VOLUNTARY CARBON MARKET

FIRST HALF 2025 REVIEW AND OUTLOOK

July 2025

CLIMATE FOCUS

KEY TRENDS SHAPING THE MARKET

1. Carbon credit retirements on the rise

As we reach the half-year mark, it is once again time to reflect on the performance of the Voluntary Carbon Market (VCM), emerging trends, and implications for future developments. Our previous report anticipated 2025 to start on a cautious note. And indeed, the first half of the year has been characterised by ongoing uncertainty around the treatment of carbon credits in corporate climate accounting (including the withdrawal of the EU's Green Claims Directive), an evolving integrity landscape, and regulatory uncertainty surrounding the implementation of Article 6 markets. Yet despite these developments, the **retirements of carbon credits increased** by 7 percent compared to the same period last year. We are also observing a slowdown in the growth of the carbon credit surplus, a **positive shift in the overall supply-demand balance**.

2. CCP labelling starts to shape supply

Under the surface, deeper trends confirm this encouraging forward momentum. For one, **carbon credit supply is increasingly dominated by new vintages**, indicating strong buyer preference for newer vintages along with the depletion of older inventory. These factors have been driving up the premium that newer vintages command over older ones. The ICVCM's progress on Core Carbon Principles (CCP) labelling - which considers different methodology versions and excludes outdated versions of certain approved methodologies - is expected to support this trend further moving forward. Over 120 of the new project listings observed in the first half (H1) of 2025 relate to projects using **ICVCM-approved methodologies**, a welcome development. Progress by carbon standards in **methodological improvements** - such as Verra's advancements in data collection and risk mapping under its CCP-approved REDD methodology VM0048 - is further strengthening the integrity of GHG accounting and could underpin a rebound in affected project categories over the coming years.

Cover photo by Roberto Nickson

3. Role of compliance buying gains momentum

The rising influence of compliance demand is another positive driver. Issuance activity from nature-based avoided emissions activities has been supported by **Guyana's issuance of jurisdictional REDD+ credits**, currently the only eligible carbon credits for Phase 1 of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The premium pricing these compliance-grade REDD+ credits command creates a strong incentive to scale supply. Elsewhere, we also observed a **rise in the share of domestic retirements associated with national carbon taxes**, including both the Colombian and South African schemes.

4. Article 6 markets unlock new routes to market

Finally, the **growing adoption of host country carbon market frameworks**, along with the momentum for Article 6 bilateral agreements and the progress in evaluating the first set of Paris Agreement Crediting Mechanism (PACM) methodologies, is broadening market access for carbon project developers. The first batch of Clean Development Mechanism (CDM) activities has **transitioned to the PACM**. Our focus now shifts to the next six months, when we expect a growing Article 6.4 project pipeline to emerge from these transitioning activities, paired with the first issuances. Another area to watch will be under what conditions the EU will permit member states to use **international carbon credits toward its 2040 climate target**. The allowance of the proposed 3 percent threshold would set an important precedent, cementing the role of global carbon markets in the bloc's climate policy.

