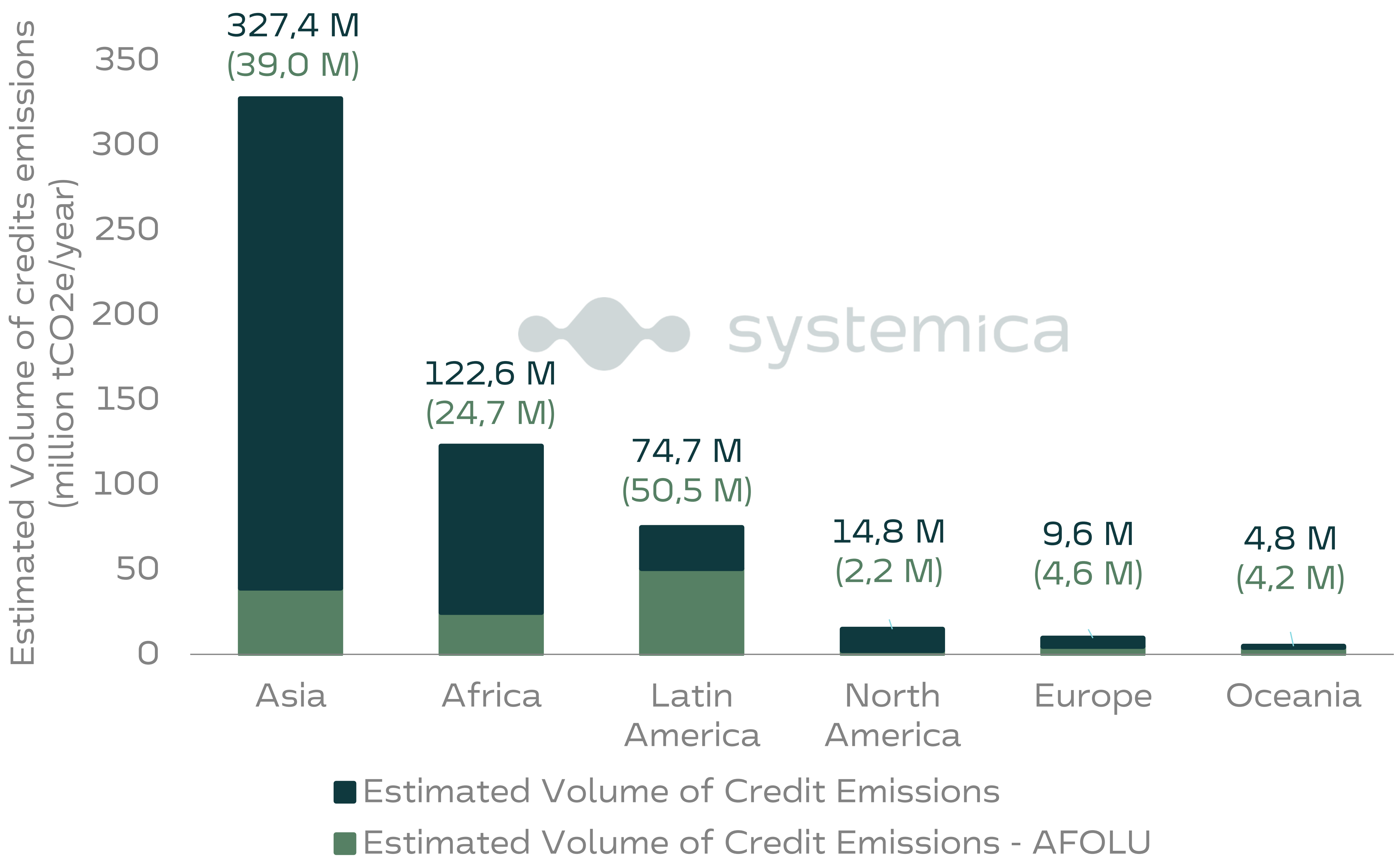
Asia remain leader in the number of emissions as LATAM countries consolidates its strategic position on AFOLU projects

Number of VCS Registered Projects



- Asia holds the largest share of global projects at 68%, accounting for 59% of total emission volumes, predominantly in renewable energy.
- In 1Q2025, Verra registered 66 new projects, with 41 concentrated in Asia and Africa.

Estimated volume of credit emissions ($MtCO_2$ per year)

