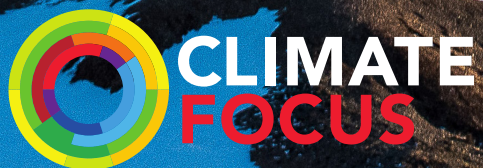


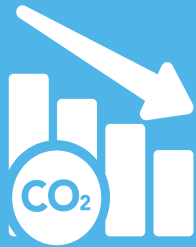
2022 Overview

VOLUNTARY CARBON MARKET



HIGHLIGHTS

We welcome you to explore more details about the VCM on our Dashboard, which we update on a monthly basis.



Issuance of carbon credits dropped by **21%**

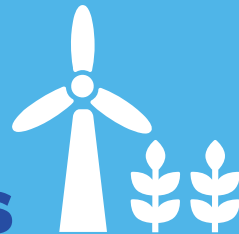
in 2022 to 279 Mt, compared to 2021, triggered by uncertainty about global economic outlook.

Retirements of carbon credits declined only slightly in 2022 against 2021, reaching **156 Mt**



While forward buying may have slowed down somewhat, companies continued to use a similar number of offsets as last year.

Renewable Energy overtook Nature-based solutions to become the leading category of credit issuances. Combined, these two categories represented **two-thirds** of issuances in 2022.



Non-retired volumes increased steadily through 2022, reaching 683 Mt as overall annual issuance exceeded retirement levels by **123 Mt**



Although still larger in absolute terms, annual issuances from avoided emissions from nature-based projects **decreased** faster than those of removals from 2022 compared to 2021.

Despite an overall drop in issuance levels, some project types witnessed

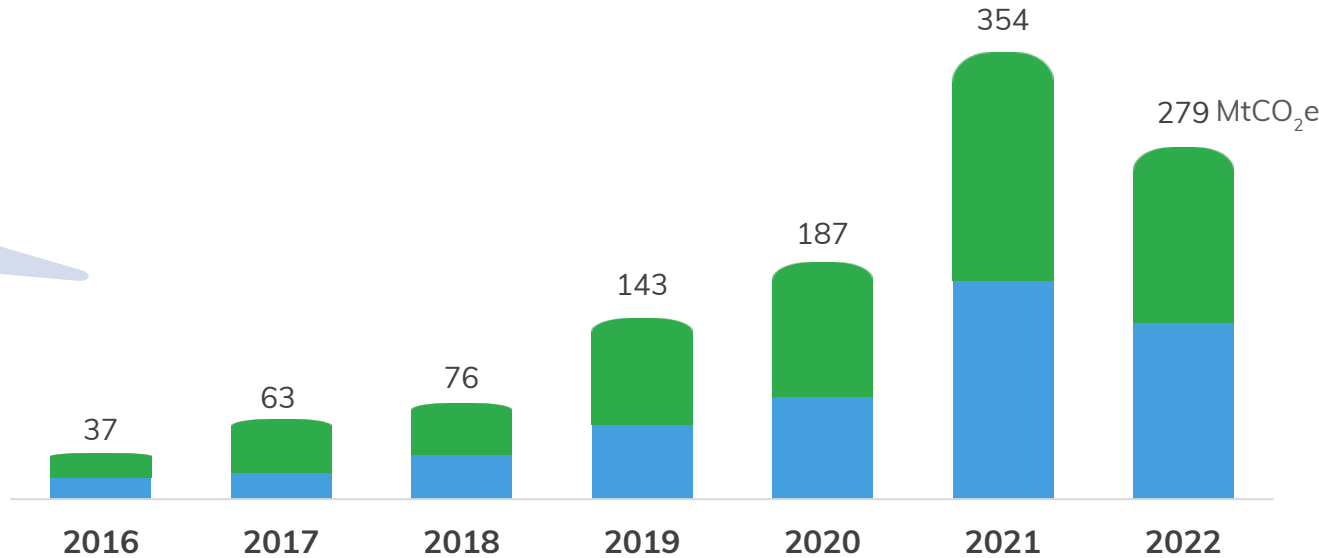
increased

issuances in 2022. Issuances from energy efficiency, industrial gases and coal mine methane projects were up 30%, 267%, and 212% respectively.



