# BeZero Carbon ex ante rating report

Brújula Verde Project

GS23254

BeZero

# Project description

The Brújula Verde project is an afforestation project in Puerto Carreño and La Primavera, Vichada, Colombia (**Figure 1**). The project is developed by Inverbosques S.A., with technical consultancy from Southpole. GS23254 aims to plant a mixture of *Eucalyptus pellita* and native species across 20,012 hectares in two phases. This rating applies to both phases. All felled trees will remain within the project area, and no commercial harvesting will take place. The project area largely comprises grassland, which the project reports has been degraded by years of deforestation and slash-and-burn agriculture. Project activities aim to restore and promote long-term enrichment.

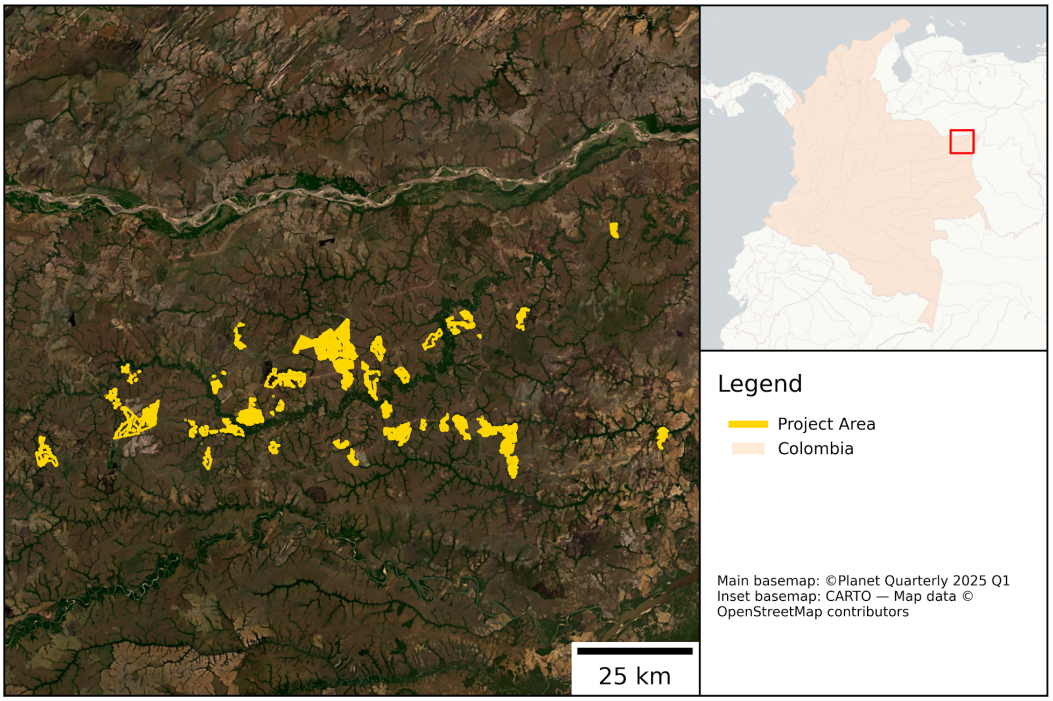


**Figure 1.** Map of the GS23254 project area in Vichada, Colombia. Background imagery from Planet Labs, showing a high-resolution satellite view obtained January - March 2025.

**Table 1.** Project details

| **Particulars** | **Details** |
|---|---|
| Project name | Brújula Verde Project |
| Sector classification | Nature-Based Solutions → Forestry → Afforestation, Reforestation & Restoration |
| Methodology | Methodology for Afforestation/Reforestation (A/R)GHGs emission reduction & sequestration V2.1 |
| Project proponent | Inverbosques S.A. |
| Location | Colombia |
| Project crediting period | 15 May 2023 → 15 May 2053 |
| Vintages assessed | 15 May 2023 → 15 May 2053 |
| Credits forecast (in rated vintages) | 16,039,380.58 $tCO_2e$ |
| Project commitment period | 30 years |
| Year of first issuance | 2023 |

Contents

# Executive summary

**BeZero Carbon has assigned GS23254 a ‘ AA.pre ’ ex ante rating, with ‘ Low ’ execution risk.** This is based on the opinions and reasons expressed below, following our analysis of information made available by the customer, our interactions with the various stakeholders, and related publicly available information. Credits rated 'AA. pre' provide a very high likelihood of achieving 1 tonne of $CO_2e$ avoidance or removal.

The ex ante rating of ‘ AA.pre ’ is driven by the project’s very high additionality, very high likelihood of accurate carbon accounting and high permanence.

**Table 2.** BeZero Carbon ex ante rating summary for GS23254, as of April 2026.

| COMPONENT | ASSESSMENT |
|---|---|
| **Additionality** | aa |
| **Carbon accounting** | aa |
| **Permanence** | a |
| **Ex ante rating** | AA.pre |
| **Project execution risk** | Low |

# Benchmarking

A ‘ AA.pre ’ ex ante rating is comparable to a ‘AA’ ex post rating, which is in the highest quartile of rated ex post ARR projects.

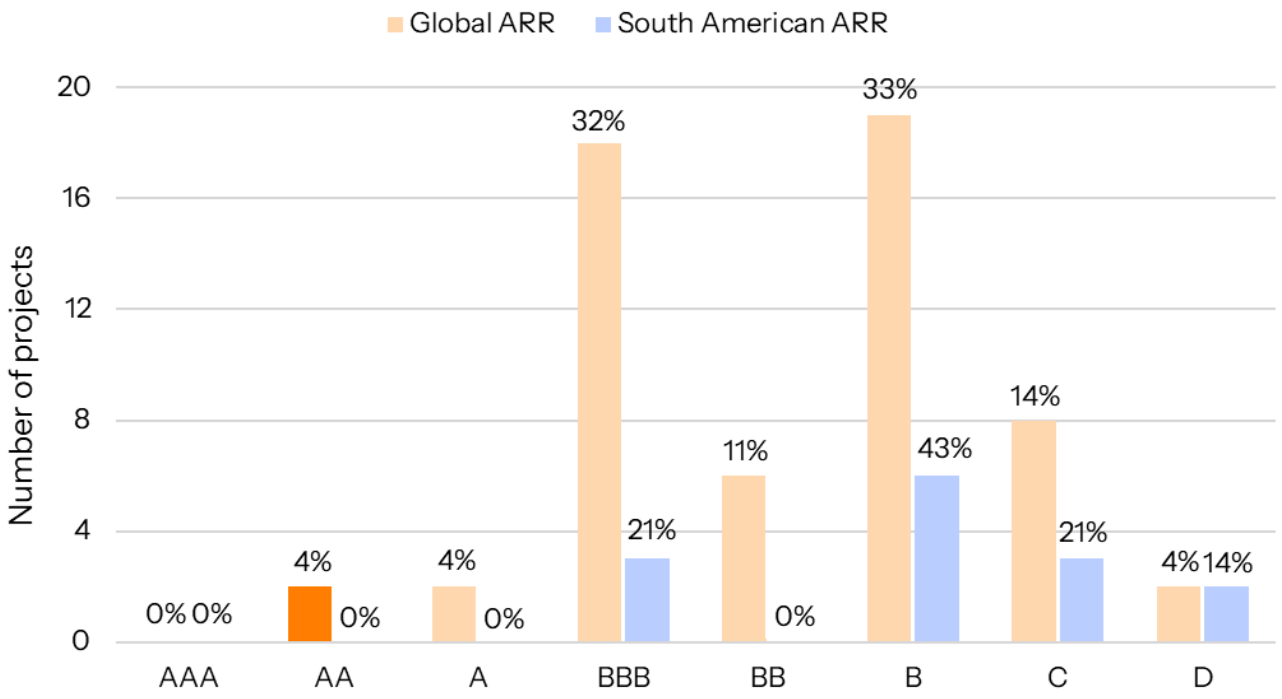


**Figure 2.** Distribution of ex post ratings for South American (blue) and Global (orange) ARR projects. (% = proportion of projects assigned to each rating within the analysed cohort).

# Risk factor summaries

**Table 3.** BeZero Carbon ex ante risk factor summary for GS23254, as of *April 2026.*

| RISK FACTOR[1] | |
|---|---|
| **Additionality: aa** | |
| ++ | The project's only revenue source is carbon finance. |
| ++ | Unsupportive policy environment. |
| + | Project activities are not common practice. |
| + | There are financial and technological barriers to implementation. |
| - | The project developers' expertise and established nursery reduce some barriers. |
| **Carbon accounting: aa** | |
| ++ | Excluding deadwood and litter may result in undercrediting of at least 10%. |
| + | In-situ soil organic carbon sampling conducted. |
| + | Natural vegetation gain is low. |
| + | Very low leakage risks due to limited prior land use. |
| = | Biomass estimations introduce minor uncertainty. |
| - | A commercial plantation may have occurred in the baseline scenario. |
| - | Excluding emissions from site preparations in the project scenario. |
| **Permanence: a** | |
| ++ | Low anthropogenic risks due to strong land tenure and stakeholder engagement. |
| + | Low risk of pests and disease. |
| + | Buffer pool contributions are likely sufficient to cover most risks. |
| - | Drought may result in reversals and may exacerbate fire risk. |
| - | Fire poses a credible threat to carbon stocks. |
| **Project execution risk: Low** | |
| ++ | Very low financial risks as upfront capital has been secured. |
| ++ | The project proponents have experience in managing similar carbon projects. |
| - | Planting of native species may pose greater challenges, given the higher barriers. |
| - | Some permits and usufruct contracts are still pending. |

# Structured risk feedback

The table below outlines steps the project could take to mitigate risks identified in our analysis. It includes the feasibility of executing these strategies and their potential impact – if successful – on the project's credit issuance and our rating of the project.