Photo by Mohan Khadka

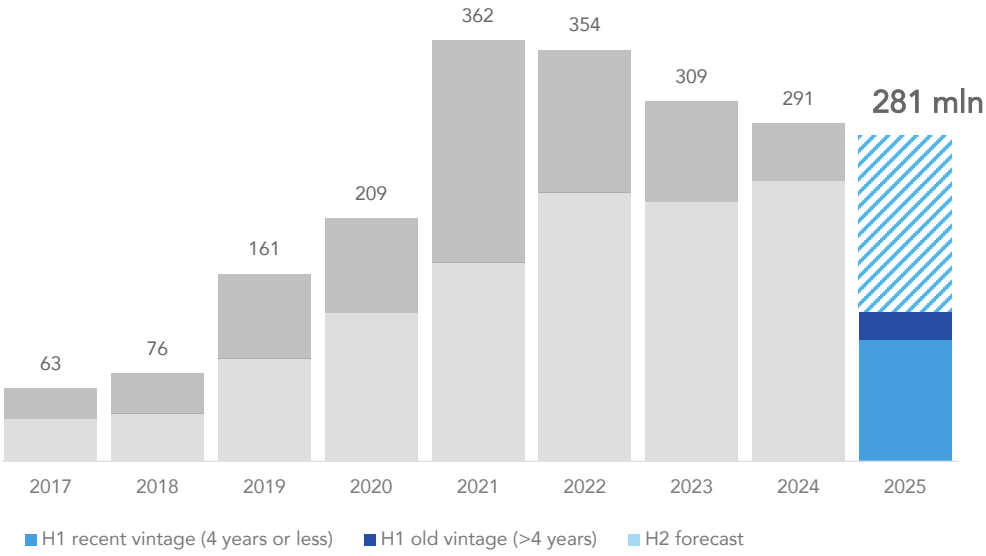
CARBON CREDIT ISSUANCES MATCH LAST YEAR'S PACE

Carbon credit issuances in the first half of 2025 reached 130 million, marking a ±10 percent decline against the volume observed during the same period last year. Notably, over 80 percent of this volume relates to recent vintages - emission reductions and removals generated in the past three years. This trend - which has been on a steady rise since 2021 - is driven by strong buyer preference for newer vintages, combined with the depletion of inventory for older vintages. Older vintages are being increasingly viewed by voluntary buyers as representing lower integrity, with their valuation experiencing sharp time decay. Vintage restrictions of compliance schemes also contribute to this, with Colombia's carbon tax being one example of a national carbon pricing scheme that disallows the use of older vintages (>5 years). These factors have supported the premium that newer vintages command over older ones.

We expect the supply of new vintages to be further encouraged by the ICVCM's CCP labelling progress, which accounts for methodology versions and excludes dated versions of certain approved methodologies. The impact of projects transitioning to these high-integrity methodologies may, on the one hand, restrict the pace of year-on-year growth in issuances observed in the market (considering the tightening of baselines, increase of buffers, and more accurate monitoring). On the other hand, what is currently not being captured in issuance data is the significant deal flow that we are observing in the primary market, which will bring large volumes of credits to the market in the coming years. A significant share of this volume is already locked in by buyers through long-term offtake agreements, including both individual corporates (e.g., Microsoft) as well as buyer coalitions (e.g., Symbiosis) or impact funds (e.g., Milkywire).

Aggregate issuances from the ten carbon standards tracked by our Dashboard reached 2.3 billion tonnes since the market's inception. Our forecast model predicts total issuances to reach 2.4 to 2.5 billion by year's end, based on existing projects alone.[1]

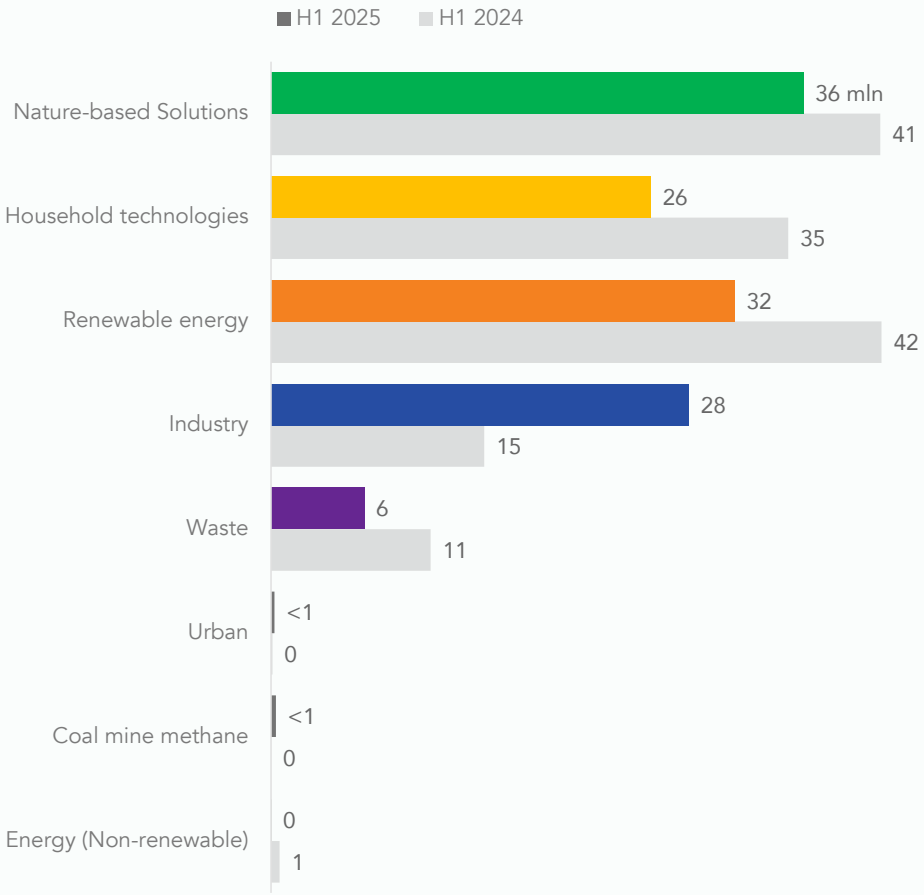
Fig 1: H1 issuance data for ten leading independent carbon standards matched last year's issuances over the same period, pointing to a halt in year-on-year declines recorded since 2021



