

VOLUNTARY CARBON MARKET

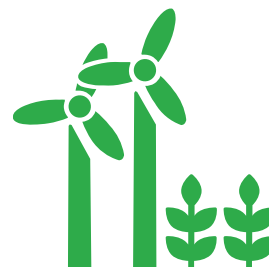
Update 2022 H1



Highlights



Carbon credit issuance activity slowed by one-fifth in the first half of 2022, compared to the same period last year



Nature-based solutions and renewable energy activities lead issuances, jointly representing nearly 80% of all issuances in H1 2022



Issuances from nature-based solution activities decreased by one-third compared to the volumes issued over H1 2021, reaching 56 Mt

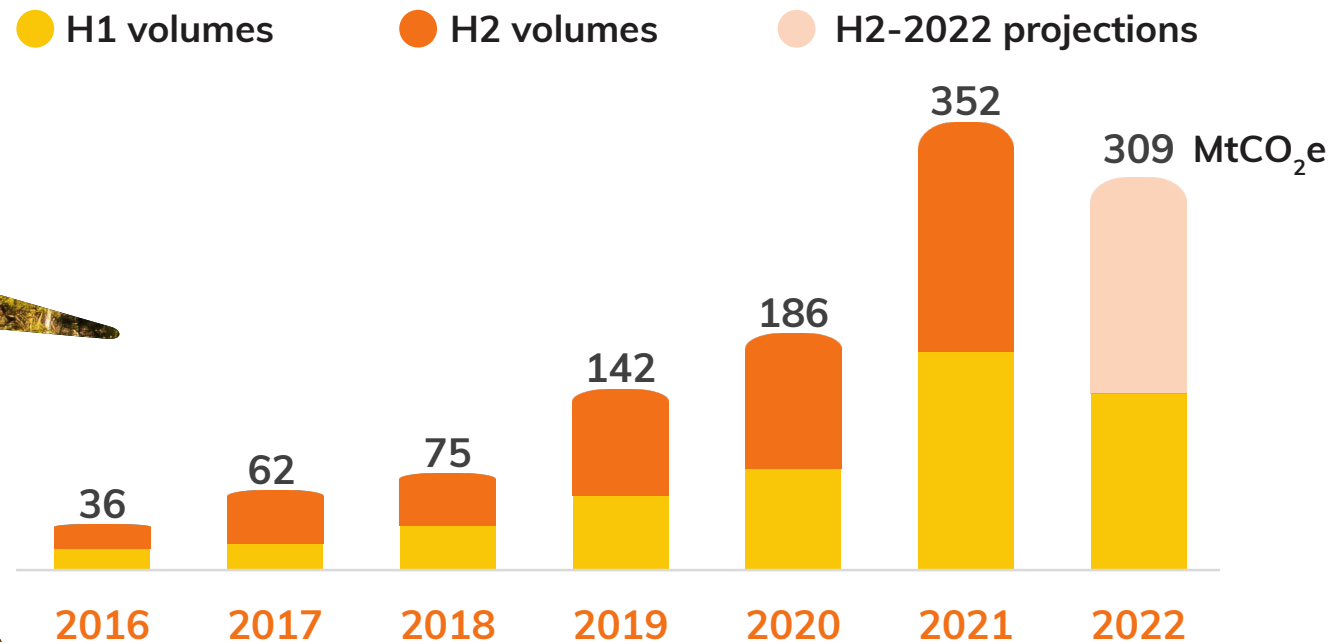


Retirements of carbon credits matched retirement volumes observed over the same period last year, stabilising at around 70 Mt



Surplus of non-retired VERs increased steadily throughout the first half of 2022, rising from 562 Mt at the end of 2021 to 621 Mt today