ISSUANCE LEVELS TAKE A BREAK

■ H1 volume ■ H2 volume

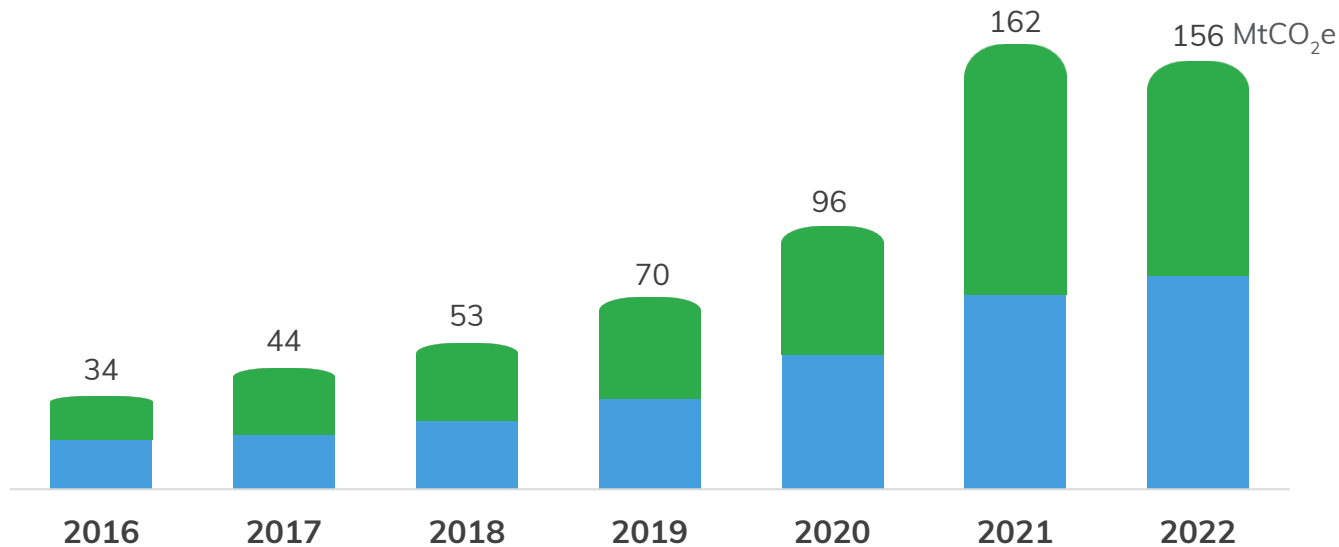


Issuance of carbon credits decreased by 21% in 2022 (279 Mt) compared to 2021 (354 Mt).¹ Issuances were 19% lower in H1 2022 compared to H1 2021, and 23% lower H2 2022 compared to H2 2022. Despite the decrease, issuances in 2022 were still 49% higher than those in 2020. The credits issued over 2022 represents 19% of total credits issued since the inception of the voluntary carbon market. Cumulative issuance of VERs now stands at 1.45 Gt.

¹ Carbon credits certified under Verra's VCS represented 72% of total issuance recorded in 2022, followed by the Gold Standard at 16%, the ACR at just under 8% and CAR at 3.5%, Plan Vivo at 0.6%, and GCC at 0.15%. Notably, carbon credits issuances under the ACR showed a large increase, up from a 2.5% share in 2021.