[1] *The Climate Focus VCM Dashboard tracks market activity from ten leading carbon standards: American Carbon Registry (ACR), Architecture for REDD+ Transactions (ART), BioCarbon, Cercarbono, Climate Action Reserve (CAR), Climate Forward, Global Carbon Council (GCC), Gold Standard (GS), Plan Vivo and Verra's Verified Carbon Standard (VCS).*

ISSUANCES FROM NATURE-BASED SOLUTIONS PAVE THE WAY

Fig 2: Issuances from Nature-based Solutions lead supply, followed closely by renewable energy projects



Nature-based Solutions (NBS) activities led the supply of carbon credits, matching the trend observed over the past two years. The interest in NBS is driven by both their recognised role in corporate net-zero accounting by the Science-Based Targets initiative (for carbon removals) and compliance sourcing under CORSIA (for REDD+ avoided emissions credits).

Issuances of renewable energy carbon credits have remained stable, despite concerns about the climate integrity of large-scale projects that have dominated supply. This indicates there is still incentive for project developers to bring new volumes to market, even though renewable energy credits are among the cheapest credits in the market.

Issuance activity of cookstove and other household-level project types slowed against H1 2024, reaching 26 million carbon credits. This can partly be explained by the withdrawal of a portfolio of improved cookstove projects under Verra's VCS, which had an issuance potential of several million tonnes annually. Soft pricing may be another contributor to slowed issuance activity.

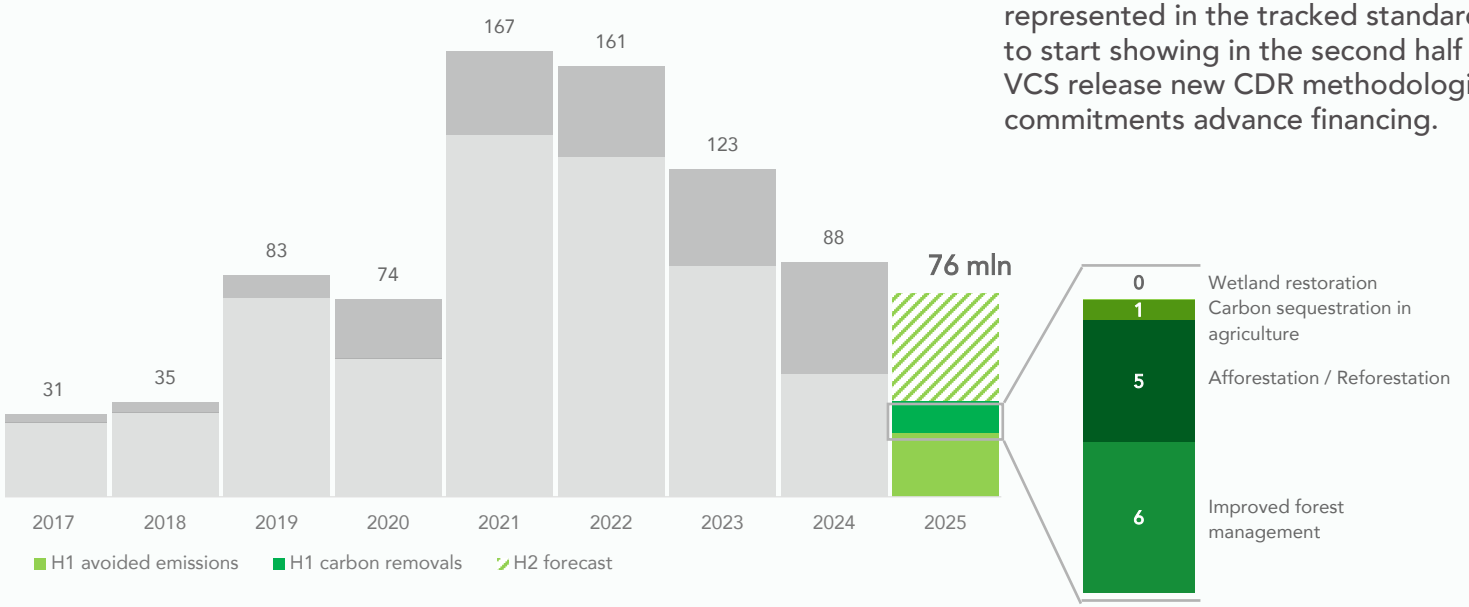
While issuances from renewable energy projects have remained steady, these credits account for a relatively small portion of the overall H1 market value. Assuming average over-the-counter prices[2], the gross transacted value of these issued volumes would amount to ±US$ 85 million, against the ±US$ 190 million for household devices projects.