Issuance growth trend pauses



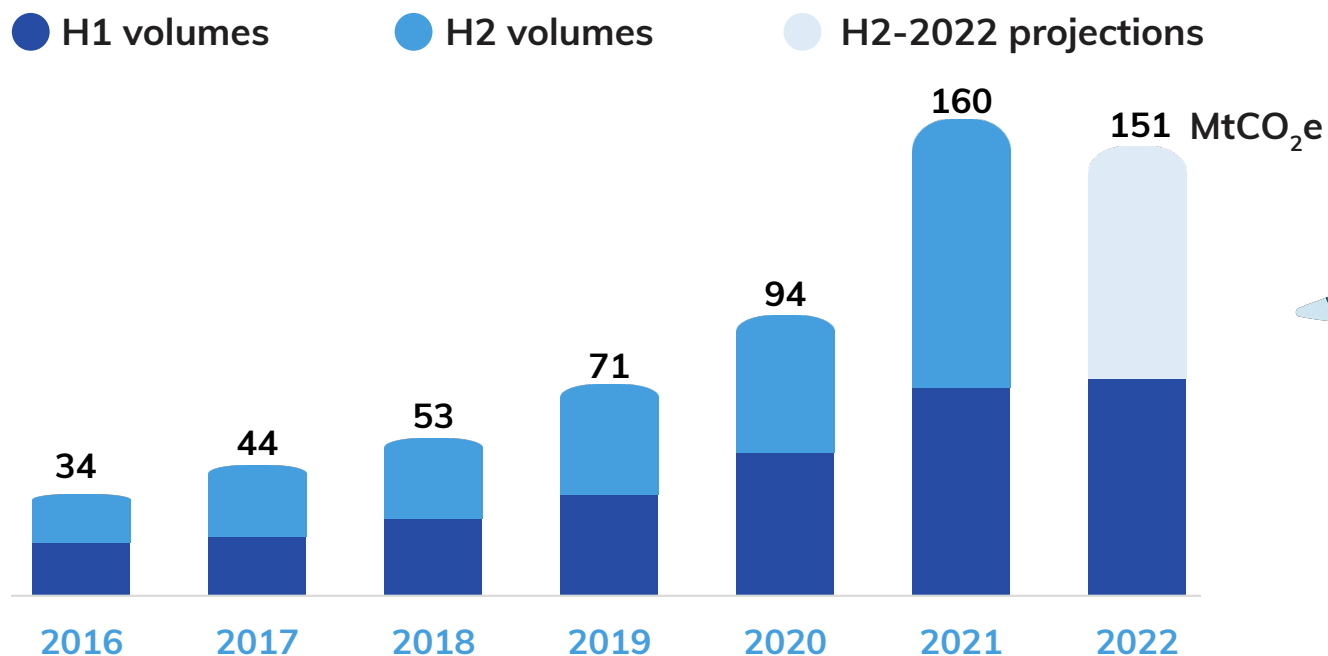
Issuance of carbon credits decreased by one-fifth in the first half of 2022 (139 Mt) compared to the first half of 2021 (172 Mt).¹ The total volume issued in H1 2022 represents around 10% of total credits issued since the inception of the voluntary carbon market.² Our prediction based on historical trends is that aggregate issuances will still breach the 300 Mt mark.³ This would represent a decrease compared to last year, but a 66% increase over 2020 volumes. **Cumulative issuance of VERs now stands at 1.3 Gt.**

¹ Carbon credits certified under Verra represented nearly 80% of total issuance recorded so far in 2022, followed by the Gold Standard at just over 11%, the ACR at 8.5% and CAR at below 2%. Notably, carbon credits issuances under the ACR showed a large increase, up from a 2.5% share in 2021.

² Our VCM dashboard tracks the historical issuance history of the following leading carbon standards: Verra's VCS, the Gold Standard, the American Carbon Registry (ACR), and the Climate Action Reserve (CAR).

³ The historical (from 2016 onwards) average ratio of aggregate H1 issuance volumes vs. H2 aggregate issuance volumes has been 1:1.22. Provided aggregate issuance of 139 Mt in H1 2022, our issuance forecast for H2 is 170 Mt, totalling 309 Mt over the entire 2022.