CREDIT RETIREMENTS STABILISE

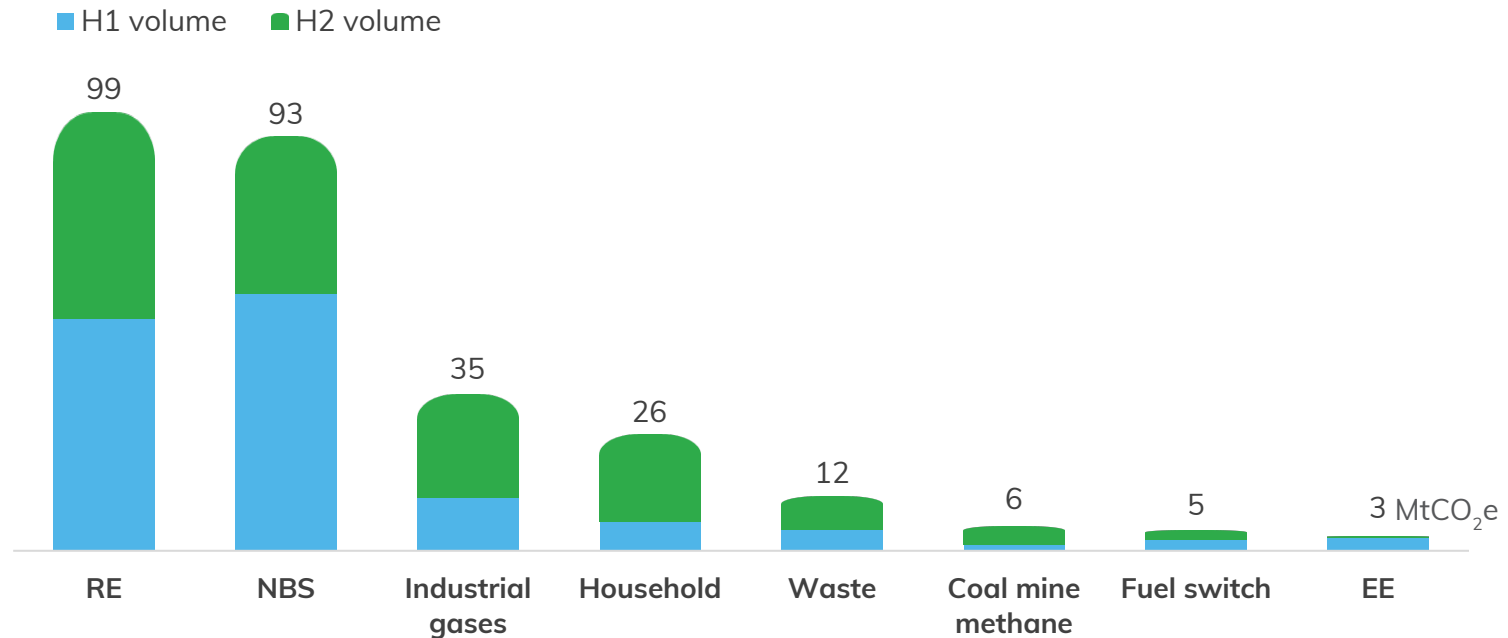
■ H1 volume ■ H2 volume



Retirements of carbon credits declined only slightly in 2022 (156 Mt) against 2021 (162 Mt). Retirements in H1 2022 (78 Mt) still exceeded those of last year (71 Mt), but in the second half of the year retirement activity started slowing down, despite typically showing higher retirement levels as many companies close their GHG accounting for the year. **The retirements of 2022 represent over one-fifth of retirements since market inception.** Since new issuances exceeded retirement volumes, total carbon credit surplus increased by 123 Mt.¹

¹ It should be noted that while retirement levels lag on issuance volumes, the growing carbon credit surplus does not necessarily imply that demand for voluntary carbon credits is waning. As more buyers enter forward purchase agreements, a share of the newly issued volumes is likely to be already contracted and, therefore, may never trade on the secondary market.