[1] ++ = Major positive, + = Minor positive, = = Neutral, - = Minor negative, -- = Major negative

**Table 4.** Structured risk feedback

| COMPONENT | CURRENT RISK | POTENTIAL RISK | MITIGATION STRATEGIES | FEASIBILITY | ISSUANCE CHANGE |
|---|---|---|---|---|---|
| **Additionality** | aa | aa | | | 0% |
| No amendable risks | | | | | 0% |
| **Carbon accounting** | aa | aaa | | | 5-20% |
| Baseline scenario<br>*The baseline does not account for the potential for a commercial plantation.* | Medium | Low | Account for the likelihood of a commercial plantation occurring in the baseline scenario. | Moderate | 5-20% |
| GHG conversions<br>*Biomass estimations may not be accurate across the species planted.* | Medium | Low | Develop allometric equations for the tree species planted in the project area. | High | 5-20% |
| GHG conversions<br>*The project doesn't account for site preparation emissions.* | Low | Low | Account for soil emissions from site preparation. | Moderate | 0-5% |
| **Permanence** | a | aa | | | 0% |
| Fire<br>*Fire poses a credible threat to carbon stocks.* | Medium | Low | Greater fire mitigation measures within the project area and management of deadwood. | High | 0% |
| Drought<br>*Drought may result in reversals and may exacerbate fire risk.* | Medium | Low | Monitor drought and available water, and put in irrigation measures if needed. | High | 0% |
| **Ex ante rating** | AA.pre | AAA.pre | | | 5-20% |
| **Project execution risk** | Low | Lowest | | | 0% |
| Technical risk<br>*Planting of native species may pose greater challenges, given they likely face greater barriers and the developers past experience has focused primarily on non-native species.* | Medium | Low | Closely monitor the success of native species planting and adapt based on performance. | Moderate | 0% |
| Legal and regulatory risk<br>*Some permits and usufructs are still pending.* | Low | Very Low | Ensure all permits are complete and remaining contracts signed. | High | 0% |

# Analysis

## Additionality: ‘aa’

**GS23254 has a very high likelihood of additionality.** While plantation forestry is common in the region, the project’s mixed-species planting without commercial harvest is uncommon. The project relies entirely on carbon finance, faces material barriers without it, and demonstrates clear deviation from business-as-usual land use. Policy and legal frameworks present minimal risk to the project’s additionality claims. However, some risk is introduced through the developers' experience and already established nursery, reducing barriers to planting.

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### Activity analysis

#### Common practice

**While exotic species plantations are common in Vichada, forgoing commercial harvest is not.** Large-scale plantations are increasing throughout Vichada, likely sufficient to supply construction and export infrastructure [1]. Forest plantations are the second most common land use in Vichada after low-intensity cattle grazing [2–3,4], and are largely of non-native species, including *Eucalyptus pellita* [5]. According to data from MapBiomas, the Vichada Department's total plantation area expanded from 9,645 hectares in 2010 to 41,391 hectares in 2023 [6]. More specifically, within La Primavera and Puerto Carreño, the municipalities in which the project operates, data suggests plantation area increased from 4,169 hectares in 2010 to 12,480 hectares in 2016 and 31,817 hectares in 2023 [6] **(Figure 3)**. Further remote sensing analysis identifies many new plantations in regions that MapBiomas incorrectly defines as natural savannah, and therefore may considerably underestimate the municipalities’ total plantation area.

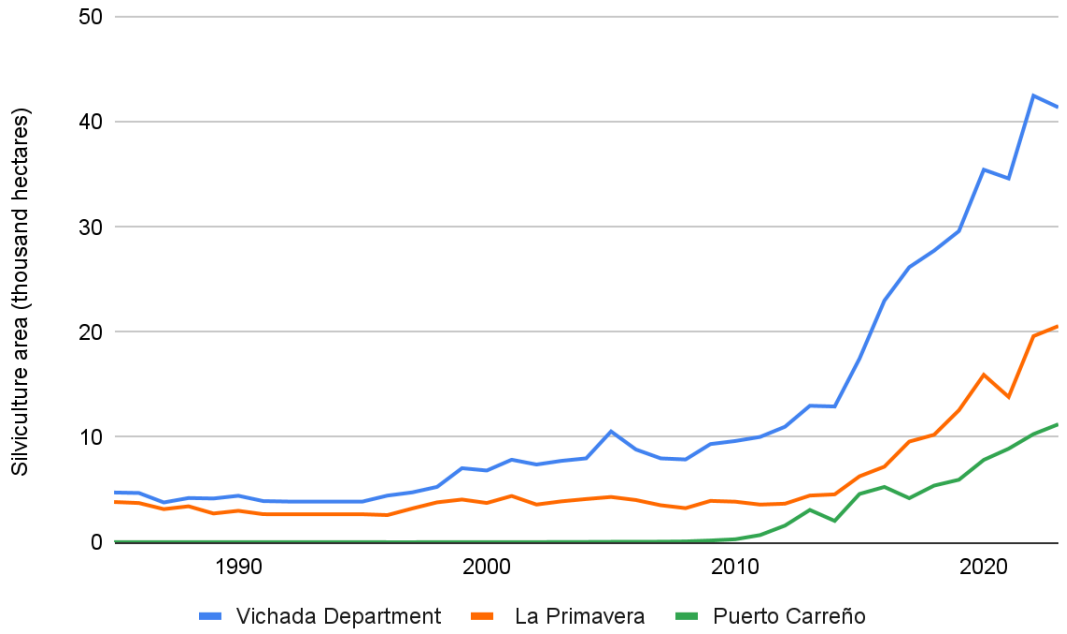


**Figure 3. Recent silviculture expansion in the Vichada Department.** Forest plantation area in thousands of hectares between 1985-2023. Data are shown for the Vichada Department (blue) and the municipalities of La Primavera (orange) and Puerto Carreño (green), where the project is located. Data from MapBiomas [6].

Tree cover in a 50 km buffer around the project area increased by approximately 23,645 hectares (1.15% of the buffer area) between 2012 and 2020. This increase exceeds the department and national average rates of increase and may be even higher given that our analysis has not captured all plantations, including newer forest plantations, which we can visually identify. Most of this forest gain occurred within registered carbon projects (**Figure 4**), at least two of which were set up as commercial plantations before incorporating carbon finance. This pattern reflects barriers in the project region, including poor forestry infrastructure [2,7], which makes commercial plantations less attractive (see Barrier analysis). Furthermore, the Orinoco region hosts the highest number of ARR carbon projects in Colombia, with Vichada being the department with the second highest number nationally [8]. Overall, the small amount of forest gain outside of carbon projects reduces additionality risk.

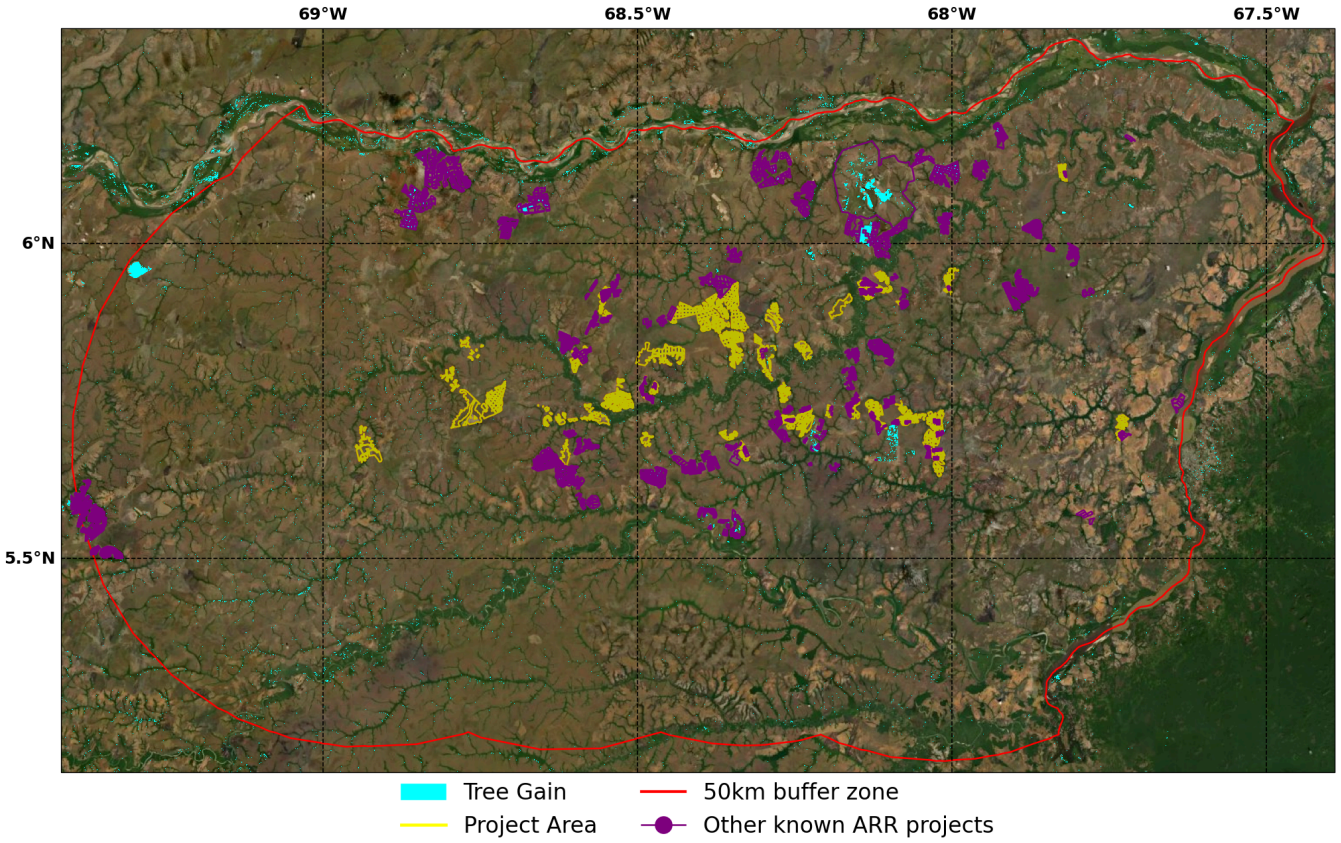


**Figure 4.** Tree gain between 2000-2012 and 2012-2020 according to the GLAD UMD dataset and other known ARR carbon projects within a distance of 50 km (VCS3594, VCS1530, CCS8, VCS2512, GS4221 and CCS14). Tree gain in this dataset includes both natural regrowth and planted forests, including tree crops**.**