Credit retirements stabilise



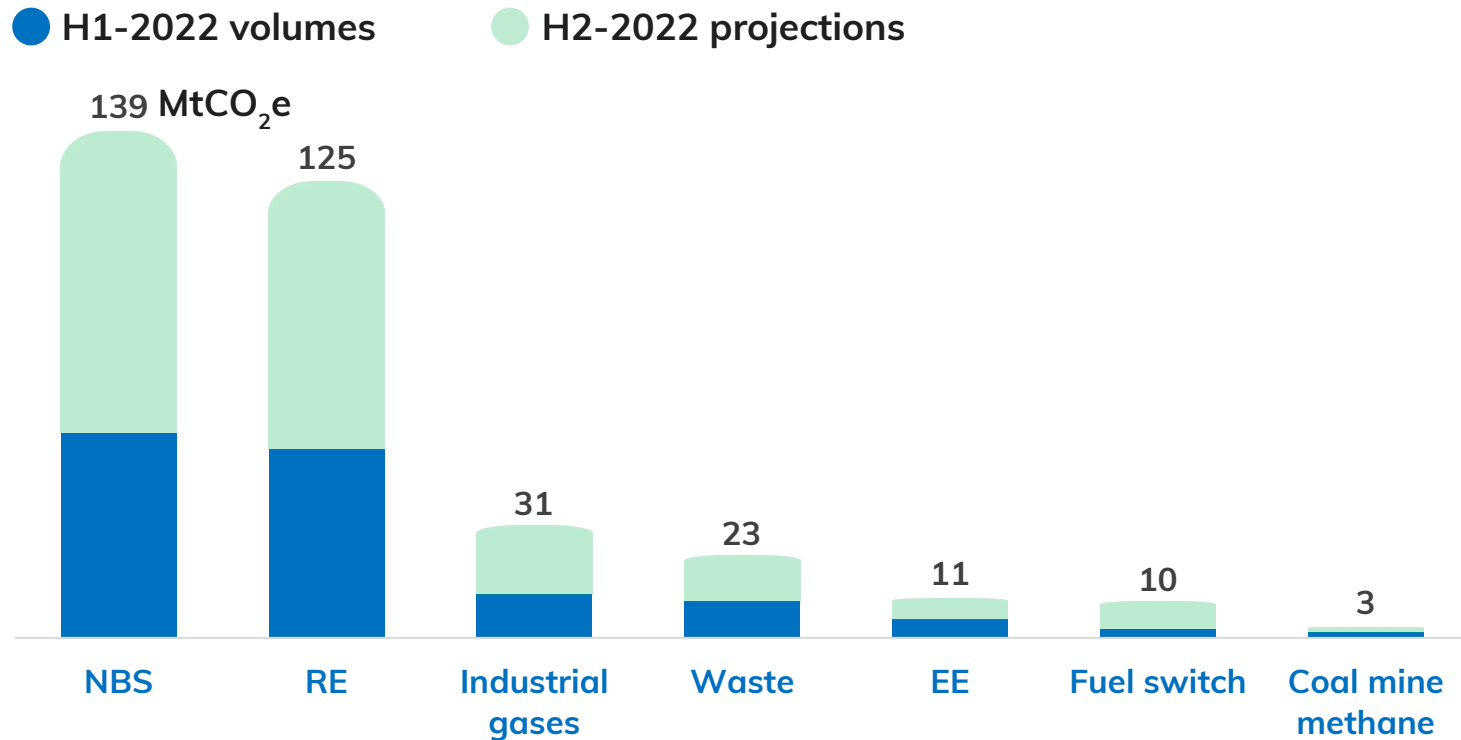
Retirements of carbon credits in H1 2022 only slightly exceeded retirements observed over the same timeframe last year, increasing from 70 Mt to 73 Mt. We expect the total volume of retirements for the entire year to reach 150 Mt, based on historical trends.¹ The H1 2022 retirements represent 10% of all retirements since the market inception.² On aggregate, new issuances exceeded retirements over the first half of the year, with the total carbon credit surplus growing by 66.4 Mt.³

¹ The historical (from 2016 onwards) average ratio of aggregate H1 retirement volumes vs. H2 aggregate retirement volumes has been 1:1.07. Provided aggregate retirement of 73 Mt in H1 2022 alone, our issuance forecast for H2 is 78 Mt, totalling 150 Mt over the entire 2022.