RENEWABLE ENERGY IN THE LEAD

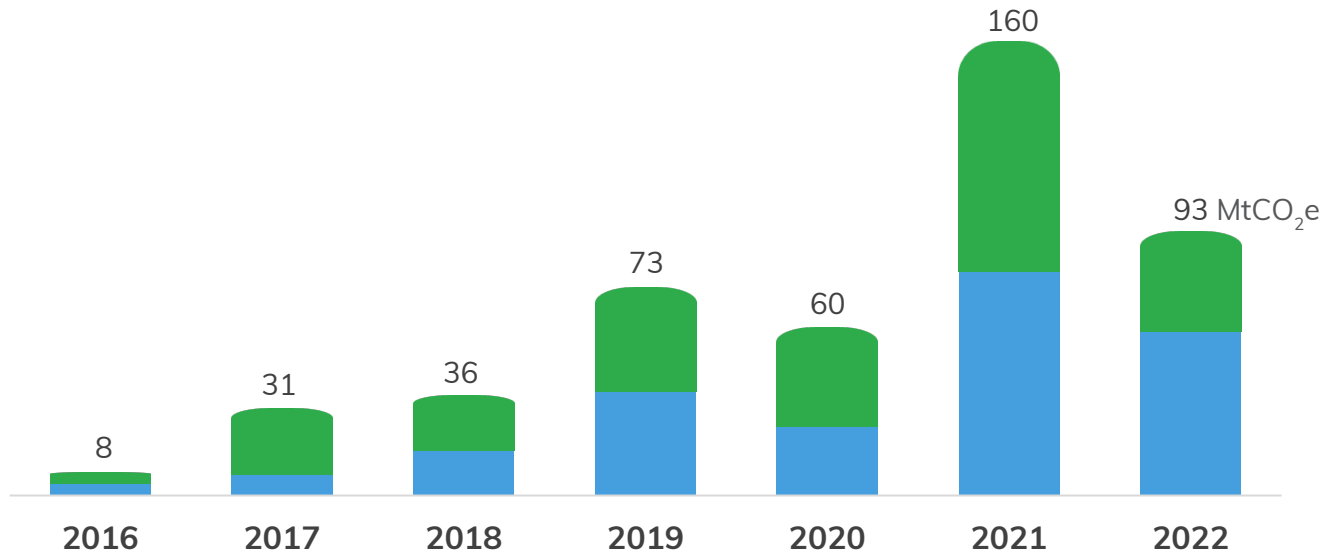


Credit issuances in 2022 were dominated by renewable energy (RE) and nature-based solutions (NBS) projects which jointly account for 76% of issuances over the year. While NBS issuances were highest in the first half of the year (58 Mt issued by NBS vs 52 Mt by RE), issuances from RE projects caught up to nearly reach the 100 Mt mark by year's end. Declining issuances from REDD+ projects explain why NBS issuance activity slowed in the second half of the year.¹

¹ Household devices activities include the following categories: (1) Cookstoves, (2) Clean water, (3) Lighting, (4) Electricity.