**The project activities differ from common practice, reducing overall risk.** Whilst *E. pellita* is the most common tree species planted in the project area, native species are also being planted, with expectations that at the end of the crediting period, *E. pellita* will account for less than half of the total trees planted. Forests with native and non-native species mix typically cover small areas and have poor survival rates [9]. Furthermore, the project does not include commercial harvesting as part of the activities, instead employing less intensive thinning every ~5 years, which is unusual across Colombia and within Vichada [10]. Even within carbon projects, most afforestation projects in Colombia focus on exotic species, and 65% plant between one and four species, and only 5% plant more than 10 species, similar to this project [8,11]. Most forest cover expansion is either timber or fibre plantations without carbon finance. This includes the nearby carbon projects; some began as commercial

plantations and have since transitioned to carbon projects. Overall, whilst plantations are common and increasing in the project area, we find the mixed species plantation with no commercial harvesting means GS23254 exceeds common practice, mitigating risk.

### Alternatives to the proposed project

**Without the project activities, the most likely scenario would be the continuation of a grassland ecosystem in varying levels of degradation, or a commercial plantation.** The project considers that in the absence of its activities, the project area would likely remain as grassland with cyclical burning and minimal economic incentives for restoration. Livestock farming, particularly low-intensity cattle production on native savannah or improved pasture planted with African grasses, is the region's dominant land use because it requires a relatively limited labour input and minimal specialised equipment. Our geospatial analysis supports this scenario, as the project area was dominated by low canopy cover (99% less than 0.5 m tall) since at least 2000, with significant fire events in the project and surrounding areas typical of natural grasslands and savannas in the tropics (see permanence). In our view, this ecosystem likely experiences varying levels of degradation, with forest cover remaining about constant since the 1980s, and the breakdown of the grassland ecosystem, persisting at a natural state or in degradation, is difficult to distinguish.

Intensive livestock production (e.g., improved pasture seeded with African grasses) and crop agriculture have become more common in the last two decades [12,13]. However, these would sequester less carbon than the project activities. Over time, some level of natural vegetation gain may have occurred in the project area, given its proximity to areas identified as being High Conservation Value. Furthermore, much of the project area is classified as savannah, rather than pasture or agriculture [6]. Studies of land abandonment in Colombia indicate that forests could expand where grazing pressure declines and fire is suppressed [14]. In Vichada, however, livestock densities have remained broadly stable, and around 9% of Vichada burns every year [15], with very high fire activity detected in the project area. In addition, the project area has acidic, low-organic-carbon soil that can inhibit spontaneous tree establishment even when fire pressure lessens [15]. Therefore, we find the risk of natural vegetation gain sequestering as much carbon as the project activities to be low.

A commercial plantation existing in the project area without carbon finance is possible. Given plantations' common practice and the abundance of commercially viable tree species available in nurseries, commercial forestry activities may occur without the project activities. Vichada is the second largest department in Colombia for areas destined for the expansion of plantations, reaching 110,589 hectares planted by 2021 [11]. However, commercial plantations would require periodic harvesting to be commercially viable. Therefore, it is expected that less carbon would have been sequestered, and thus, it does not pose a risk to additionality.

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## Financial analysis

### Prior consideration of carbon finance

**All available evidence suggests that carbon finance was a primary consideration in the design of the project activity.** Whilst planting for Phase 1 (10,012 hectares) was completed between 2023 and 2024, before registration with Gold Standard (04 July 2025), we find sufficient evidence that carbon finance was considered from the project inception, reducing additionality risk. In fact, the initial funding required for both phases has been secured in the form of pre-payment agreements and is therefore contingent on generating carbon credits, outlining its initial consideration.

### Investment analysis

**The project relies entirely on carbon finance, presenting very low financial additionality risk.** Project costs over the project's lifetime include capital expenditures (such as nursery activities, planting labour, and raw material) and operating expenses (such as land usufruct and ongoing maintenance). Carbon finance contributes 100% of project revenues to recoup these costs. Without carbon finance, the project would be unfeasible and unlikely to be implemented.

### Barrier analysis

**We find sufficient barriers to mixed species plantations exist, although some risk is introduced through an established *E.* pellita nursery.** The project identifies various financial, institutional, and technical barriers preventing local landowners from adopting large-scale plantations without carbon finance. The main barriers are reportedly the high upfront costs of establishing plantations, minimal government support for tree planting, severe soil degradation, and limited technical knowledge. We find evidence to suggest that these barriers are likely to be material in preventing project activities.

Other barriers include high land costs, poor forestry infrastructure (e.g., mills and inadequate transportation), which increase the costs of shipping raw materials to distant markets and mills [2,7]. Establishing costs are likely even higher for native species, as they are less frequently available in nurseries. However, we find the project's extensive nursery, whilst being expanded with carbon finance, already had sufficient *E. pellita* saplings, which reduces some barriers to planting costs, as this nursery existed before the establishment of this project.

### Benefit sharing

**Benefit sharing is central to the project's activities and is associated with very low risk.** Central to the project's operational model is redistributing 18% of carbon revenues back to the landowners. These benefits were required to overcome barriers associated with local communities, underscoring the project's reliance on carbon finance.

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## Legal and policy

### Land and carbon rights

**There is no additionality risk associated with land and carbon rights.** GS23254 intends to plant 20,012 hectares across at least 32 properties, all of which are registered at the Office of Public Instruments. There is no additionality risk related to land and carbon rights (such as legally required planting, duplicated land registration).

### Policy support

**The project is unlikely to have benefited from any policy support, reducing additionality risk.** There is extensive government support for restoration projects within Colombia [16,17]. One potential funding source is the Forestry Incentive Certificate (CIF), which allows the government to provide up to 75% of the funding for establishing and maintaining native species restoration during a project's first five operational years. The CIF programme remains the country's principal subsidy for new plantations, supporting small-scale reforestation, and by 2015, had supported 70% of the investments in plantations in the Vichada region [13]. However, CIF primarily targets commercial forestry; and therefore, GS23254 has not received CIF support.

Other relevant national policy frameworks include Decree 926 [18], which enables the government to purchase credits from domestic carbon projects to offset the National Carbon Tax, and Law 2169, which promotes private sector reforestation. Colombia's 20-year National Restoration Plan designates over 24 million hectares for restoration, though it has been criticised for setting overly ambitious targets without detailing implementation measures [19]. Internationally, Colombia supports the Convention on Biological Diversity's Global Biodiversity Framework, which aims to restore 20% of degraded ecosystems by 2030. This is backed by national policy instruments such as the Climate Change Management Plan, the Biodiversity Management Policy, and Law 2173. However, overall, we find there to be low policy risk to additionality.

Within Colombia, various payment schemes for ecosystem services (PES) have been implemented, particularly in critical watersheds, with projects offering payments for reforestation with native species for carbon sequestration, conservation and secure water supplies [8]. It is possible that other PES schemes could have funded the project activity.

## Carbon accounting: ‘aa’

**GS23254 has a very high likelihood of accurate carbon accounting.** The project has substantial under-crediting because it does not account for carbon stored in litter and deadwood. Natural vegetation gain outside of the project is likely to be low, and the project faces very low leakage risk. However, biomass expansion factor (BEF) values introduce estimation uncertainty and some site preparation emissions present a minor over-crediting risk.

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### Direct accounting

#### Baseline scenario

**The baseline scenario is largely appropriate; however, heterogeneity in soil conditions across the project area presents a minor risk to carbon accounting.** The baseline scenario considers that there would be no significant biomass increase without the project activities. The project states that the pre-existing landscape is dominated by grasslands and low shrubs, representing a degraded savannah and poor soil conditions. The project documents substantiate this by years of deforestation and the practice of slash-and-burn agriculture. Therefore, no baseline storage or removals in tree biomass is considered, based on the assumption that only the small number of pre-existing trees in the project area which are neither removed nor included in the carbon removals. This is supported by our geospatial analysis, which indicates that the project area consisted of grassland and agriculture with very low canopy cover (99% of the area contains vegetation below 0.5 m).

The project also conducted a degradation assessment across the project area to characterise site conditions. Degradation was assessed using indicators including fire frequency, soil organic carbon (SOC) and soil porosity, and these properties were compared with those observed in degraded and conserved reference areas. Degraded reference areas are defined as regions subject to extensive cattle grazing and cyclical anthropogenic burning, while conserved reference areas correspond to less disturbed ecosystems such as gallery forests. The results indicate some heterogeneity in site conditions, with the project soils falling between the two reference states, although they are overall closer to the degraded condition. The project also conducted an assessment of ecosystem integrity, which concluded that approximately 0.82% of the project area was classified under ‘High Integrity’. This supports the view that the baseline scenario is generally reasonable, but it also suggests that some parcels may have exhibited ecosystem integrity (see below).

**The project’s approach to establishing baseline SOC is broadly appropriate, although uncertainty remains due to the lack of in-situ sampling prior to planting activities in Phase 1**. The project conducted SOC sampling after the establishment of plantations in Phase 1 (see **GHG conversions**). To estimate baseline SOC in the planted areas, the project collected samples within a 70 m buffer surrounding the planted zones, while excluding the inner 20 m to avoid potential alteration from leaching associated with plantation activities. This is a reasonable proxy approach, but it introduces residual uncertainty as to whether the sampled areas fully reflect pre-planting baseline SOC stocks in Phase 1 plantation areas.