[2] *Based on over-the-counter pricing information per project category presented in: Forest Trends' Ecosystem Marketplace. 2025. State of the Voluntary Carbon Market 2025. Washington DC: Forest Trends Association. Available here.*

REDD+ ISSUANCES LEAD NBS SUPPLY, AFFECTED BY COMPLIANCE DEMAND

NBS avoided emissions activities[3] were responsible for two-thirds of supply from nature-based projects. While this reverses the trend of a rising role of carbon removal credits, the change can be attributed to Guyana's issuance of 8.7 million tonnes from its jurisdictional REDD+ programme registered under the Architecture for REDD+ Transactions TREES standard. This project is currently the only eligible supply source for Phase 1 of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).[4]

Fig 3: The growing relative role of NBS carbon removal credits have been placed on hold due to large volumes of REDD+ credits being issued in H1 2025



This signals that compliance demand is influencing supply dynamics, even as REDD+ credits continue to face scrutiny regarding environmental integrity in the VCM. This development is confirmed by this year's State and Trends of Carbon Pricing report by the World Bank[5] which finds that nearly one-quarter of carbon credit demand originated from compliance markets last year. This demand is affecting pricing prospects, with compliance grade credits being in short supply. The scarcity has supported pricing in the first half of the year, including for CORSIA Phase 1 eligible credits (even though liquidity remains low on traded contracts).

Carbon credits from carbon dioxide removal (CDR) technologies that durably store CO_2 from the atmosphere are currently not materially represented in the tracked standards.[6] We anticipate larger issuances to start showing in the second half of 2025, as standards like Verra's VCS release new CDR methodologies and existing corporate market commitments advance financing.

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[3] *Avoided emissions projects include the following categories: (1) Avoided deforestation, (2) Avoided conversion, and (3) Reduced emissions in agriculture.*

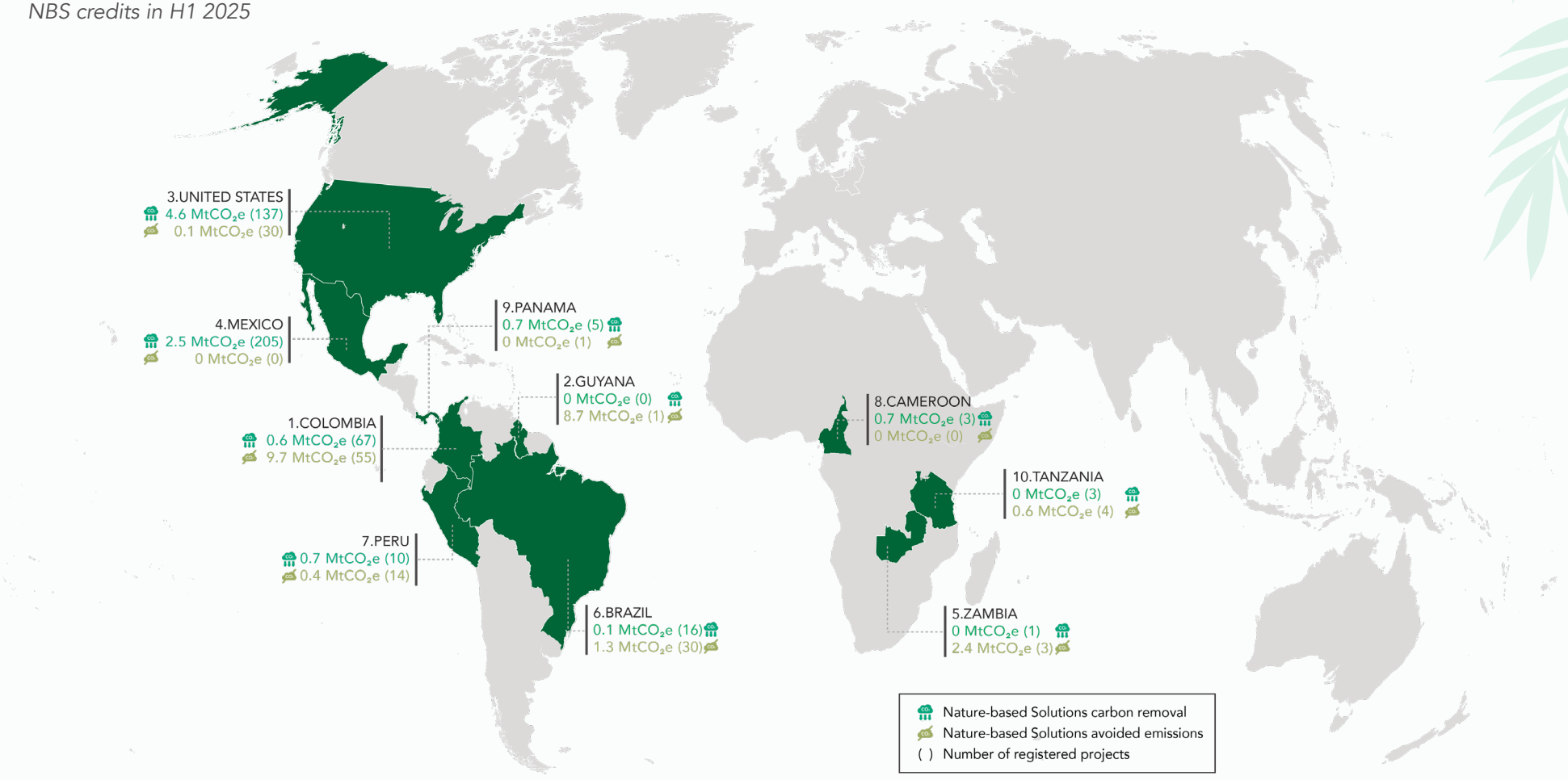
[4] *According to IATA's projections (dated September 2024), the demand for offsets in CORSIA Phase 1 (covering 2024 to 2026) is expected to be between 107 and 161 million units. Available here.*