ZOOMING IN ON NBS ISSUANCES

■ H1 volume ■ H2 volume

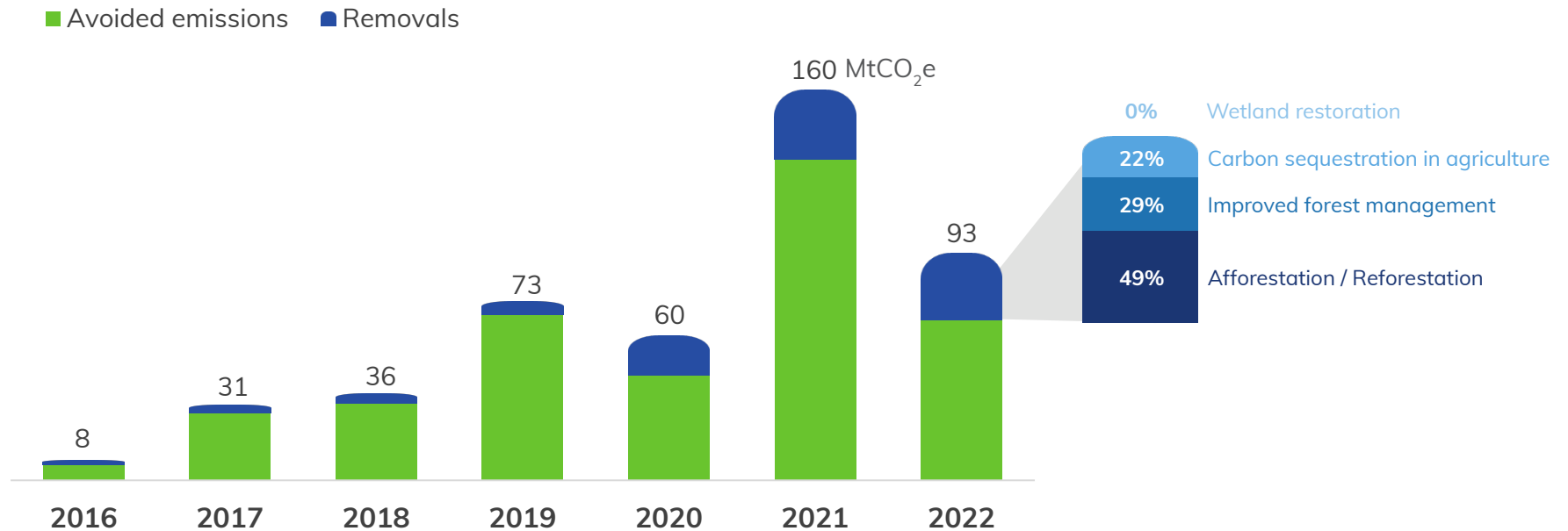


Issuance of carbon credits from NBS activities decreased from 160 Mt in 2021 to 93 Mt in 2022.¹ Despite this considerable drop, issued NBS volumes are still 57% higher than those recorded in 2020.² NBS issuances in 2022 represent 18% of all NBS issuances since market inception.

¹ Nature-based carbon projects include both avoided emissions and removals.

² As per the first graphic displayed on this report.

REMOVALS REMAIN IN SHORT SUPPLY

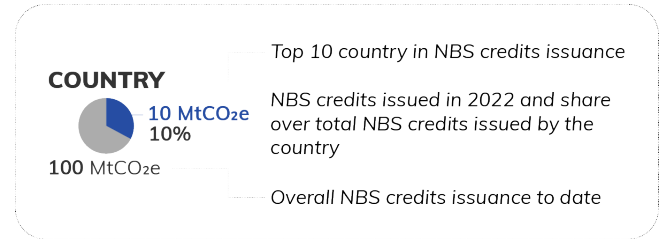
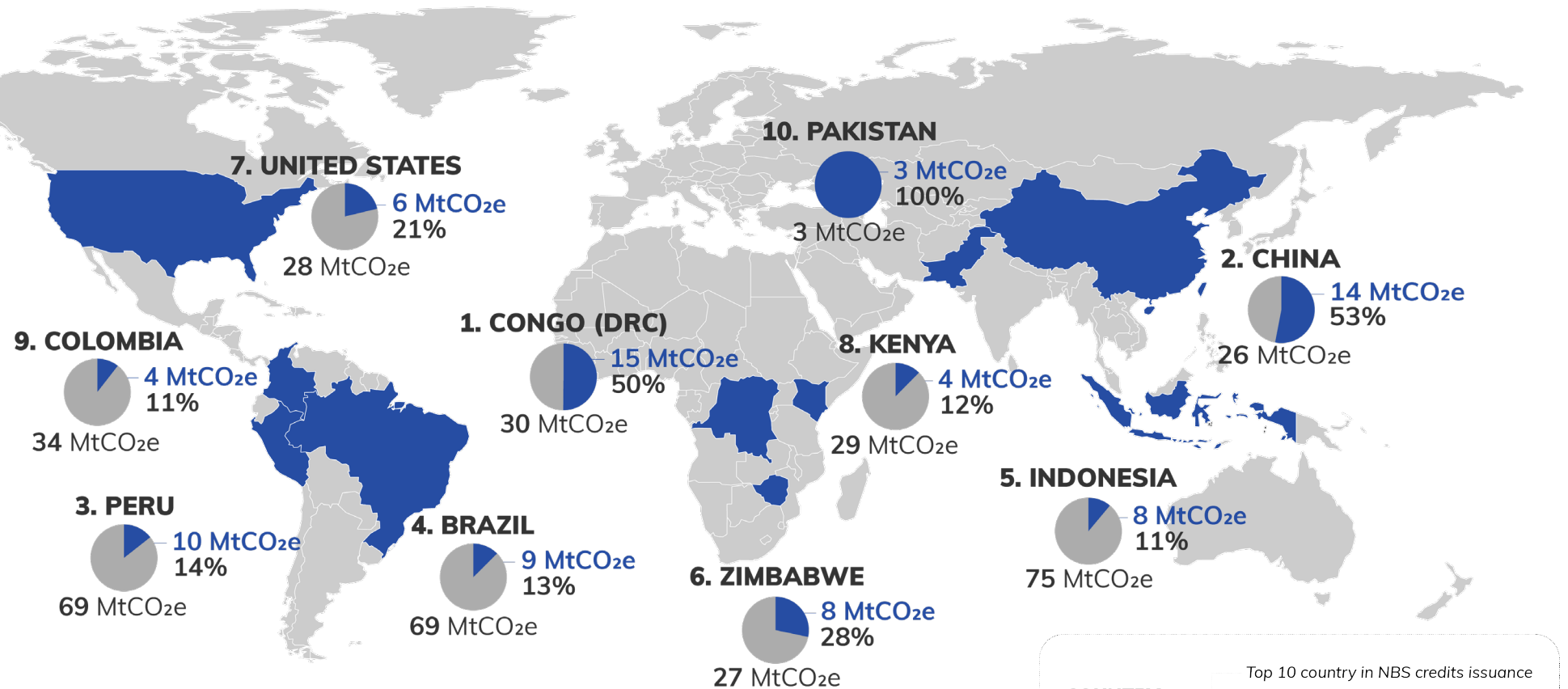