**The absence of baseline SOC storage introduces minor carbon accounting risks.** The project accounts for and deducts a one-off 8.64 $tCO_2e$ per hectare based on pre-existing carbon storage in aboveground biomass (AGB) and belowground biomass (BGB) of non-tree biomass. While we consider this a best practice, it may underestimate pre-existing carbon stocks, especially in SOC. Most biomass storage and carbon sequestration within savannah and grassland environments occur

belowground [20–22]. As part of the project area may have been functioning as a healthy ecosystem, we find that excluding SOC from the baseline could lead to the project over-crediting. The project proponents do intend to update the baseline SOC data following the release of the new Gold Standard methodology, but since this is yet to be undertaken, the SOC exclusion still presents some risk to carbon accounting.

**The project's use of a dynamic baseline applies methodological best practice, but may pose some risk.** The project used the VM0047 dynamic performance benchmark to assess its baseline, which is not required by Gold Standard. The project uses the Normalised Difference Fraction Index (NDFI) as a proxy for carbon stocks. In this context, where dense vegetation is unlikely, NDFI is not expected to saturate early and may offer a reasonable proxy for stock change. However, canopy height or remotely sensed carbon density would likely provide a more robust index.

Incorporating additional covariates known to influence biomass gain, such as accessibility, proximity to core forest, soil type, and fragmentation, could strengthen control plot matching and improve the predictive accuracy of carbon stock change. While the project's selected control area is likely appropriate from a land tenure perspective, matching solely on the stocking index may limit the environmental comparability of the selected control locations, raising the risk that they do not accurately reflect the counterfactual scenario for this intervention.

**A low level of natural vegetation gain may have occurred in the absence of project activities.** We employed a 'look-back' approach to assess the likelihood of natural vegetation gain over the first 5 years of GS23254. This involved matching the project area condition at the project start date (2023) to control sites in a similar condition 5 years prior (2018). We have tracked changes in carbon density and forested area up to the present day. To achieve this, we first identified potential control areas with the same land class and owner type in 2018 as the project area in 2023. We used machine learning models to identify the key variables most predictive of recent biomass increases **(Figure 5)**. Then, we used statistical matching to pair project pixels with the most representative control pixels across the region **(Figure 6)**. This allowed us to establish plausible baseline rates for changes in land class (Dynamic World) and carbon gain (Planet Labs).

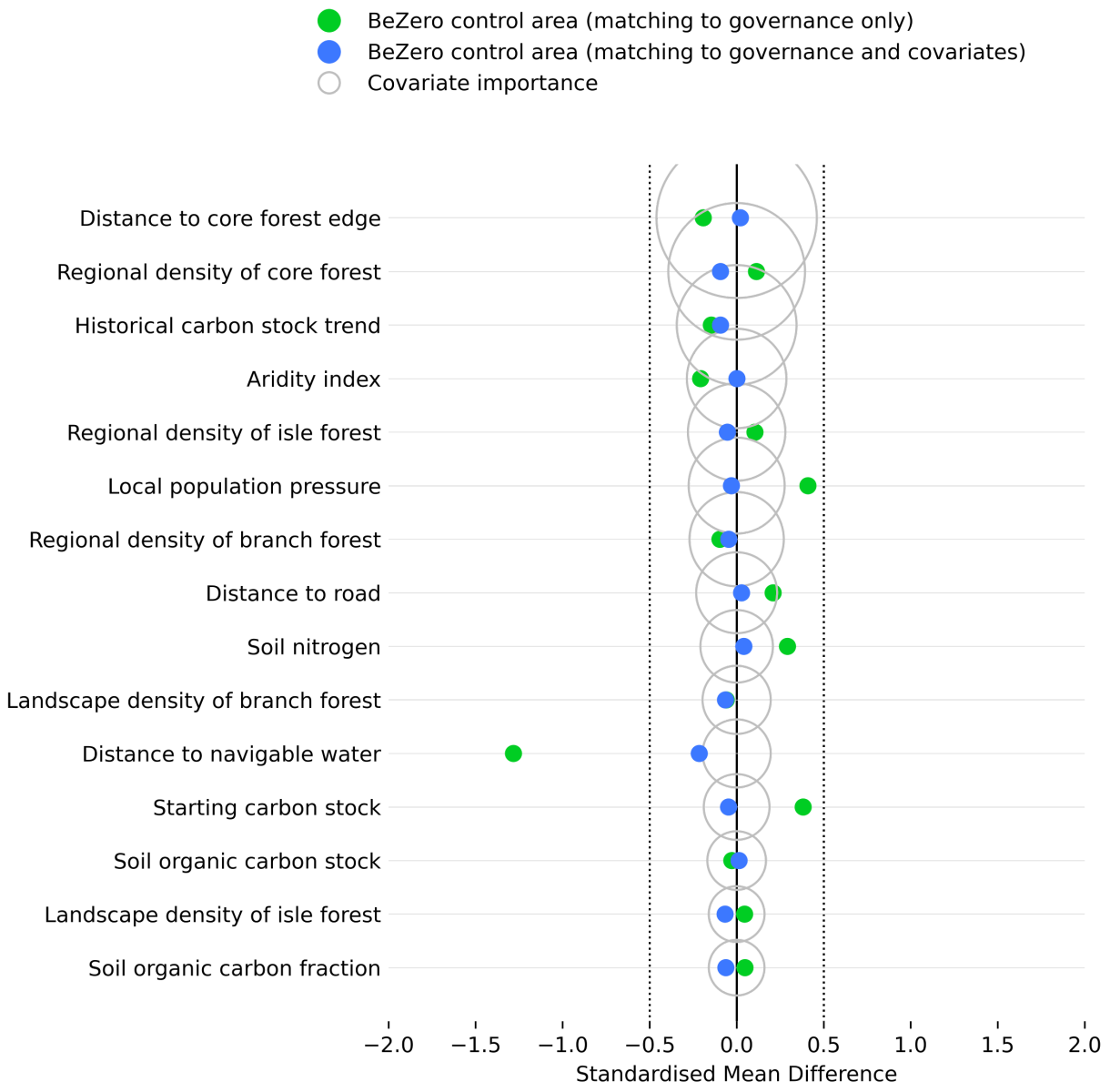


**Figure 5.** Similarity of BeZero's statistically matched control pixels and the project area, concerning the most important correlates of forest loss in the wider landscape. The closer the standardised mean difference is to zero, the better the matching quality. Sizing of open circles corresponds to covariate importance, according to our machine learning models. Green dots match land use/land cover and governance controls only; blue dots are also statistically matched to the listed covariates and are the basis for our analysis.

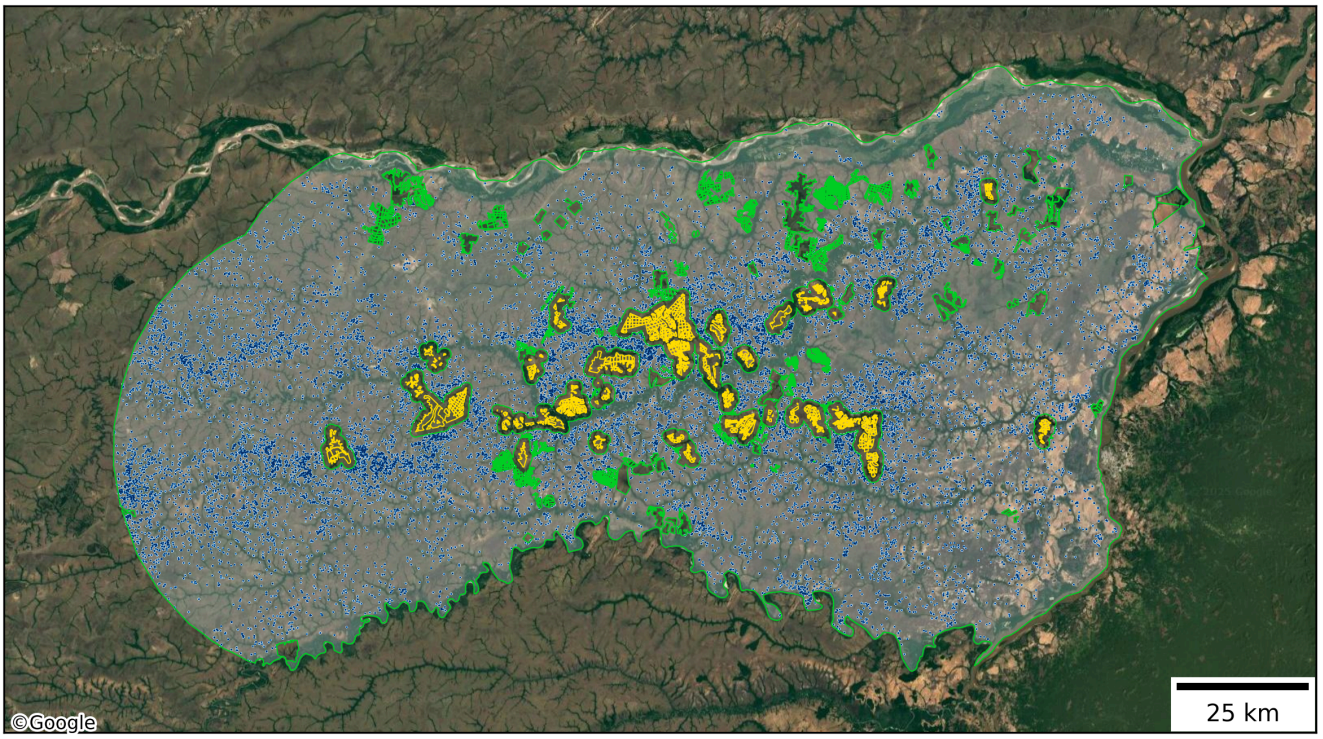


**Figure 6.** Map of the project area and nearby control pixels. The project area is represented in yellow, the candidate area from which we drew statistically matched pixels in green polygons, and a heatmap of pixels selected as matches (blue–white gradient, where darker shades represent higher pixel densities and confidence in the matching).