[5] *World Bank. 2025. State and Trends of Carbon Pricing 2025. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-2255-1. Available here.*

[6] *The first issuances from technology removal activities like biochar have been issued under standards that are currently not tracked by Climate Focus's VCM Dashboard, such as Puro.earth and Isometric.*

A HANDFUL OF COUNTRIES DOMINATE NBS SUPPLY

Fig 4: Ten countries were responsible for over 90 percent of the total supply of NBS credits in H1 2025



The top 10 countries hosting NBS projects generated over 90 percent of the total NBS supply recorded in the first half of the year. Just four countries - Colombia, Guyana, the United States, and Mexico - issued nearly three-quarters of all nature-based credits. For Colombia and Guyana, the supply primarily originates from REDD+.

The United States and Mexico, on the other hand, are home to a large portfolio of Improved Forest Management programmes. Countries like Brazil, Peru and Cambodia played a more prominent role historically due to large issuance volumes from hosted REDD+ projects, which have seen issuance levels drop over the past couple of years.

RETIREMENTS OF CARBON CREDITS RISE AGAINST THE SAME PERIOD LAST YEAR

Market data indicate robust retirement volumes of carbon credits, reaching 93 million in the first half of the year. This represents a 7 percent increase over the same period last year, marking the highest half-year retirement volume except for the year 2022 (when just shy of 100 million were retired in H1).

This robust aggregate end-use of carbon credits is supported by new buyers entering the market, compensating for players who have exited or reduced market exposure. Older vintages (>3 years) still make up a significant share of retirements, accounting for two-thirds of all credits retired in the first half of the year. This is, however, not equally applicable across project types: for NBS activities, 87 percent of the retirements represented older vintages, compared to 27 percent for household devices.

A large share of the retirements also originates from project types that have seen key methodologies rejected by the ICVCM. Around one-quarter of all retirements originated from renewable energy projects, with another quarter from nature-based avoided emissions projects (primarily REDD+) applying older methodologies. This can be explained by older vintages being purchased and stockpiled in the past, being put to retirement now. In addition, as presented later in this report, the supply of CCP-labelled carbon credits is still limited. There is therefore a natural time lag between issuances and retirements, explaining the different vintage composition observed in these two data points.

Fig 5: Retirements of carbon credits increased slightly above the average levels observed in the first halves of 2023 and 2024