Issuances from avoided emissions NBS have decreased faster than those of removals in 2022 compared to 2021.¹ Issuances from avoided emissions have decreased by 50% (from 132 Mt to 66 Mt), while those from removals have decreased only by 3% (from 28.5 Mt to 27.6 Mt).

Still, only 30% of all NBS issuances 2022 came from carbon removal projects. Most of these volumes were issued by Afforestation/Reforestation activities, which with 22 Mt represents 49% of issuances from removal activities in 2022.

¹ Carbon removal projects include the following categories: (1) Afforestation/Reforestation, (2) Carbon sequestration in agriculture, (3) Improved Forest management, (4) Wetland restoration. Avoided emissions projects include the following categories: (1) Avoided deforestation, (2) Avoided conversion, and (3) Reduced emissions in agriculture.

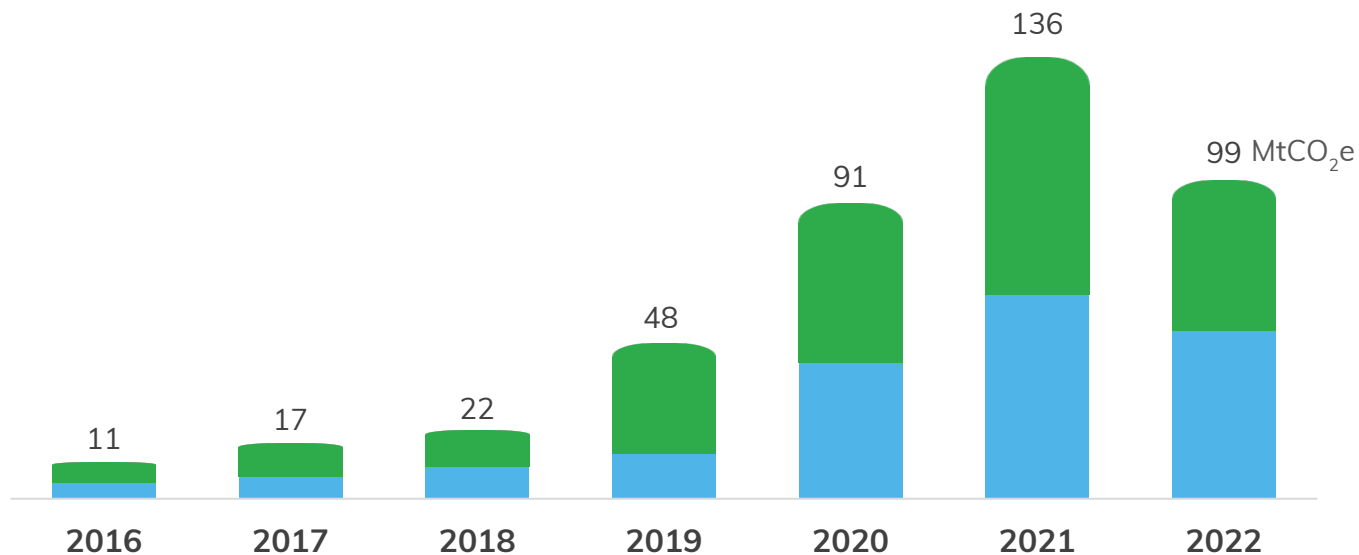
A FEW COUNTRIES DOMINATE NBS CREDIT SUPPLY



Cumulatively, the top 10 countries hosting NBS projects generated 85% (80 Mt) of the total NBS supply recorded in 2022. The top three suppliers – the DRC, China and Peru – represent over 40% of all NBS credit issuances for 2022. The DRC alone is responsible for 15 Mt of removal credits, followed by China with 14 Mt and Peru with 10 Mt. The top three suppliers of total NBS credits supplied since the market’s inception are Indonesia (75.4 Mt), Peru (69.5 Mt), and Brazil (68.9 Mt).