Our analysis suggests that there has been a small increase in canopy cover and carbon stock density in the control plots **(Figures 7 and 8)**, indicating that some level of natural vegetation gain may have occurred in the absence of project activities. However, this is minimal, 0.59% of matching pixels transitioned to 'tree' class, with 0.77% of pixels showing carbon gain in trees. In addition, 7.7% of pixels transitioned to 'shrub and scrub' class, indicating some increase in vegetation density. Fire activity appears to be on a trajectory of long-term decline in both the project area and the surrounding landscape. Given this, and trends of reduced grazing, some natural vegetation gain may have occurred over time. However, this is likely to have occurred at a much lower level, given the high acidity of the soils, ongoing fire risk, and the distance of the project area from gallery forests, which reduces carbon accounting risk.

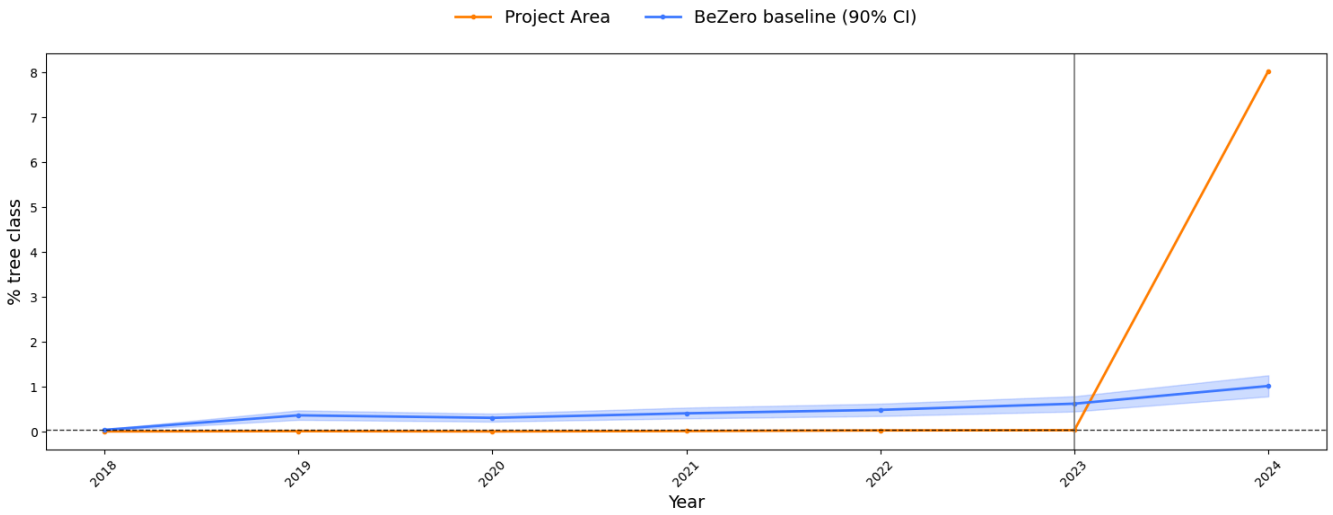


**Figure 7.** Time series comparison of the historical likelihood of land class shift to and from forest in

the project area versus matched controls, where 2023 project pixels were matched to 2018 control pixels. The dashed line represents the starting forest percentage in the matched controls, aligning with the present-day forest percentage of the project area.

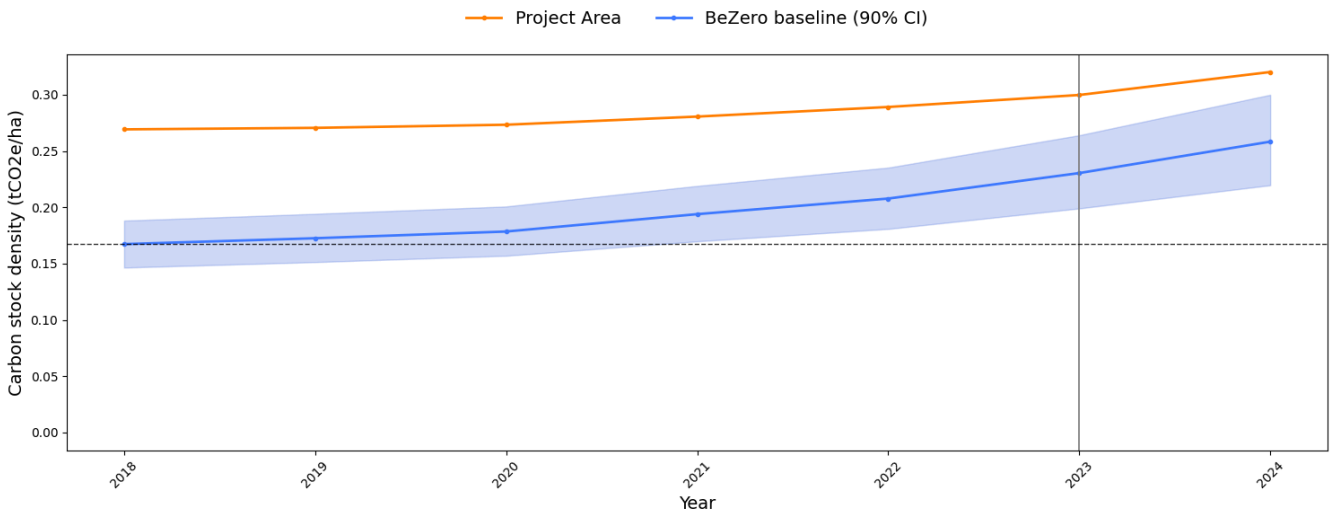


**Figure 8.** Time series comparison of carbon accumulation in the project area versus matched controls, where 2023 project pixels were matched to 2018 control pixels. The dashed line represents the starting carbon stocks in the matched controls.

**Alternative scenarios may sequester carbon, introducing carbon accounting risk.** The project area may have operated as a commercial plantation without carbon finance (see Additionality). This may introduce significant carbon accounting risks if we consider the baseline a eucalyptus plantation with a business-as-usual harvesting regime. Taking the long-term average (LTA) of carbon stocks in the planted eucalyptus, assuming an eight-year business-as-usual harvesting cycle [8], the project could be over-crediting by around 10%. However, as we consider there to be sufficient barriers to plantations outside of carbon projects, this risk is reduced.

## Project scenario

**The project accurately accounts for thinning.** The project intends to conduct a silvicultural management plan that includes scheduled thinning of *E. pellita* after 5 (20% of planted trees), 9 (10%), 14 (10%), and 19 (10%) years of growth. Densely clustered or suppressed saplings are cut to reduce competition, and all cut material (small stems, branches, leaves) remains on-site as deadwood. Gaps are replanted with native species. This has been accounted for by the project, which makes deductions according to the proportion estimated for harvesting, as outlined above. We have verified these calculations and consider this approach to be best practice.

**Deductions for fertiliser use constitute best practice; however, not accounting for site preparation emissions may introduce a minor risk to carbon accounting.** The project deducts for emissions associated with fertilisers that are applied to young trees to assist with growth. This is accounted for by deducting 0.005 $tCO_2$ per kilogram of nitrogen applied. During the first monitoring period, this is calculated as 0.65 $tCO_2$/ha. This corresponds with the IPCC Tier 1 default (0.0047 $tCO_2e$ per kilogram) for direct $N_2O$ emissions, representing the global average and the default for the standards body.

The project has not accounted for other site preparation emissions. To convert natural, lightly-grazed savannah grass cover to a forest plantation requires ploughing to a depth of 25 cm. Studies on single-event tillage SOC loss specific to the region are unavailable; however, the carbon emissions

would likely be considerable [23–26]. Given the uncertainty, underestimating site preparation emissions introduces minor risk.

### GHG conversions

**Excluding deadwood and litter is conservative.** GS23254 accounts for aboveground, belowground biomass and SOC only; deadwood and litter were excluded by default under the methodology. The exclusion of deadwood and litter is considered conservative, as both are expected to increase in the project scenario, especially since all felled timber remains on site. Combined litter and deadwood pools hold 5% of the total carbon stocks in eucalyptus-dominant commercial plantations[27], and literature suggests that for *E. pellita*, by not accounting for these carbon pools, the project may be under-crediting [28,29].

The project's carbon estimations assume that the carbon stocks of thinned Eucalyptus are lost immediately; however, as they are left on site, they will likely decompose over time instead. These stocks represent ~29% of the project's total issuance. The project currently plans to leave deadwood in situ or cut it into smaller pieces. In the future, the project intends to investigate the conversion of deadwood into mulch, biochar or other materials. This leads to difficulty in assessing the decomposition rates. However, excluding this carbon pool is likely to result in at least a 10% under-crediting over the project's lifetime if deadwood is not further processed.

**The use of default BEF may introduce inaccuracies in carbon accounting.** Aboveground biomass for all tree species planted is estimated using BEF sourced from IPCC data, regional forestry databases and scientific literature. The BEF method applies a generalised coefficient to convert tree volume to biomass; this can introduce uncertainty compared to allometric equations and lead to inaccurate carbon stocks. However, allometric equations developed for *E. pellita,* the main tree species planted, are lacking in the project region. While a lack of comparable allometric equations means we cannot directly assess the appropriateness of the BEF, when compared to other generic equations, the methodology leads to some overestimation of AGB. Furthermore, the project's estimated carbon stocks per hectare over the project lifetime (~600 tC/ha for AGB) are relatively high. Overall, we find some risk associated with the uncertainty of its appropriateness from not using species-specific allometric equations or developing its own allometric equation based on destructive sampling specific to the project area.

Similarly, BEFs are used for each of the native species planted. These are based on those developed from plantation data from Orinoquia [30] (including for *Acosmium nitens, Anadenanthera peregrina, and Copaifera publiflora/officinalis*, the three most commonly cultivated species) or from other sources such as default IPCC guidance. While species and region-specific conversion factors increase robustness, residual risk remains from not using allometric equations.