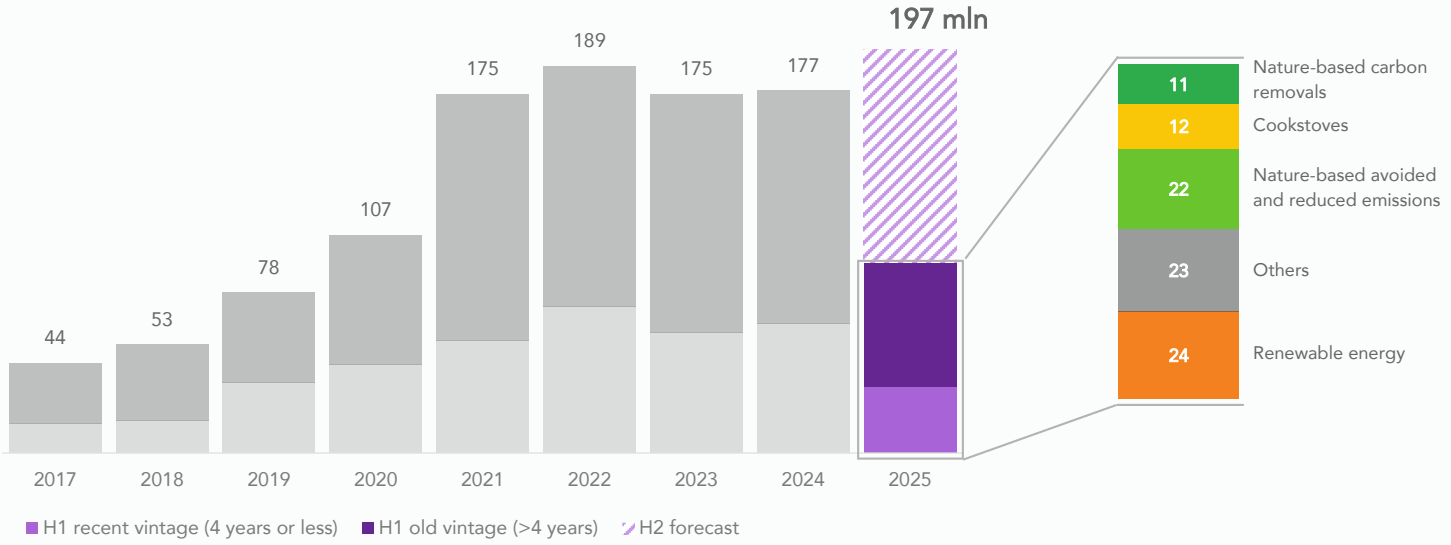


Photo by Watt A Lot

GROWTH OF THE CARBON CREDIT SURPLUS IS SLOWING

Non-retired volumes increased steadily throughout the year, rising from 988 million at the end of last year to 1,024 million as of 30 June 2025. However, the growth of the surplus is slowing, with the net growth amounting to 36 million credits in H1. We expect the full-year net growth to reach around 70 million by year's end, which would mark the lowest net growth observed in recent years (in 2022, it was 165 million, in 2023, it was 134 million, and in 2024, it was 113 million).

A large share of these carbon credits relates to pre-2016 vintages that buyers are losing interest in. Our analysis shows that nearly 160 million non-retired carbon credits in the market relate to pre-2016 vintages, representing 15 percent of the existing stockpile of credits. Meanwhile, a total of 550 million non-retired carbon credits relate to pre-2021 vintages, representing over half of the existing stockpile. This large volume of unused carbon credits is - in part - therefore a function of unwanted 'legacy' credits that will continue to show in future market data. This overshadows demand for newer, more valued vintages.

Fig 6: While the cumulative stockpile of unused credits continues to grow, this is due primarily to legacy credits issued in the past for which there is limited demand