DEMAND FOR RENEWABLES REMAINS STRONG

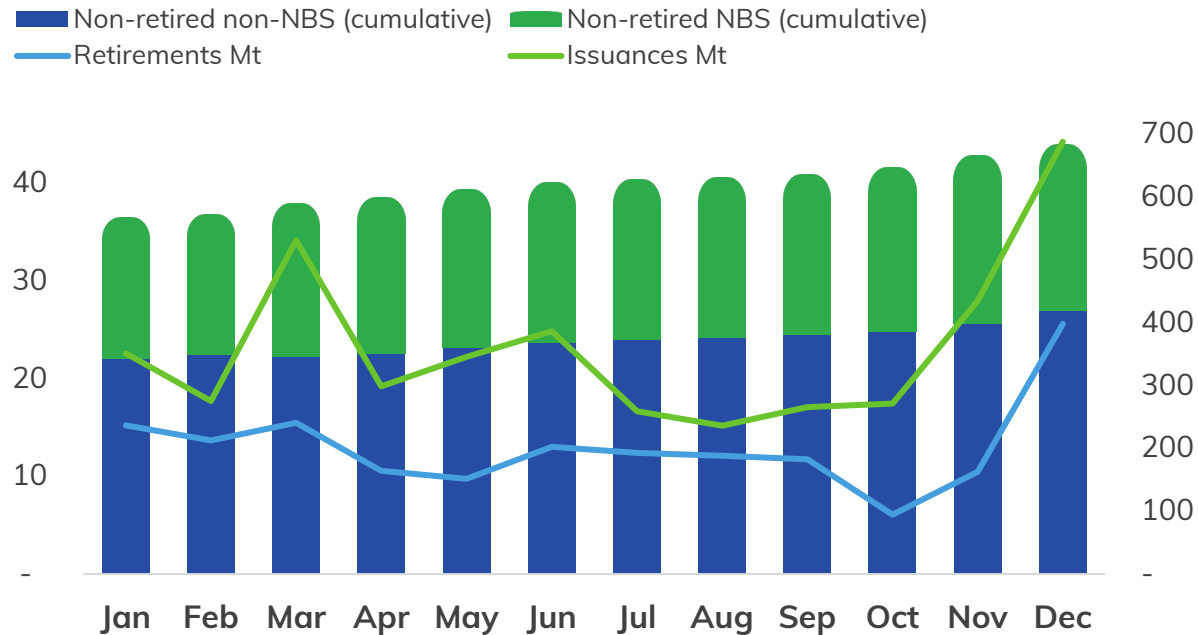
■ H1 volume ■ H2 volume



Issuance of renewable energy projects also witnessed a decline from a peak of 136 Mt in 2021 to 99 Mt in 2022.¹ RE issuances increased marginally (by 9%) compared to 2020, however. The largest activities by issuances in 2022 were large-scale wind power projects (39% / 39 Mt), large-scale hydropower projects (29% / 29 Mt) and large-scale solar power projects (22% / 22 Mt).