² Relating to the covered voluntary carbon standards.

³ It should be noted that while retirement levels lag on issuance volumes, the growing carbon credit surplus does not 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.

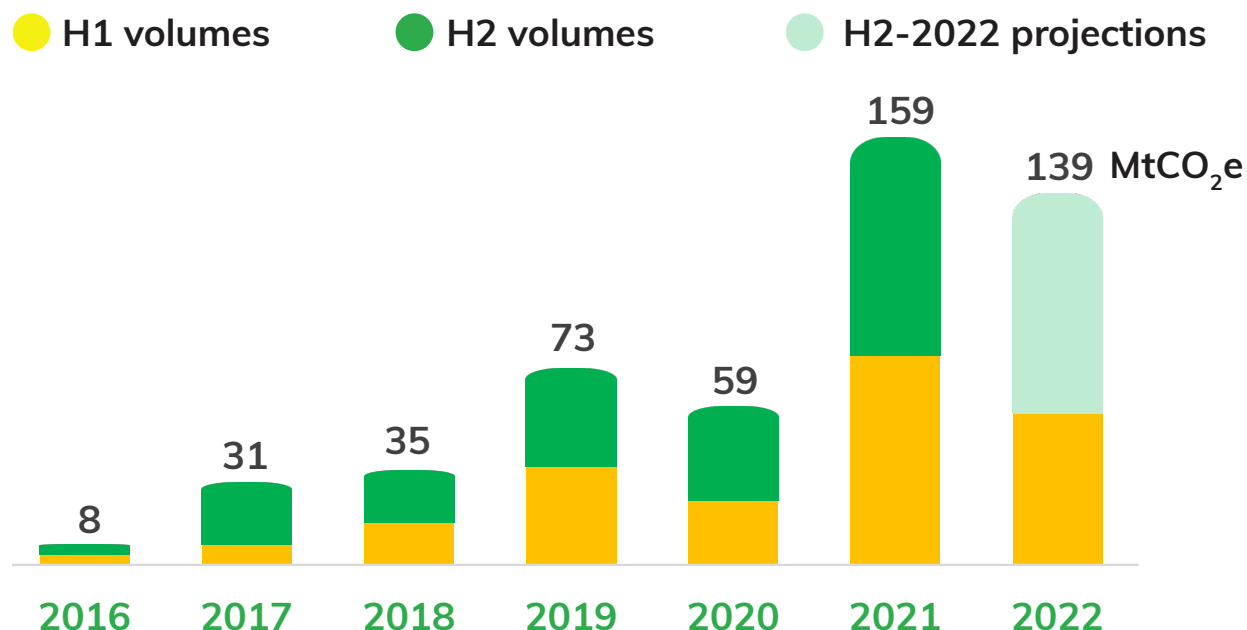
Nature-based solutions continue to lead



Credit issuances in H1 2022 were dominated by **nature-based solutions (NBS)** and **renewable energy (RE) projects**, jointly representing 78% of total issuances in H1 2022. The figure shows total issuances per project category for H1 2022, as well as a forecast based on historical trends for the second half of the year.¹

¹ The historical (from 2016 onwards) average ratio of aggregate H1 issuance volumes vs. H2 aggregate issuance volumes has been calculated for each activity type. These ratios have been applied to the issuances in H1-2022 to obtain the projections for the second half of the year.