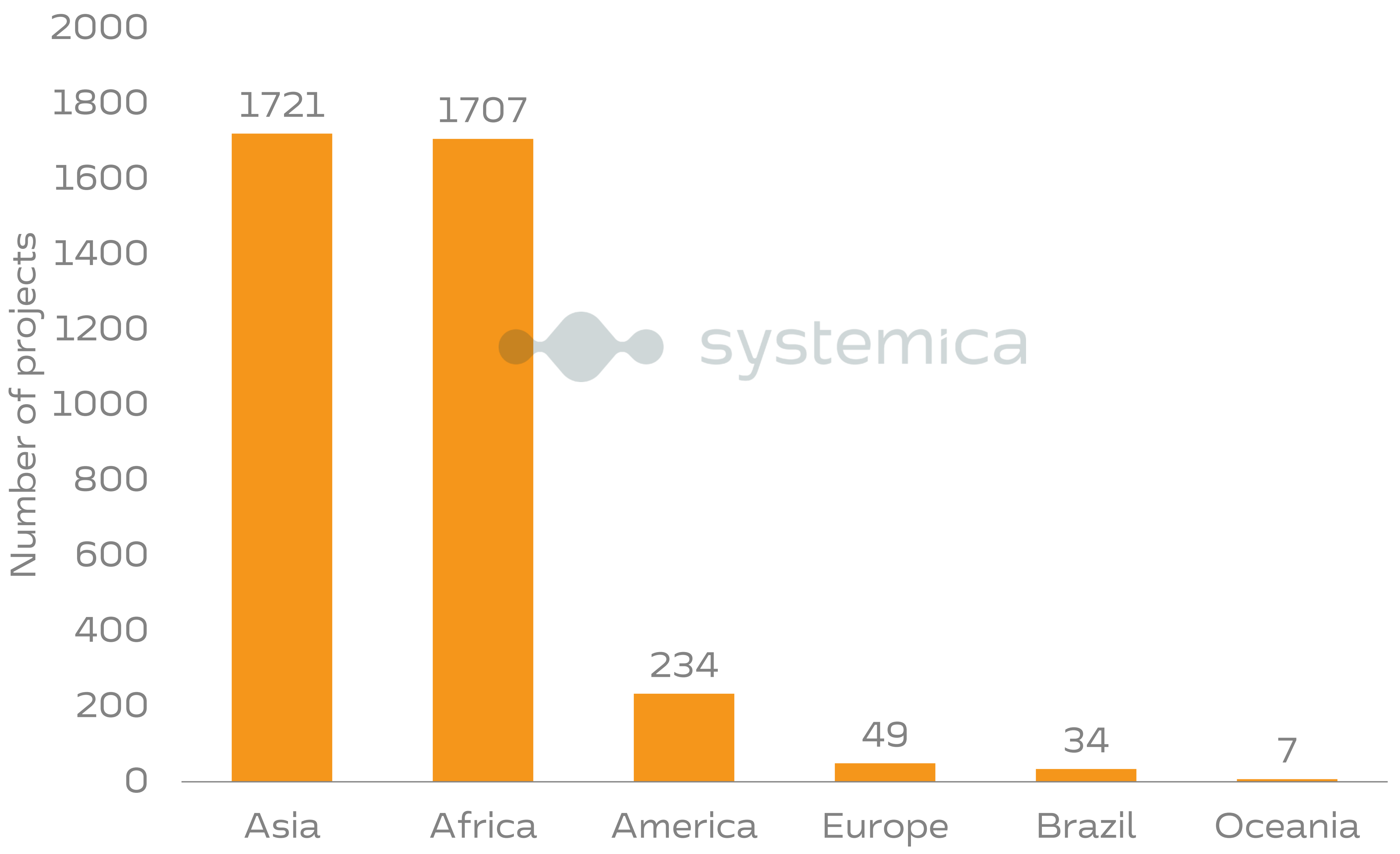


- Africa is the is the second largest source of VCU credits, hosting a substantial number of cookstove projects and remaining the third-largest supplier of AFOLU credits.
- Meanwhile, Latin America ranks third in estimated credit generation, contributing 40% of global AFOLU credits

Gold Standard Projects Registered Worldwide

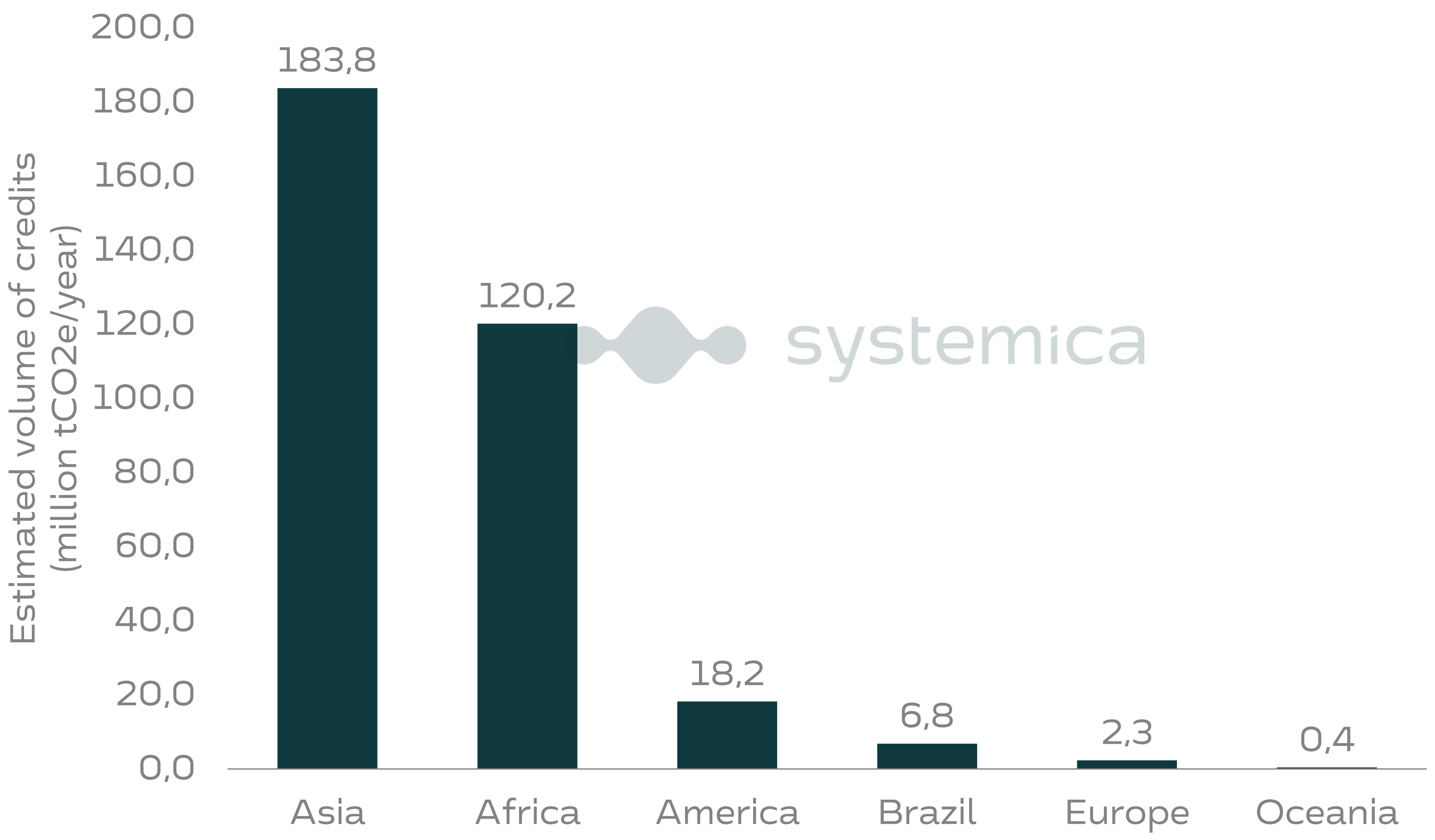
Gold Standard credits consolidates its strong presence in Asia and Africa