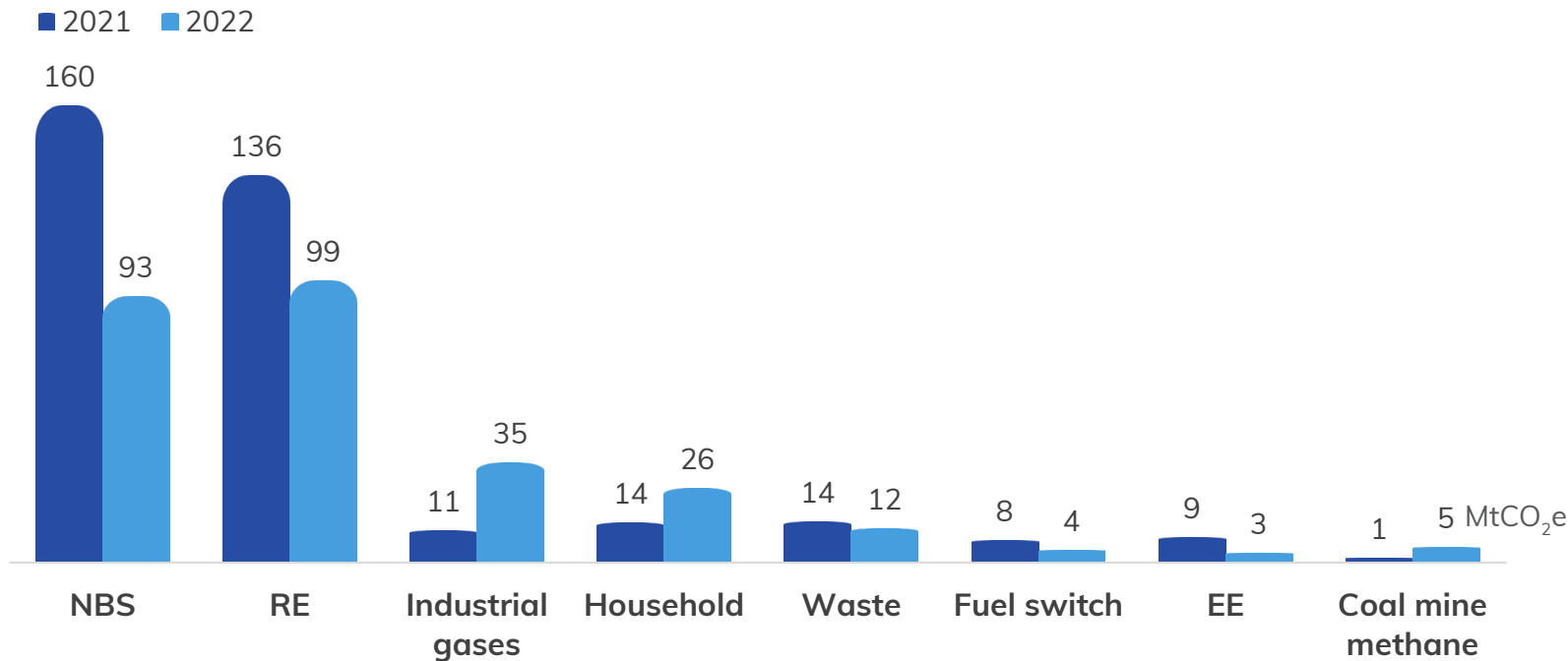
¹ Renewable energy projects include the following categories: (1) Wind, (2) Solar, (3) Hydro, (4) Renewable biomass (5) Mixed, both large- and small-scale.

RETIREMENTS TRACK ISSUANCE VOLUMES, ALBEIT AT LOWER VOLUMES



Non-retired VER volumes increased steadily through 2022, rising from 560 Mt at the end of 2021 to 683 Mt in December 2022. Issuances slowed down following the market uncertainty triggered by the invasion of Ukraine and growing concerns about a global recession, coupled with delays with major registries to process issuance requests. Issuance volumes picked up again towards the end of the year, together with retirements. Regardless of these factors, **issuances remained consistently higher than retirements throughout 2022.**

DECLINE IN AGGREGATE ISSUANCES HIDES INCREASES IN SOME CATEGORIES



Although 2022 saw a decline in issuances overall from 2021, year-on-year changes were highly varied between different project categories. There was sharp decline in NBS and RE project issuances (year-on-year declines of 42% and 27% respectively) which together made up the vast majority issued credits in 2022. However, some credit categories saw increases in issuances. Issuances from projects reducing industrial gases saw a 212% year on year increase, going from 3% of total issuances in 2021 to 13% in 2022. Similarly, issuances from household devices and coal mine methane projects were up 88% and 267% respectively in 2022 relative to 2021.

VOLUNTARY CARBON MARKET

2022 Overview

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For tailor-made advisory, including strategic advisory on the VCM, project-level diligence support, and transaction support, please reach out to dashboard@climatefocus.com.