**The project's selected wood densities are likely appropriate, however a lack of comparative studies introduces uncertainty.** Wood densities for each species are collated from sources similar to the BEF (plantation data from Orinoquia), with the value for *E. pellita* and the three main native species *(A. nitens, A. peregrina, and C. publiflora/officinalis)* based on regional plantation data[30]. The value for eucalyptus is higher than reported in the literature, however these literature values are taken from studies outside of Orinoquia, and therefore we cannot assess the appropriateness of the wood density estimates. Furthermore, they typically reflect wood density of trees around 30 years old [31–33]. Although using relatively high values could introduce over-crediting at the beginning of the project, we find that over the project's lifetime and in the context of an ex ante assessment, these are likely appropriate. Whilst literature values are limited for the native species, these values align with studies undertaken across South America [34,35], reducing risk.

**Belowground biomass estimates are likely appropriate, reducing carbon accounting risk.** The project employs an IPCC default root-to-shoot ratio of 0.28 to estimate the belowground biomass of *E. pellita.* Whilst this may be less accurate than species-specific values developed from Colombia, we find this value is slightly higher than studies on similar commercial species in grasslands in Brazil and Venezuela, ratios of 0.17 to 0.22 [36,37]. The native species *A. nitens, A. peregrina, and C. publiflora/officinalis* all apply a value from plantation data from Orinoquia for which literature is unavailable [30]. Therefore, we cannot assess its appropriateness.

**The project's estimation of SOC appears to be appropriate; however, the absence of sampling prior to Phase 1 planting activities introduces a minor risk of over-crediting in the early years of the project.** The project applies a SOC sequestration rate of 2.4 $tCO_2e$ per hectare per year, derived from the default tool for wet tropical, high-activity clay soils. The literature reveals mixed impacts of non-native plantations on SOC, contributing to increased uncertainty. The transition from grassland to eucalyptus plantations is typically associated with an initial SOC decline [38]. While evidence from the Orinoquia region is lacking, in similar contexts, SOC stocks are estimated to be depleted by 0.2 tC per hectare per year [39–41]. However, some peer-reviewed studies suggest that SOC levels may stabilise or increase over longer timeframes [42,43]. The relationship between planting native species and SOC may be more complex, but the literature is sparse, so no conclusions can be made.

To estimate SOC, the project uses a stratified random sampling approach based on five land cover types present across the project area. Sampling locations were divided into three categories: proxy areas (planted areas), control areas, and unplanted areas. Sample points were determined based on the conditioned Latin Hypercube Sampling method (cLHS), with variables like terrain elevation, slope, geomorphological units, soil degradation factor and farm area considered to account for environmental variability. From this, the project collected 409 samples across three depth intervals (0–10, 10–20, and 20–30 cm) and averaged the three depths to obtain a single composite value per sampling point, achieving a sampling error of 8.4%. Bulk density was measured using either the beveled cylinder method or undisturbed clod method, depending on the soil structure. Bulk density samples are then sieved and air-dried prior to analysis and SOC is then estimated using the Loss-on-Ignition (LOI) method. While LOI introduces greater analytical uncertainty than dry combustion due to higher variability[44,45], SOC contributes approximately 6% of the project's total credit issuance, therefore it only presents a minor risk to carbon accounting.

As SOC sampling was conducted after the establishment of plantations in Phase 1, the project lacks baseline measurements for these parcels prior to planting, which introduces some risk that SOC increases may be overstated in the early years. This risk is mitigated for future parcels where sampling occurred prior to planting, as the project can estimate SOC changes following plantation establishment. Furthermore, the proponent plans to re-measure SOC periodically, which may help reduce uncertainty and accurately verify carbon stock changes over time.

The project reports an average SOC stock of 117.8 $tCO_2e$ per hectare, with substantial spatial variability across the landscape. For example, values between the first and third quartiles range from 43.8 to 165.3 $tCO_2e$ per hectare. These estimates are broadly consistent with literature values for degraded grasslands in Vichada, which report SOC stocks ranging from 65.7 to 229.7 $tCO_2e$ per hectare[46,47].

**The project's monitoring plans are likely sufficient in capturing variation.** To capture growth variability, the project plans to establish permanent sampling plots (PSPs) across the project area, stratified by planting year and specific species (monitoring unit). This is likely sufficient, as other variables, including topography, ecological zone and previous land use, are relatively consistent

across the project area. Within each monitoring unit, PSPs are randomly stratified, maintaining a buffer of at least 15 m from roads and edges to avoid border effects. Within Phase 1, a total of 227 circular PSPs (500 m² each) have been established (0.22% of the project area). The project intends to combine this data with remote sensing, which may enhance accuracy and transparency if appropriately implemented.

## Leakage accounting

### Activity displacement

**Activity displacement is very unlikely, given the low intensity of previous land use.** The project makes no deductions for leakage based on the assumption that the last land use was low-intensity cattle grazing and that no wood collection occurred in the project area. Based on landowner surveys, the project concluded that no activity displacement would occur, as the project did not involve families engaged in animal husbandry. Overall, this is likely, as any low-intensity agricultural activities are unlikely to result in significant losses outside the project area. Regional estimates of cattle stocking are between 0.8 and 1.3 animals per hectare on traditionally managed pasture [48–49,50]. If any grazing were displaced, it would likely not exceed the land's carrying capacity. This is supported by land cover data, which shows that the project area is classified as natural grassland, without significant grazing pressure [51]. Due to this prior land use, we find activity displacement is unlikely to impact carbon stocks outside of the project area, and hence poses a very low risk to carbon accounting.

### Market leakage

**Market leakage poses a very low risk to carbon accounting.** Similar to activity leakage, given the very low intensity of land use in the project area before planting, we find it unlikely that the project was supplying any market, and hence, market leakage poses a very low risk. However, given the cyclical nature of agriculture and its increasing importance in the project region, there is a risk of increasing agriculture in the project area over the commitment period in the baseline scenario. Planting could push these activities outside the project area, potentially increasing market leakage. However, this poses a low risk to the project's carbon accounting.

### Ecological leakage

**There is a risk of ecological leakage from the project activities.** We find some risk to carbon accounting due to evidence that parts of the project area may not be fully degraded and may instead function as a healthy grassland ecosystem. This could result in ecological leakage, whereby changes in vegetation structure within the project boundary affect the surrounding grassland ecosystem, including impacts on SOC. Research suggests that establishing plantations in historically non-forest ecosystems, such as parts of the Orinoco region, can substantially reduce stream flow within a decade of establishment [8]. Project activities may also reduce fire frequency on adjacent land, increasing natural vegetation gain. However, this may also result in the accumulation of aboveground biomass and recalcitrant litter that could increase wildfire risk in the seasonally dry Llanos ecosystem in the surrounding region [40,52], potentially neutralising those impacts. Overall, there is some ecological leakage risk to the project.

## Permanence: ‘a ’

**Credits issued by GS23254 have a high likelihood of permanence.** The project faces risks from fire and drought, with the fire-prone eucalyptus plantation and climate trends exacerbating exposure. However, risk is mitigated by fire management plans, pest control, secure land tenure, and low encroachment risk. Over the 30-year commitment period, a 20% buffer pool and plans for protected area designation further reduce reversal risks.

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### Natural risks

#### Fire

**Fire poses some risk to carbon stocks over the project lifetime.** The Orinoquia region experiences some of the highest national fire activity. Between 2001 and 2023, fires were responsible for 17% of tree cover loss in Vichada [53]. Before the project began, between 300 and 10,761 hectares (1.45% and 52.09% of the total project area, respectively) burned within the project area annually **(see fig. 9)**. Fire occurrence is also high in the surrounding area, with fires in the 10 and 50km buffer zones resulting in average annual burned area of 18.60% and 21.52%, respectively. Despite increases in moderate and severe drought intensity, fire frequency and extent within the project area and buffer zones have decreased since 2016. This decrease could result from land-use change, with many plantations established in the surrounding area (see common practice), and associated fire prevention activities. Within two other carbon projects close to GS23254, we detect low and decreasing fire events since becoming carbon projects, indicating that this land transition can reduce fire frequency. Whilst the proportion of natural versus anthropogenic fire is unknown, it is likely that many were intentionally started for land management purposes, either for grazing or Indigenous practices, although natural fires occur regularly [54,55].

The project plans to implement extensive fire mitigation strategies, including establishing firebreak barriers around the plantations and creating fire brigades, which will likely mitigate the project's fire risk [56]. They will also monitor outbreaks in and around the plantations, using NASA’s Fire Information for Resource Management System and on the ground monitoring, with clear plans for notifying and responding to outbreaks. Whilst we find this mitigates risks substantially, fire poses an inherent risk to forestry projects, especially in fire prone regions. The majority of fire activity in the region occurs during the dry season, and droughts and fires are expected to increase in frequency and severity in the future [57]. Furthermore, expanding fire-prone eucalyptus plantations across Vichada (including within and around the project area) may increase the risk of extreme, stochastic wildfire [58,59]. This is likely heightened in this project, as all thinned *E. pellita* material is left in situ, increasing the amount of combustible material on the ground, which can increase flammability [60]. Overall, whilst the project’s mitigatory practices reduce risk, we find fire still poses some risk to permanence.