Number of registered Gold Standard projects



- Africa and Asia continue to dominate the Gold Standard registry, accounting for approximately 92% of all registered projects.
- In 1Q-2025 alone, 178 new projects were added, with 158 (89%) located in these two regions.

Estimated volume of credit emissions (MtCO2 per year)



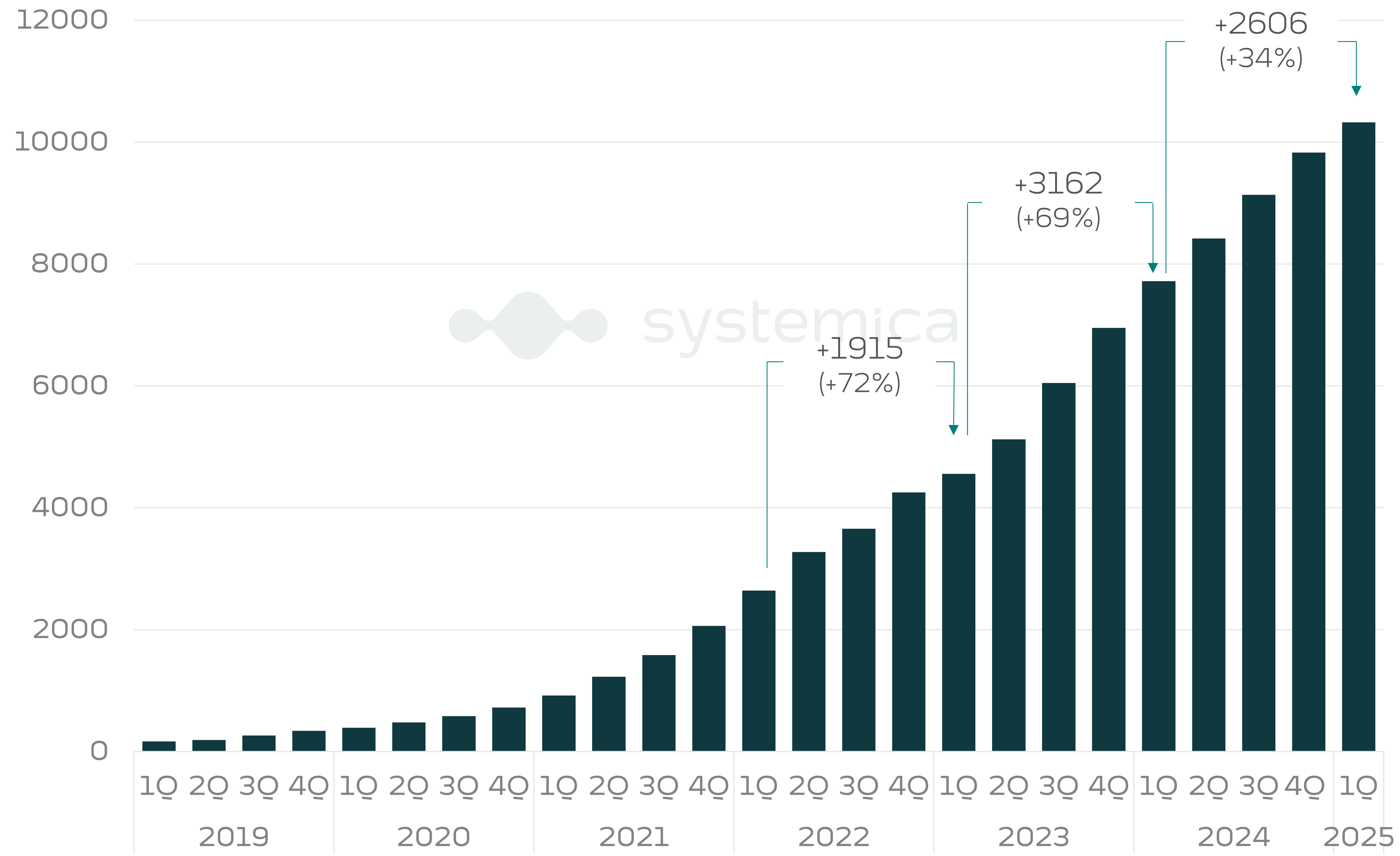
- Projects in Asia represent 57% of the total estimated annual credit issuance under the Gold Standard, while Africa accounts for 37%, underscoring the regional concentration of supply.
- Brazil has 34 registered projects with estimated emissions of around 6,8 million tCO_2e/year from Gold Standard projects.