With the issuance of NBS credits slowing



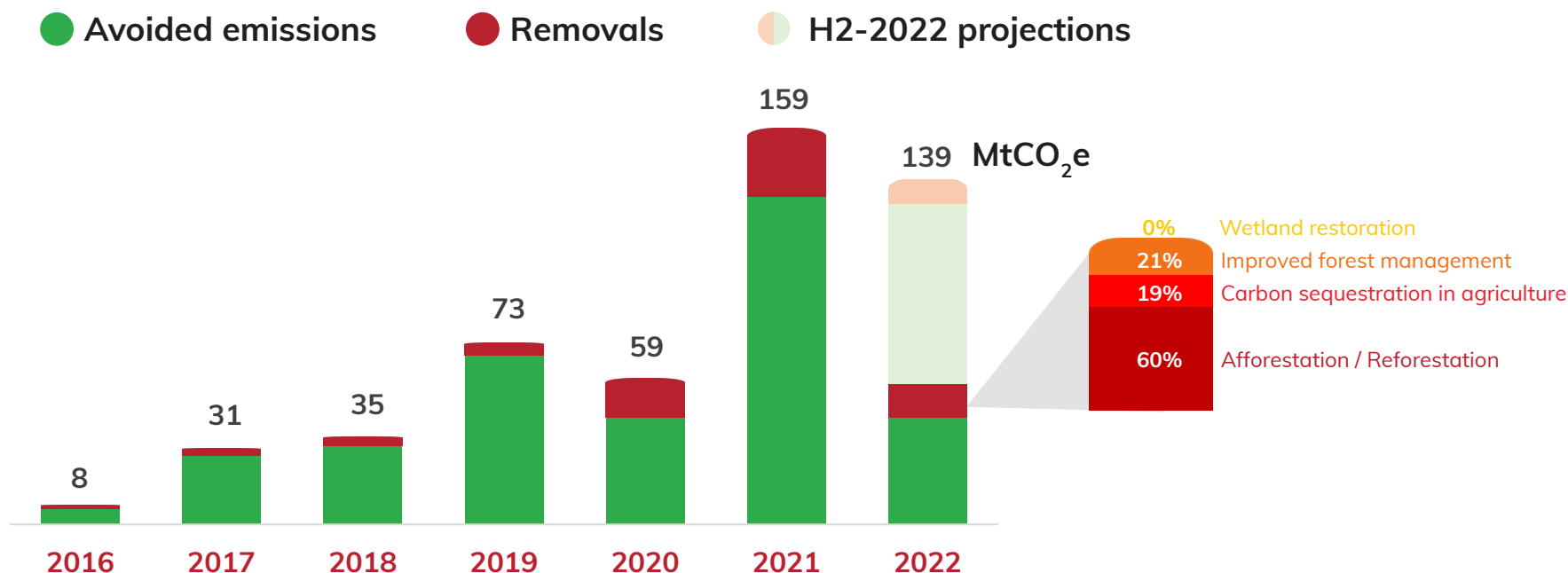
Issuance of carbon credits from NBS activities decreased from 78 Mt in the first half of 2021 to 56 Mt in the same period of 2022.¹ The issuances in H1 2022 are equivalent to **12% of all NBS issuances since market inception.**² Despite the decrease in issuances in H1 2022 compared to H1 2021, this year's issued NBS volumes are still 135% higher than those recorded in the first half of 2020 (24 Mt). Assuming historical trends, total issuances from NBS activities could reach 139 Mt over 2022, representing a small decrease compared with 2021.³

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

² As per the first graphic displayed on this report.

³ The historical (from 2016 onwards) average ratio of aggregate H1 issuance volumes from nature-based solutions projects vs. H2 aggregate issuance volumes has been 1:1.47. Provided aggregate issuance of 56 Mt in H1 2022 alone, our issuance forecast for H2 is 83 Mt, totalling 139 Mt over the entire 2022.