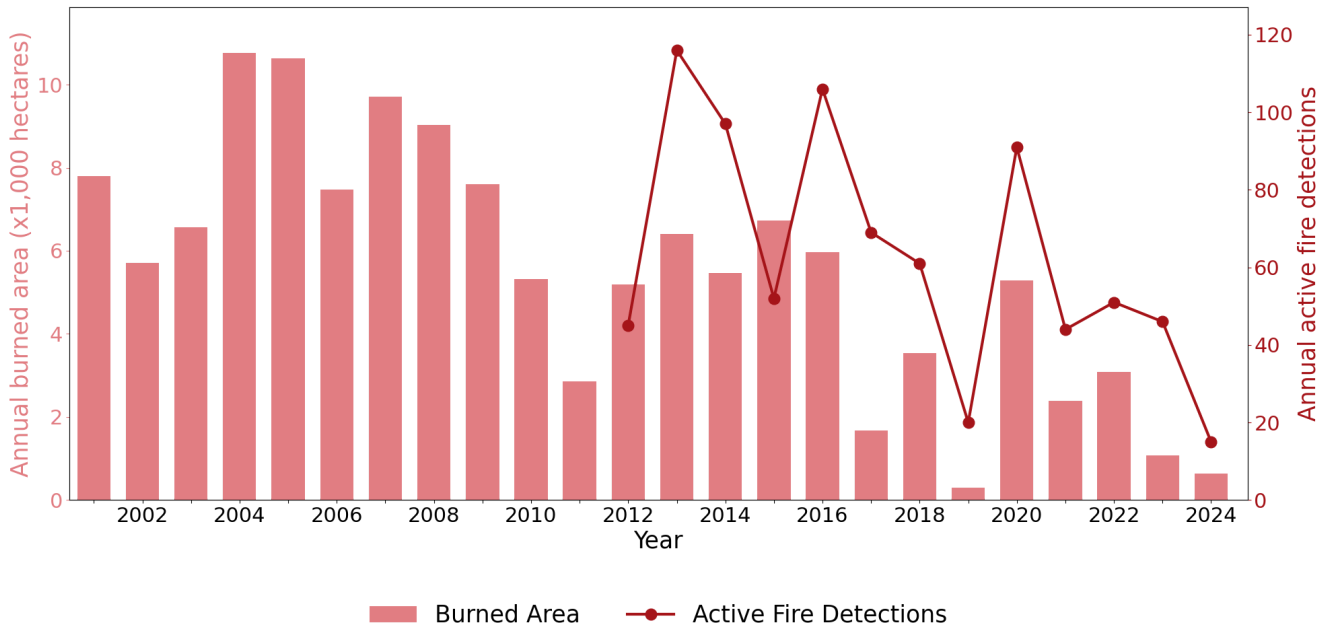


**Figure 9.** Fire history in the project area. Burned area (bars) and active fire detections (lines) before and after the project start date. Burned area captures the spatial extent of burning, while active fire detections reflect the count of hot pixels at satellite overpass. Data from NASA (MODIS MCD64A1 and VIIRS VNP14IMG).

## Extreme weather

**Drought poses an increasing risk to GS23254**. Prolonged drought can negatively impact permanence, threatening the integrity of forest carbon and underlying soils. The project area has a tropical monsoon climate dictated by seasonal intense rainfall. Drought can primarily negatively impact early-growth trees and raise fire risk.

We use the 12-month Standardised Precipitation-Evapotranspiration Index (SPEI-12) to assess evolving drought risk (**See Fig. 10)**. There has been an increase in long-term drought conditions, based on a significant negative trend in SPEI-12. We define extreme drought spells as periods with a SPEI-12 value below -2. Long-term extreme drought spells (exceeding 6 months) occurred in 2019-2021 and 2021-2024, the longest lasting 38 months. In addition, a short-term extreme drought spell (2–6 months) occurred in 2010. The frequency of drought months per year increased significantly over the course of the analysis period. Before 2000, the frequency was 0 months per year; after 2000, it was 2.56 months per year.

The annual precipitation in the region has been decreasing by 138.6 mm per decade throughout the analysis period (1980–2024). Whilst this may impact saplings, the precipitation levels are still sufficient for *E. pellita* [61,62]. Within Colombia, *E. pellita* is one of the most adapted species in the northeastern Orinoco region [63]. Furthermore, nearby plantations with *E. pellita* have not reported any losses despite drought conditions. Native species appear to be more adapted to wetter conditions, but are largely tolerant of some seasonal dryness and appear to have rain requirements similar to *E. pellita* [64–68]. The project has outlined the reasons why irrigation is unnecessary based on the adaptations of the chosen species. However, climate projections show that the Vichada region will likely experience lower mean rainfall and more frequent and severe droughts up to 2050 [69,70], which may pose an inherent risk to carbon stocks over the project lifetime.

Vichada also experiences intense lightning, storms and heavy rainfall, increasing the risk of flash floods [71]. This could impact carbon stocks, especially in the earlier years. The project also carries out erosion mapping, and project activities are adjusted where erosion hotspots occur, reducing the permanence risk from flash floods. Overall, we find these pose low risk to the permanence of GS23254.

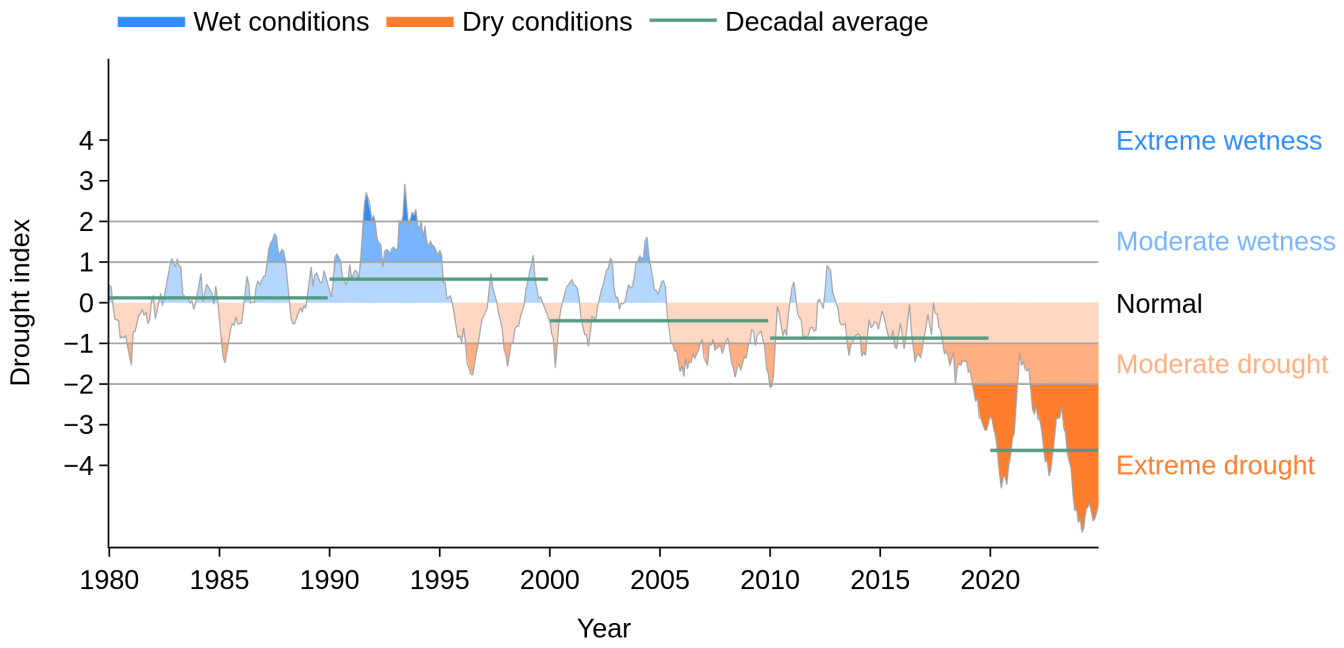


**Figure 10.** Drought conditions 1980-2024. Calculated according to the self-calibrating Palmer Drought Severity Index (scPDSI), which measures the balance of precipitation and potential evapotranspiration, moderated by soil water holding capacity. Constructed by BeZero using data sourced from ECMWF (ERA5-Land) and ISRIC (SoilGrids 250m).

### Pests and diseases

**Pests and diseases introduce a minor risk to carbon stocks.** Whilst pests have not significantly impacted commercial plantations within Colombia so far, expanding plantations and climate change make it increasingly likely that pests will become an increasing problem [2]. The most prevalent pests on *E. pelita* include defoliating moth caterpillars, leaf-cutting ants and stem-infesting stick insects [72]. Furthermore, exotic insect pests and diseases, including the fungus *Chrysoporthe cubensis,* which impacts *Eucalyptus spp.* are increasing in Colombia [2]. However, so far, there are no reported outbreaks in Vichada, and *E. pelita* is known to have relatively high pest and disease resistance [73]. The project did note pest outbreaks amongst some of the native species during their trial periods, with a low survival rate of some species attributed to early defoliator attacks that resulted in plant death in most cases. Risk is reduced due to the parcelisation of the project area, thereby mitigating the risk of widespread reversal. The project also employs an integrated pest management approach, involving regular monitoring and control actions, such as chemical treatments applied as needed.

## Anthropogenic risks

### Project management and carbon rights

**Contracts are in place between land owners and the project proponents.** Usufruct agreements between the GS23354 and landowners allow project activities to occur on the land and have been

signed for all land parcels enrolled. Those enrolled in Phase 1 have usufructs established for a 10-year term, with two extension options, allowing for a total duration of up to 30 years. Those enrolled in Phase 2 are eligible for up to five extensions, allowing for a total duration of up to 60 years. Whilst these do not cover the full commitment period of 30 years, they can be renewed unilaterally by the trust, and there are penalties included in the contracts in the case of early termination by the landowners without just cause, reducing permanence risk. Furthermore, other projects with similar agreements have reported no withdrawals, further reducing risk. The project also intends to designate the area as a Civil Society Natural Reserve, under Colombia's National System of Protected Areas (SINAP), which would provide long-term legal and ecological protection, supporting continued forest stewardship beyond the crediting period, and would mitigate risks further.