Source: Gold Standard. Data as of 31/03/2025

Corporate Emissions Reduction Commitments

Increase of SBTI commitments with +826 companies with approved/improved targets

Evolution of SBTi participants



- In 1Q-2025, SBTi recorded a net increase of 494 participating entities. However, this represents a **29% decline in the rate of new sign-ups compared to the previous quarte**r, indicating a deceleration in new corporate climate commitments.
- **Despite the slowdown, cumulative participation remains strong**. Since 1Q-2024, 2.606 new entities have joined the initiative—an **increase of 34% year-over-year.**

Companies with new or improved SBTi commitments

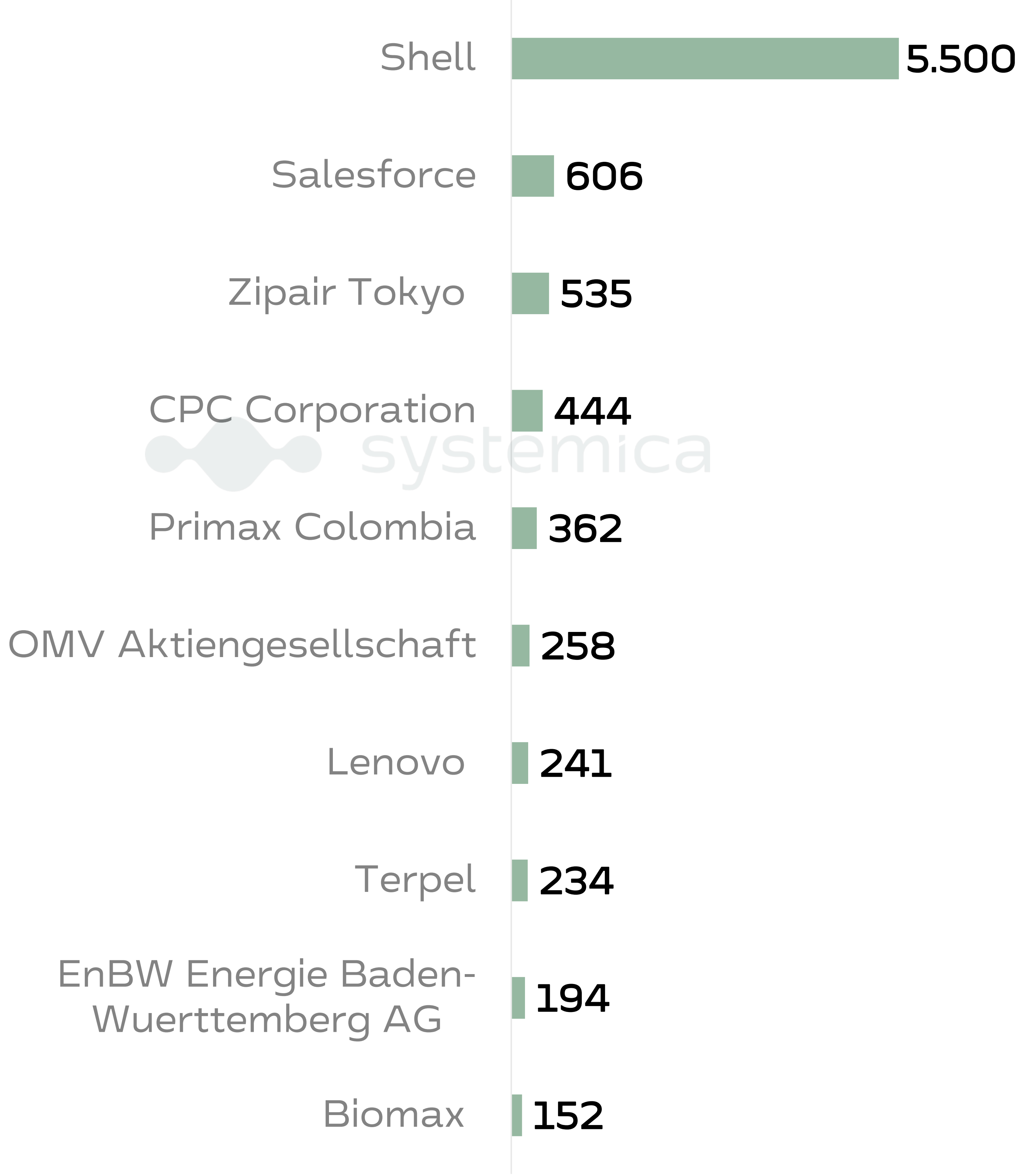
- As of March 2025, **826 companies have signed new or updated commitments** under the Science Based Targets initiative (SBTi), **while 92 companies had commitments expired/withdrawn.**
- Notably, ING became the first global bank to receive SBTi validation for its climate targets, marking a milestone in financial sector alignment with science-based decarbonization pathways.