Carbon removal credits in limited supply

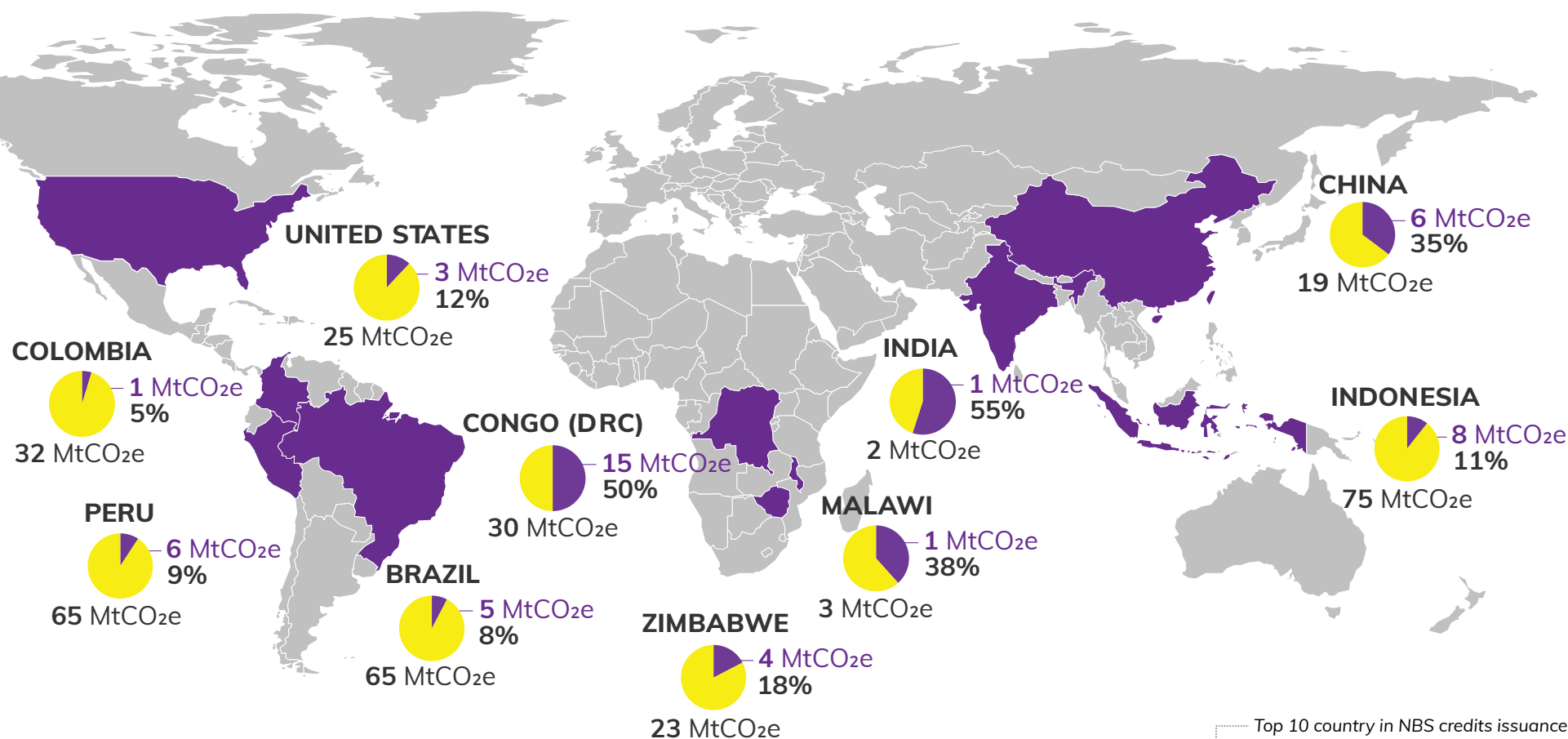


A closer look into the various NBS project-types shows that issuances from avoided emissions activities have decreased faster than those of removals from the first half of 2022 compared to the same period last year. Issuances from avoided emissions activities have decreased by one-third, while those from removals have decreased only slightly (from 14 Mt to 13 Mt). Still, **only one-quarter of all NBS issuances in the first half of 2022 came from carbon removal projects.**¹ Most of these volumes come from Afforestation / Reforestation activities, which with 8 Mt represent 60% of issuances from removal activities recorded in the first half of this year.