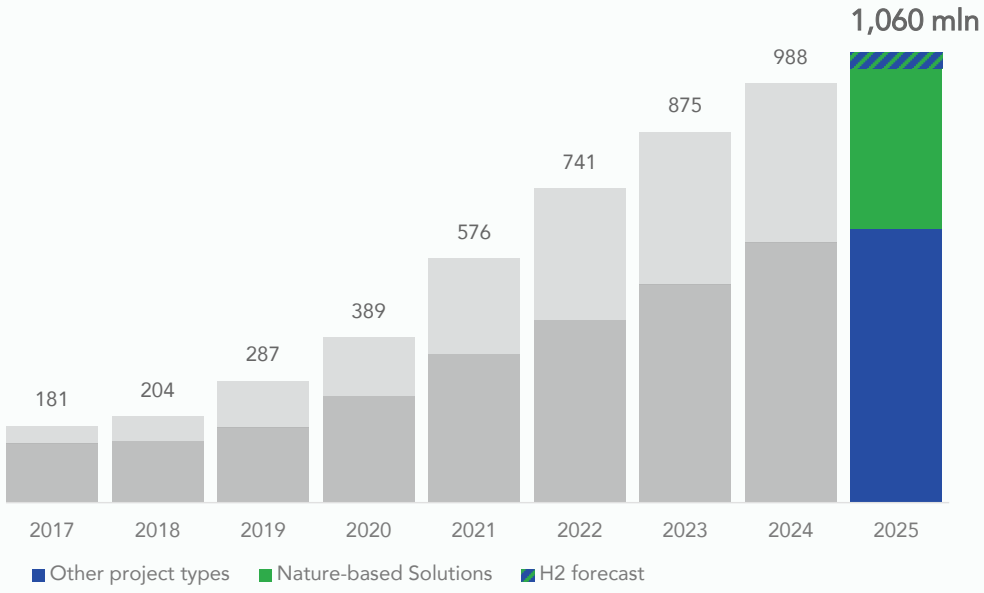


Photo by Mohmed Nazeeh

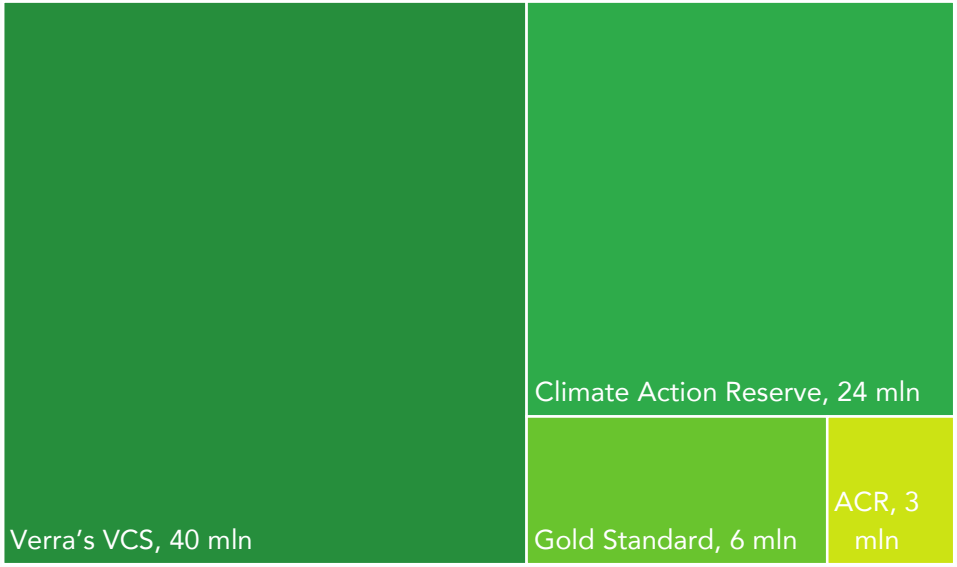
THE ICVCM'S CCP LABELLING PROCESS IS BEGINNING TO SHAPE SUPPLY

Seven carbon standards have now received approval from the ICVCM: ACR, ART, CAR, ERS, Gold Standard, Isometric, and Verra's VCS. Four of these standards recorded issuances of CCP-labelled carbon credits in H1 2025: the ACR, CAR, Gold Standard, and Verra's VCS. The ICVCM also announced six new methodologies that have passed its assessment in the first half of the year. These approved methodologies mainly[7,8] relate to household devices (clean cooking, specifically), and include conditions around the determination of parameters like the fraction of non-renewable biomass.

The ICVCM rejected four methodologies in recent months, similarly relating to cookstove and biogas activities.[9] These four methodologies combined have historically generated over one-quarter of all carbon credits issued by household device projects. We anticipate that this decision will further diminish future issuances from projects applying these older methodologies, as buyers will shy away from their use unless they can be surrendered for compliance purposes.

The volume of CCP-labelled carbon credit transactions is currently too restricted to confirm the degree of premium pricing attributed to labelled credits. Issuances have been dominated by credits from landfill gas or fugitive emissions activities, which have historically been trading at a discount to market averages. Issuances from newer methodologies, like Verra's VM0047 or VM0048 for the NBS segment, or the Gold Standard's Metered & Measured methodology for household devices, are yet to deliver the first volumes to market. As of 30 June 2025, there were over 120 listings of new projects looking to apply a CCP-approved methodology. This highlights the recognition of ICVCM's assessments in the market and points to a growing future supply of CCP-approved carbon credits.

Fig 7: Four carbon standards have issued CCP-labelled credits in H1 2025, with the current supply dominated by credits generated by landfill gas or fugitive emissions activities



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7 *The approved methodologies are: Gold Standard's Methodology for Metered & Measured Energy Cooking Devices (Versions 1-1.2); Gold Standard's Technologies and Practices to Displace Decentralised Thermal Energy Consumption (Version 2-4.0); Gold Standard's Methodology for Animal Manure Management and Biogas Use for Thermal Energy Generation (Version 1.-1.1); and Verra's VM0050 - Energy Efficiency and Fuel-Switch Measures in Cookstoves (Version 1.0).*

8 *The remaining two methodologies relate to N_2O Abatement in Adipic Acid Production methodologies developed under the Climate Action Reserve.*

9 *The rejected methodologies are: Gold Standard's Simplified Methodology for Clean and Efficient Cookstoves (Versions 1-3); AMS-II.G. - Energy efficiency measures in thermal applications of non-renewable biomass (Versions 1-13.1); AMS-I.E. - Switch from non-renewable biomass for thermal applications by the user (Versions 1-13); and AMS-I.I. - Biogas/biomass thermal applications for households/small users (Versions 1-6).*