Corporate credit retirements

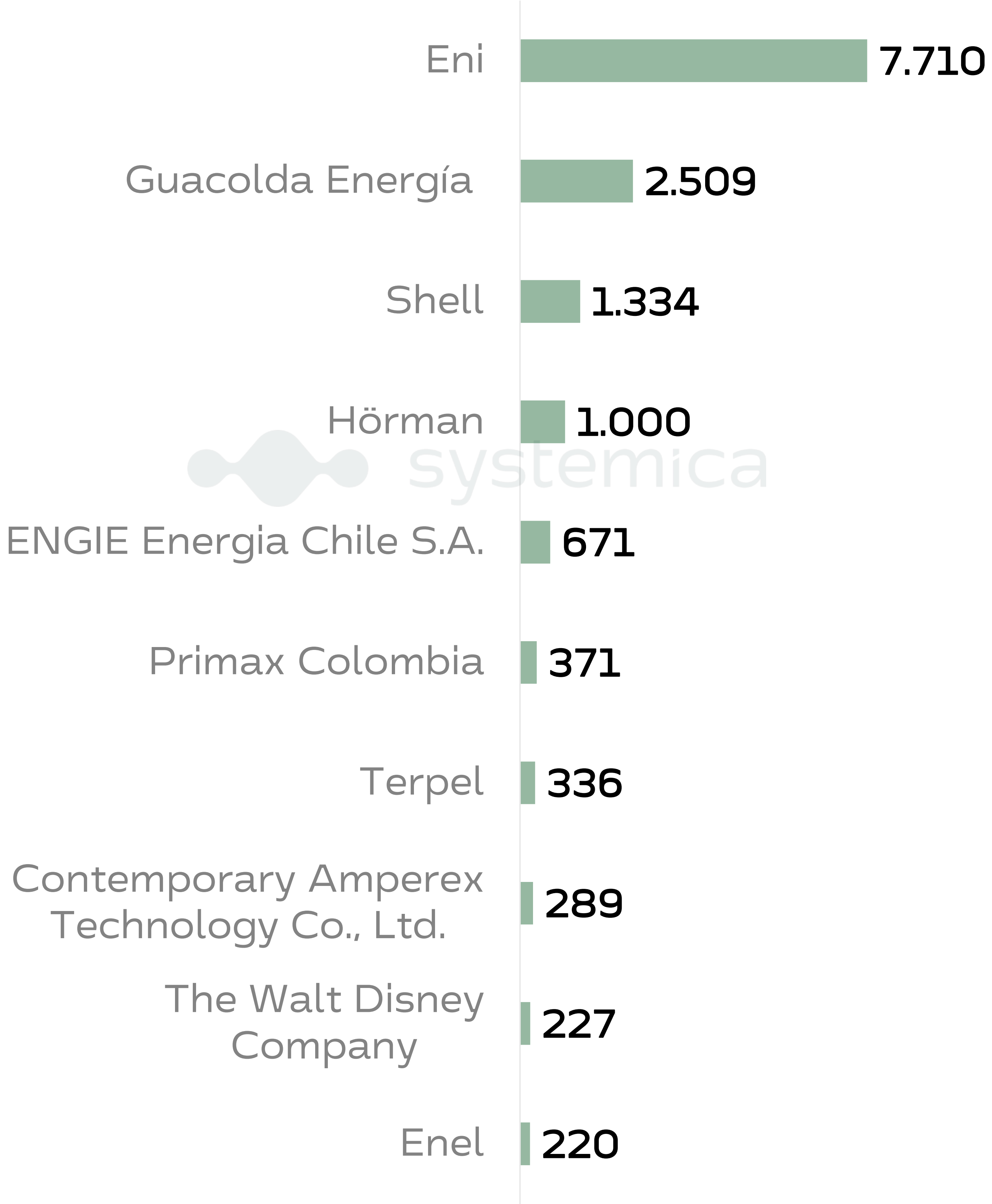
Top buyers contributed to 45% of total credits retirements in 1Q 2025