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.

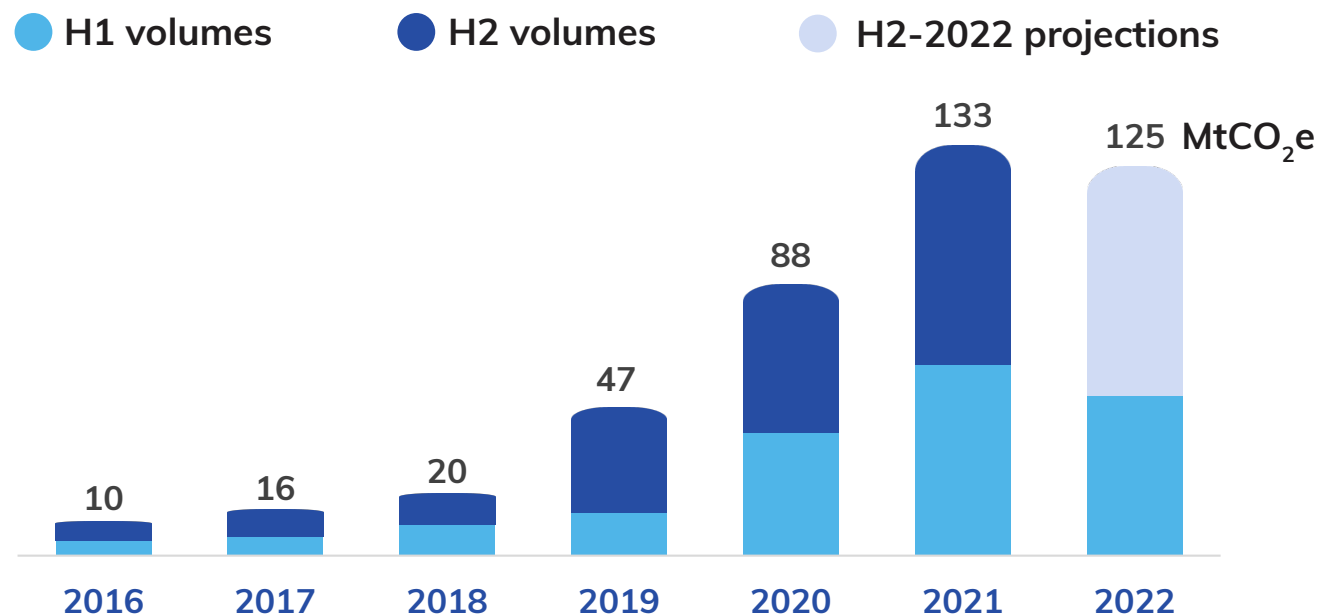
A handful of countries dominate NBS credit supply



Cumulatively, the top 10 countries hosting NBS projects generated 92% of the total supply recorded in H1 2022 (52 Mt). Three countries – the DRC, Indonesia and China – are currently dominating the market, representing more than half of all NBS credit issuances so far this year. The DRC alone is responsible for 15 Mt of NBS credits, followed by Indonesia with 8.3 Mt and China with 6.5 Mt. The top three countries of total NBS credits supplied since the market's inception are Indonesia (75.1 Mt), Peru (65.3 Mt), and Brazil (65.2 Mt).