### Encroachment risk

**Secure land tenure implies a low risk of encroachment.** Land tenure is recognised in Colombian law, and project developers hold the title for carbon rights. While the Vichada Department is relatively politically stable, land governance and enforcement capacity in Vichada is low [74]. There is little evidence that local communities intensively used the project area before the project started. However, regionally, there is evidence of displacement of indigenous communities [75]. The project hopes to designate the area as a Civil Society Natural Reserve, under SINAP, which may mitigate risks further. We find no encroachment risk from mining within the project area or the surrounding landscape. Whilst there are free-roaming animals in the region, the project has mitigation measures such as fences. Overall, we deem encroachment risk to be low.

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## Risk mitigation instruments

### Stakeholder engagement

**Low stakeholder engagement provides low risk to permanence.** There is no indication that any communities have been displaced for the project.

A Free, Prior, and Informed Consent agreement was signed with Indigenous communities in 2022, following a participatory assessment of their needs. The agreement is reportedly being implemented and monitored by Colombia's Ministry of the Interior. Furthermore, the project intends to employ local people. However, project documentation indicates that the primary stakeholder engagement meetings took place in late 2024, after the majority of Phase 1 planting activities had already occurred. This sequencing introduces a risk that stakeholder consultation was not sufficiently timely or comprehensive to influence the initial design and implementation. In addition, project documents indicate that local stakeholders have requested more detailed information about project activities, suggesting that engagement efforts may not have fully addressed information needs. Despite this, no major concerns have been raised, and the overall risk appears to be low.

### Risk buffer and mitigation

The project applies a 20% risk buffer to compensate for the permanence risks associated with the carbon storage of this project, a default defined by the Gold Standard. Our analysis finds that this 20% buffer is largely sufficient to cover risk; however, residual low risk remains from natural risks.

## Project execution: ‘ Low ▾ ’ risk

**GS23254 presents a ‘ Low ’ risk of failing to be fully implemented and reach operational stabilisation.** The project benefits from low technical, legal, and financial risk, underpinned by strong stakeholder coordination, binding land agreements, and secured funding. Operational protocols and prior experience further reduce execution risk. While some long-term uncertainties exist around contract renewals and ecosystem impacts, these are tempered by robust safeguards and advanced implementation.

### Technical risk

**The project faces low technical risk as planting is already underway.** The project intends to plant 20,012 hectares, and has planted 51%. Planting for Phase 1 has been completed, and we find no significant technical barriers that would prevent the completion of Phase 2, especially as planting has already begun. It will span multiple (58) landowners, but is coordinated by a single developer, enabling consistent implementation across a relatively homogenous landscape. The developer has prior experience in the region, leveraging several similar carbon projects nearby. These precedents have informed species selection, favouring strong survival. The project maintains a functional nursery close by with sufficient sapling stock to meet the requirements of Phase 2, reducing technical risk.

**The planting of native species introduces minor technical risk**. Planting of native species has been tested in trial plots, and the most resilient species have been selected, mitigating risk. However, the trials showed mixed success of even the most resilient species. As most of the future planting is of native species, some residual risk remains, especially given the difficult planting conditions. For example, drought could threaten sapling survival during early establishment. However, the developer reports regular monitoring and a replanting protocol to address early losses and mitigate risk. In addition, studies note the importance of applying fertiliser to plantations in the Orinoco region to ensure *E. pellita's* survival in acidic soils [63], which may translate to native species. The project includes a comprehensive fertilising schedule within its plans, reducing risk. Overall, given the developer's expertise and stage of the project, there are low technical risks to project implementation.

### Legal and regulatory risk

**We find low legal and regulatory risk for GS23254, supported by clear carbon rights and legally binding land agreements.** The project developer holds land access rights through a series of renewable usufruct contracts with landowners. To the best of our knowledge, this has been completed for all but two of these, and the developers are currently updating the length of Phase 1 landowners’ contracts. These agreements confer the right to implement project activities and retain all carbon rights arising from Gold Standard certification. Although current contracts cover only the first 10 years of implementation, negotiations are ongoing to extend these terms to 60 years. The developer reports strong relationships with landowners and shows high confidence that the extensions will be secured. More in detail, the current contracts grant renewal rights exclusively to a trust entity every 10 years. Should the trust opt not to renew, a secondary entity (GenZero) holds the option to assume the usufruct. If neither party renews, the project developer (Inverbosques) retains responsibility under the Gold Standard framework. These provisions reduce the risk of early

termination and are formally established in the usufruct agreements. These contracts also include penalties to prevent early termination of landowners without just cause, reducing withdrawal risk. While the renewal structure introduces some long-term uncertainty, particularly regarding project permanence, the layered renewal rights and reported progress toward long-term agreements suggest that the risk is mitigated.

**Relevant environmental permits have been obtained, or are in process.** The project is registered in Colombia's National Emissions Reduction Registry (RENARE) at the feasibility stage. While RENARE registration does not equate to government endorsement, it indicates alignment with national accounting systems and enhances future compliance with corresponding adjustments under Article 6 of the Paris Agreement. A small number of environmental permits, however, remain outstanding. These include water discharge and concession resolutions, which CORPORINOQUIA must issue. The delineation of High Conservation Values is pending approval of the regional Bita River Management Plan. These are standard regulatory procedures and are not expected to pose issues to project implementation.

**The project faces low jurisdictional risk.** While there are some reports of crime and conflict in Colombia, these are largely concentrated along the Meta River Basin, and this is unlikely to impact the project's activities. The Vichada Department is relatively politically stable, with drastically lower levels of violence and human trafficking than in some parts of Colombia [74]. Coca cultivation is now rare in Vichada, and across the Orinoquia region it has fallen below 1% of cultivated land area [5]. Although Colombia ranks in the third quartile for international property rights and corruption perceptions[76,77], indicating moderate governance challenges, we do not find this poses a material risk to the project. This is primarily due to the project's secure land tenure and strong stakeholder relationships. Furthermore, the project operates within Colombia's legal framework and is aligned with national climate policy. It maintains active relationships with national and local authorities, including the regional environmental enforcement agency, with engagement focused on regulatory compliance, environmental management, and fulfilling social commitments.

**There is very low accreditation risk.** The project employs a recognised Gold Standard methodology with prior experience in successful registration. One potential concern relates to the treatment of wetlands, though this is not expected to impact eligibility under the standard. There may also be some delays associated with extending the crediting and commitment periods of Phase 1 beyond 30 years; however, this is unlikely to result in the project failing to register under Gold Standard. Finally, planting of non-native species in the Llanos may result in the destruction of a diverse natural ecosystem. This could potentially put the project activities in direct conflict with Gold Standard's environmental safeguards. However, we find that the overall accreditation risk is mitigated by the fact that many other projects involving the planting of non-native tree species or affecting grassland ecosystems have been successfully implemented under this methodology in the past.

## Financial risk

**We find low funding risk for GS23254, as the project's full upfront capital requirements have been secured through binding agreements with established investors.** In November 2024, Trafigura and GenZero publicly announced a joint commitment exceeding USD 100 million to finance the project, indicating that the funding required to set up the project has been secured. This commitment is corroborated by contractual evidence reviewed by BeZero, including the Phase 1 Service Agreement and the Phase 2 Service Agreement. However, as specified in the Services Agreements, the funding

disbursements are subject to the developer achieving certain project milestones. Given that the project implementation is advanced and the proponent has extensive experience in the region, this risk is largely mitigated; however, in case of any unexpected technical, operational, or legal complications throughout the implementation phase, some minor funding risk remains.

**The project's implementation is unlikely to be affected by credit price fluctuations.** A sensitivity analysis conducted by BeZero suggests that the project remains financially viable even under more conservative assumptions than those proposed by the proponent. Furthermore, while our downside scenarios based on lower-than-expected credit prices and reduced sales volumes would yield less attractive financial returns to the investors, we conclude that these risks are highly mitigated by the project's pre-payment structure, given that under the stipulated agreements, all credits generated by the project will be delivered to the investors irrespective of the prevailing market conditions. In our opinion, this significantly reduces financial risk.

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## Project proponent's past experience risk

**We find low execution risk related to the project proponent's experience, based on a strong track record in implementing and managing large-scale carbon projects.** The proponent is a well-established entity with prior experience delivering a similar afforestation project adjacent (GS4221), which has been running for almost 20 years. This demonstrates familiarity with the local context, land management requirements, and operational structure. The project partners with key players in the carbon market, including South Pole, responsible for the registration process, and ClearBlue Markets, which provides expert guidance. The team has experience sourcing and managing financing at the required scale and operational expertise in implementing carbon projects. In addition, the proponent has demonstrable experience navigating the carbon market, including accreditation processes, and maintains working relationships with validation and verification bodies and carbon offtakers. The project's legal and operational structure is formalised through Service and Trust Agreements. These contracts define development, financing, operations, and verification responsibilities across both Phase 1 and Phase 2. Trafigura reportedly acts as the central coordinating entity, helping to ensure coherence across multiple stakeholders involved in project delivery.

**Media coverage is mostly neutral and poses little risk to execution, in our opinion.** While there is some critical public commentary relating to some entities involved in the project, these have not materially affected their ability to implement or manage projects. These news stories are largely in relation to the planting of non-native tree species in a functioning grassland ecosystem, and concerns surrounding carbon projects [78]. This is unlikely to present a significant risk to execution at this stage, in our opinion.

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## Operational risk

**Ongoing operations pose low risk to project execution, given the robust project plan and the proponent's prior success in delivering a similar carbon project.** The operational stage primarily involves maintaining saplings and ensuring their survival until fully established, as well as routine MRV activities. While drought and difficult planting conditions could affect growth rates and increase mortality, potentially leading to delays or the need for replanting, these risks are considered manageable. The project's mitigation strategies, including the use of fertilisers and other planned

interventions, appear sufficient to address these challenges. The project is expected to complete planting in Phase 2 and finalise all relevant contracts, including necessary extensions, in the coming months. No material differences or new risks have been identified compared to the previous project. Furthermore, the project appears to have sufficient and well-designed MRV plans in place, and key parties have been contracted. Overall, this supports our assessment of low operational risk.

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4. *Carbon accounting spreadsheet*
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