Top ten corporate buyers of carbon credits in the 1Q-2025

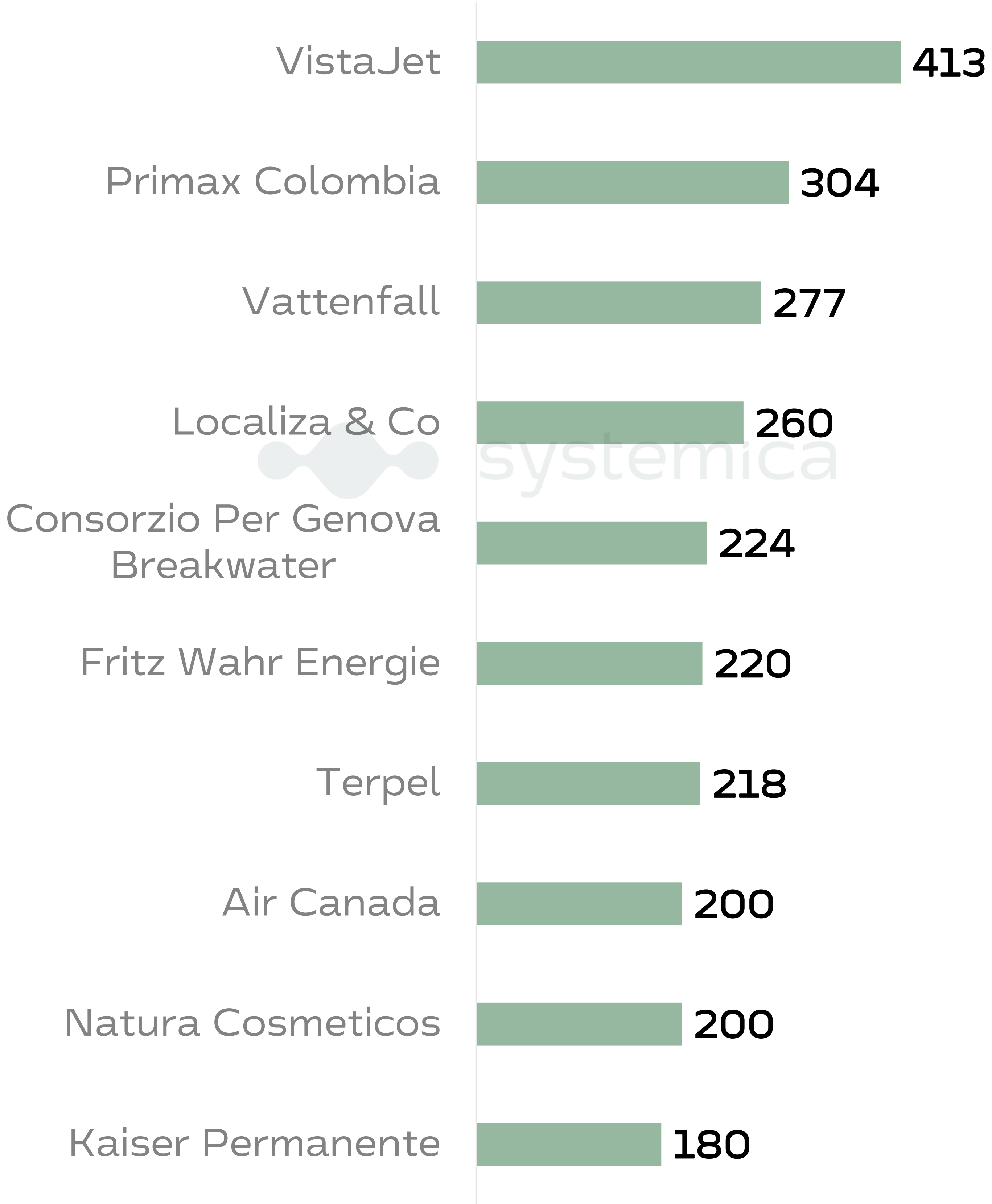
Known retirements in January 2025 (ktCO2e)



Know retirements in February 2025 (ktCO2e)



Know retirements in March 2025 (ktCO2e)