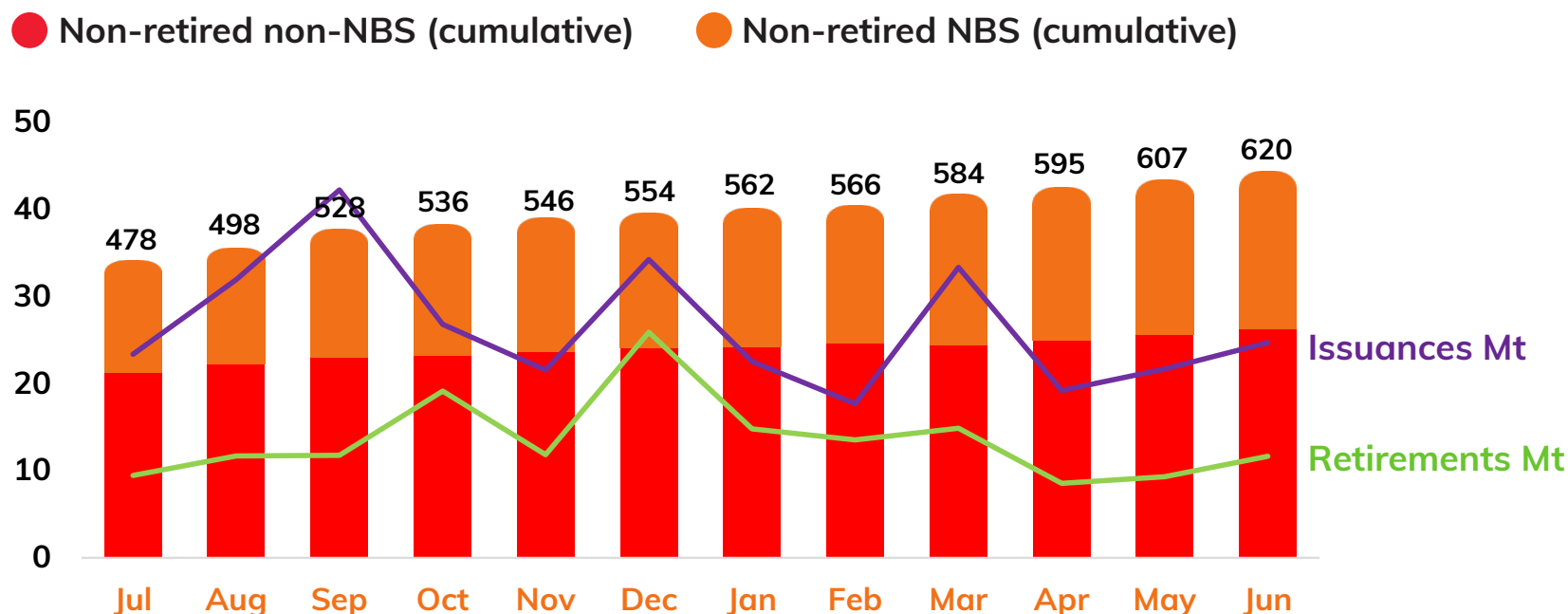
Renewables maintain an important role in VER supply



While much of the attention has been going to the supply of NBS credits, issuance levels from renewable energy projects also witnessed high issuance activity in H1 2022, reaching 52 Mt.¹ Even though this represents a decrease of 16% compared to H1 2021, this still represents a **30% increase compared with H1 2020, and 11% of all issuances in this category since market inception**. Leading activities in terms of issuances in the first half of 2022 include large-scale hydropower projects at 39% (17 Mt), followed by large-scale wind power projects at 32% (16 Mt) and large-scale solar power projects at 28% (15 Mt).

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

Retirements track issuance volumes, albeit at lower volumes



Non-retired VER volumes increased steadily through the first half of 2022, rising from 562 Mt at the end of 2021 to 621 Mt half a year later. Retirements slowed down since the start of this year, likely as companies had already taken VERs off the market to meet end-of-year compensation targets for 2021. Although issuance levels show a less clear trend, they have rarely been exceeded by retirement volumes in the past. This implies increased **stockholding in anticipation of future demand**.

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Update 2022 H1

For more insights about the development of the Voluntary Carbon Market please visit our [Dashboard](#), which we update on a monthly basis.

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