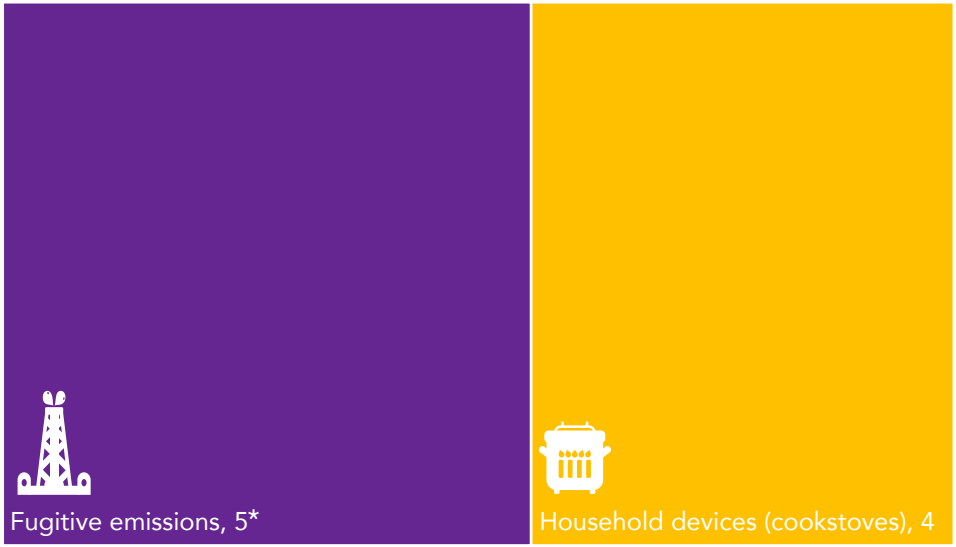
ARTICLE 6 MARKET MECHANISMS ARE UNLOCKING NEW ROUTES TO MARKET

The finalisation of Article 6 negotiations at last year's COP29 has strengthened the basis for scaling supply through bilateral Internationally Transferred Mitigation Outcomes deals. These continued to grow throughout H1 2025, with eight new bilateral agreements signed by buying countries Singapore, South Korea, and Switzerland. This brings the total number of cooperation agreements to 98.[10]

Under the PACM—the centralized UN-managed crediting mechanism for validating and issuing Article 6.4 emission reductions—the Supervisory Body of the Mechanism (SBM) plans to release the first eligible methodologies in Q3 of 2025. These will include both new methodologies[11] and revised CDM methodologies[12]. The approval of these methodologies is a precondition for unlocking supply under PACM, with the first issuances expected to materialise in before year's end.

The supply of the first PACM carbon credits will originate from projects that have transitioned from the CDM. The extent of supply from these existing projects will depend on country approvals of these old projects. Around 1,500 activities (programmes and stand-alone projects) registered under the CDM submitted a transition request to the PACM. As of June 30, 2025, 15% of the programmes had received host country approval, compared to 1% of the stand-alone projects. Only nine activities have fully completed the transition: five reduced gas leakage projects using methodology AM0023 (CCP-approved) and four cookstove programmes using AMS-II.G (CCP-rejected).[13]

Fig 8: Nine CDM projects have fully completed the transition to PACM. Five of these projects apply a CCP-approved methodology



** Apply CCP-approved methodology*

[10] *UNEP Article 6 Pipeline. Available here.*

[11] *Currently under review: A6.4-PNM001 (Production of Ammonia through electrolysis of water, air separation and synthesis of hydrogen and nitrogen); A6.4-PNM002 (N_2O abatement from nitric acid production); A6.4-PNM003 (Pumped Hydro Storage and Supply of Electricity to the Grid); and A6.4-PNM004 (Comprehensive Lowered Emission Assessment and Reporting (CLEAR) Methodology for Cooking Energy Transitions)*

[12] *Including methodologies on grid-connected renewable electricity generation, thermal energy production, flaring or use of landfill gas, and energy efficiency measures for non-renewable biomass.*

[13] *UNEP Article 6 Pipeline. Available here.*

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This VCM 2025 H1 Review has been powered by the VCM Dashboard maintained by Climate Focus. We welcome you to explore more details about the VCM on our Dashboard, which we update monthly. The Dashboard currently tracks market activity from the following leading carbon standards: American Carbon Registry, ART, BioCarbon, Cercarbono, Climate Action Reserve, Climate Forward, Global Carbon Council, Gold Standard, Plan Vivo and Verra's VCS.

For tailor-made advisory, including strategic advisory on the VCM, supply- and demand forecast, technical and financial project due diligence, and transaction support, please reach out to dashboard@climatefocus.com.

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