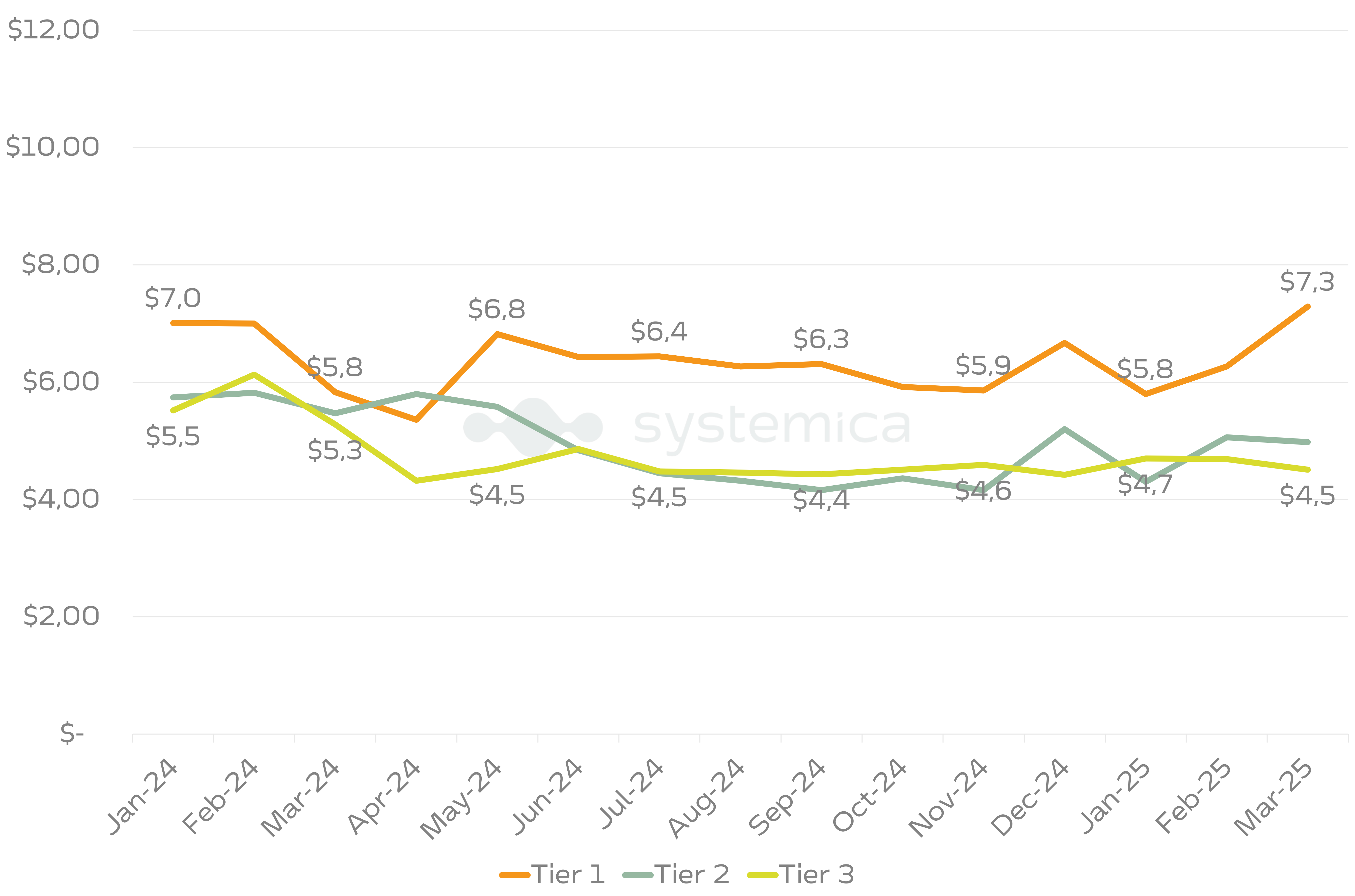


Source: Analysis based on publicly available data (ACR, CAR, EcoRegistry, Gold Standard, Verra). Credit retirements may be carried out anonymously and therefore there may be higher volumes not included in the analysis. Data as of 31/03/2025

Prices on the Voluntary Carbon Market

Spot prices in the Carbon Market maintain stability within the lower range over the year, while market participants await enhanced clarity on Integrity Standards

Average carbon credit price by integrity tier for all project types and vintages (USD /tCO2e)



- **Spot prices in the voluntary carbon market** remained under sustained downward pressure in 2025, **averaging USD 4.8/tCO_2e**—stable relative to 2024 and 20% below 2023 levels.
- In contrast, credits perceived to be of higher environmental and methodological integrity have consistently commanded price premiums since early 2024, suggesting **increasing market segmentation based on quality.**
- According to the Calyx–ClearBlue Markets Index, **Tier 1 credits**—representing around 13% of market volume—have increased 25% year-to-date, **averaging USD 7.3/tCO_2e.**
- **Tier 2 and 3 credits traded at lower levels**, with average **prices between USD 5.0 and USD 4.5/tCO_2e**.
- **Market prices remain widely dispersed**, ranging from below USD 1 to several hundred dollars per ton, depending on project type, certification, and buyer requirements.

Source: Adapted from the Calyx-ClearBlue Carbon Price-Integrity Index. Data as of 31/03/2025

Systemica's Market Outlook for 2025

Voluntary Carbon Market in Transition: Integrity Gains and Demand Mechanisms Signal Emerging Growth Potential

Relevant Trends for Carbon Markets

United Nations
Climate Change

The finalization of Article 6 rules at COP29 marks a shift from negotiation to implementation in global carbon markets. The **Paris Agreement Crediting Mechanism (PACM) is en route to becoming fully operational**, with the first activity—a CDM clean cookstove project in Myanmar—already approved. **Over 1,300 CDM transition requests have been submitted, representing up to 1.5 $GtCO_2e$ in potential issuances for 2021–2025**. Host countries must determine, by the end of 2025, how to authorize and sequence these activities, shaping eligibility for international transfers and alignment with NDCs. Rapid progress is expected through COP30, including the launch of the PACM transaction registry in the second half of 2025, reinforcing the. **mechanism's role as core infrastructure for high-integrity crediting under both compliance and voluntary frameworks**

SCIENCE
BASED
TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

The Science Based Targets initiative (SBTi) has released the draft **Version 2.0 of its Corporate Net-Zero Standard** for public consultation, proposing updates to the structure of corporate climate targets. The revisions introduce differentiated criteria by company size and geography, standardize validation processes for emission reductions, and incorporate interim targets for carbon dioxide removal (CDR). The inclusion of **interim CDR targets signals institutional support for scaling nascent removal technologies and channeling investment towards high-integrity offsets**. In parallel, the FLAG Guidance reinforces sector-specific targets for land-intensive industries, **requiring no-deforestation commitments and strengthening the integration of Nature-Based Solutions (NBS) into corporate strategies**. Together, these developments seek to align private-sector action with evolving scientific, financial, and policy frameworks, with potential impacts on the demand for credible carbon credits.

Despite ongoing challenges in climate negotiations, recent developments indicate progress in carbon pricing and decarbonization efforts. The **International Maritime Organization (IMO) has approved a draft framework introducing a global carbon pricing mechanism for the shipping industry**, aiming for net-zero emissions by around 2050. This framework includes a **minimum fee of $100 per ton of CO_2 emitted beyond set thresholds**, set to be formally adopted in October 2025 and implemented by 2027. The revenue generated is intended to support the transition to cleaner shipping technologies and assist developing nations. Concurrently, **Brazil plans to propose the formation of a coalition of countries interested in integrating carbon markets at the upcoming COP30**. This initiative aims to enhance **cooperation among nations with established carbon pricing systems, such as the EU, China, and California**, facilitating a more cohesive global approach to carbon market integration.

Market Updates

Corporate Climate Activity

Meta secures removal credits in forest carbon deal

The tech giant has purchased 676,000 carbon credits for delivery through 2035 from investment company EFM to support the acquisition and sustainable management of 68,000 acres of forest on Washington's Olympic Peninsula. Combined with other deals, Meta can now retire more than 200,000 credits annually through 2038.

Amazon launches carbon credit investment service

The Seattle-based company will offer its suppliers in the U.S. access to purchase high-integrity credits focused on nature-based projects and carbon removal technologies. Credits will be available to companies that have set science-based net-zero targets covering all emissions scopes and that report their emissions regularly.

Terradot inks removal deal with Microsoft

The enhanced rock weathering (ERW) startup has agreed to remove 12,000 tCO_2e for the tech giant via a commercial site in Brazil as part of a project that aims to build scientific confidence in ERW by improving the accuracy of measurement. Microsoft participated in Terradot's USD 54m Series A funding round, which closed last year.

J.P. Morgan Asset Management raises USD 1.5bn for forest fund

The close by the asset manager's wholly owned timber investment arm brings to USD 2.3bn the total investment marked to the firm's timberland management strategy, which combines support for sustainable forest management with a focus on nature-based CO_2 removal and biodiversity across 212,000 acres of timberland.

Banking alliance drops 1.5°C pledge

More than 120 members of the Net-Zero Banking Alliance have voted to drop a requirement that members pledge to align their lending portfolios with the Paris Agreement goal of limiting warming to 1.5°C, instead agreeing to let members set their own sector-specific climate targets based on a range of net-zero pathways.

Market Updates

Carbon Markets

First project approved for the Paris Agreement Crediting Mechanism (PACM)

The Article 6.4 Supervisory Body signed off on the transition of an improved cookstoves project in Myanmar from the Clean Development Mechanism to the PACM. The Supervisory Body also approved the first validation and verification body for the PACM and announced plans to launch an interim registry.

Systemica wins auction for Brazil's first public concession for forest restoration

Systemica secured the concession for a 10,300-hectare degraded area in the Xingu basin, becoming the first private group to manage forest restoration on public lands in Brazil. The auction, conducted by the Pará state government, marks a pioneering step in leveraging private capital for large-scale ecosystem recovery in the country.

UK opens consultation on carbon and nature markets

The 12-week consultation invites views on the government's proposed policy and governance framework for ensuring the integrity of voluntary carbon and nature markets and the use of credits, including implementation of six principles to promote integrity that the government previously announced at the COP29 climate summit.

ENGIE Brasil compensates bank with carbon credit

The Brazilian utility used carbon credits to compensate Banco BV for structuring and guaranteeing a debt issuance totaling USD 340m. The bank accepted a portion of its USD 64m fee in credits, marking a first for the country's capital markets and highlighting the bank's goal of expanding credit purchases from power producers.

Verra registers first project using a CCP-approved VCS methodology

Registration of the Tond Tenga Project, which will restore more than 12,000 hectares through reforestation in Burkina Faso, marks the first registered project using a Verified Carbon Standard (VCS) Program methodology that meets the criteria of the Integrity Council for the Voluntary Carbon Market's Core Carbon Principles (CCP).

Market Updates

Policy Developments

Brazil to propose global carbon market integration at COP30

The proposal by the climate summit host aims to foster international cooperation and avoid border levies among participating governments by unifying emissions trading across Brazil, the European Union, China and California.

International Maritime Organization approves carbon price for shipping

More than 100 countries have agreed to cut global shipping emissions by requiring owners who fail to meet mandatory fuel intensity targets to offset their emissions. The agreement, which prices emissions above higher and lower baseline limits at USD 100 and 380 per tCO2e respectively, is expected to be adopted in October and take effect in 2027.

SBTi opens consultation on latest draft of Corporate Net-Zero Standard

The Science Based Targets initiative is seeking comment on proposals for companies to address residual emissions. Options under consideration include: a proposed requirement that companies set interim carbon removal targets ; recognition for companies that set such targets voluntarily; or flexibility to purchase carbon removal, reduce emissions, or combine the two.

EU approves Finland request for ETS2 extension

The European Commission approved a request by Finland to expand the EU's Emissions Trading System 2 (ETS2) framework within the country. The request, which would extend the framework to waterborne navigation, agriculture, forestry and fishing, aims to create uniform carbon pricing across sectors.

White House order targets California's cap-and-trade program

An executive order by President Trump directing the attorney general to challenge state climate laws took aim at policies that include California's emissions trading system (ETS). By week's end the price of allowances in the ETS fell to USD 26.7, their lowest level since late 2022, in heavy trading, according to compliance market data on the MSCI Carbon Market platform.

References

[1]**MSCI Carbon Markets**, 2025. Frozen Carbon Credit Market May Thaw as 2030 Gets Closer
Available at: <https://www.msci.com/www/blog-posts/frozen-carbon-credit-market-may/05232727859>. Accessed on April 2, 2025.

[2]**BloombergNEF**, 2024. Mega Boost for Carbon Offsets Market Seen from SBTi Easing.
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[3]Values taken from **Calyx Carbon Indices**, April 2025 – Public information assessment for the Calyx-ClearBlue Carbon Price-Integrity Index.
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[4]**MSCI Carbon Markets**, 3024. 3Q24 VCM in Review: The State of Integrity
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[5]Values taken from **Verra – Verified Carbon Standard** database considering registered projects.
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[6]Values taken from **The Gold Standard** database considering registered projects.
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[7]Values taken from **Sciencebasedtargets.org** and **zerotracker.net**

[8]**MSCI Carbon Markets**, Public information assessment for the MSCI Carbon Markets classification framework
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systemica

systemica.digital
contato@systemica.digital
+55 11 5039 1080