ARR Rating Framework V2.0

Sylvera

Executive Summary

This document details the V2.0 Rating framework logic for the ARR project type.

Afforestation, Reforestation and Revegetation (ARR) activities are diverse and can include: agroforestry, commercial plantations, farmer-assisted natural regeneration, and mangrove restoration. They are popular nature-based solutions (NBS) because project activities result in carbon sequestration, which means ARR credits qualify as removals. This white paper explains how we provide an estimation of the Rating range a project would receive based on select few, material data points provided by the project and benchmarked against Sylvera-provided data.

This contains a **description** of each component used in the assessment, **scoring logic** which breaks down the rules used to derive a quality score for each component, and **data inputs** where these are used in specific tests.

Rating Grade

◎ Rating Grade

(AAA) — (D)

ⓘ Description

The eight point **Rating Grade** spans **AAA–D**, reflecting carbon removal integrity — the likelihood that each credit represents 1 tCO2e sequestered. The **Rating Grade** combines each scoring pillar, **Carbon Accounting**, **Additionality** and **Permanence,** mapping these against Ratings matrices to ensure that fundamental flaws or underperformance in key areas drives integrity insights.

A **Safeguarding and Co-Benefits** scoring pillar is also calculated to assess beyond-carbon aspects but is not factored into the **Rating Grade.**

(A)

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| 9/10 | 4/5 | 3/5 | 5/5 |
| Carbon Accounting | Additionality | Permanence | Safeguarding & Co-benefits |

Carbon Accounting	Additionality	Permanence	Safeguarding & Co-Benefits
Verifies sequestration claims against Sylvera's proprietary biomass data and assesses the risk of non-conservative carbon accounting choices.	Assesses the likelihood that planting activities would only have been implemented due to project implementation and carbon revenue.	Evaluates risk of reversals to assess the likelihood that carbon removals will persist for an atmospherically significant period of time.	Assesses biodiversity and community impact, considering safeguards against negative outcomes, and beyond-carbon benefits.

Notes:

High scores indicate low risk. Carbon Accounting scored on 1-10 scale; all other pillars scored on 1-5 scale.
(**10** = very low risk; **1** = very high risk).
(**5** = very low risk; **1** = very high risk).

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Rating Grade

Scoring Logic – Ratings matrices

Step 1: The unrounded (1-10) **Additionality** and **Carbon Accounting** scores are combined to create a **"Carbon Impact"** score. This score represents the maximum impact of a project, or the likelihood that each claimed credit represents an accurately quantified, and additional tCO2e sequestered, assuming there is no risk of reversal.

Carbon Impact

Carbon Accounting \ Additionality	1	2	3	4	5	6	7	8	9	10
1	1	1	1	1	1	1	1	1	1	1
2	1	2	2	2	2	2	2	2	2	2
3	1	2	3	3	3	3	3	4	4	4
4	1	2	3	4	4	4	4	5	5	5
5	1	2	3	4	5	5	5	5	5	5
6	1	2	3	4	5	6	6	6	7	7
7	1	2	3	4	5	7	7	8	8	9
8	1	2	4	5	5	7	8	8	9	9
9	1	2	4	5	5	7	8	9	9	10
10	1	2	4	5	5	7	8	9	9	10

Step 2: The **Carbon Impact** and unrounded **Permanence** scores are combined to produce the **Rating Grade,** representing the likelihood that one credit represents one tCO2e sequestered for an atmospherically significant amount of time.

Rating

Carbon Impact (Carbon Accounting x Additionality) \ Permanence	1	2	3	4	5	6	7	8	9	10
1	D	D	D	D	D	D	D	D	D	D
2	D	D	D	D	D	D	D	D	D	D
3	D	D	C	C	C	C	C	C	C	C
4	D	C	C	B	B	B	B	B	B	B
5	D	B	B	B	BB	BB	BB	BB	BB	BB
6	D	B	B	BB	BB	BBB	BBB	BBB	BBB	BBB
7	D	B	B	BB	BBB	BBB	BBB	BBB	BBB	BBB
8	D	B	B	BB	BBB	A	A	A	A	A
9	D	B	B	BB	BBB	A	A	A	AA	AAA
10	D	B	B	BB	BBB	AA	AA	AA	AAA	AAA

Carbon Accounting

ⓘ Description

Carbon accounting refers to the methods, assumptions and reporting of the project related to carbon fluxes on the ground which are ultimately used to calculate net removals and subsequent credit volumes. Accurate carbon accounting is essential to minimizing over crediting risk.

⟨⟩ Scoring Logic

The **Carbon Accounting** score is calculated by combining the **Carbon Modeling** and **Project Reporting** components. **Project Reporting** uses Sylvera's proprietary Biomass Time Series (BTS) dataset to quantify real biomass gains in the project area (PA) compared to project reported sequestration from tree growth. **Carbon Modeling** considers other elements of net removal calculation outside of tree growth, such as baseline, and leakage emissions.
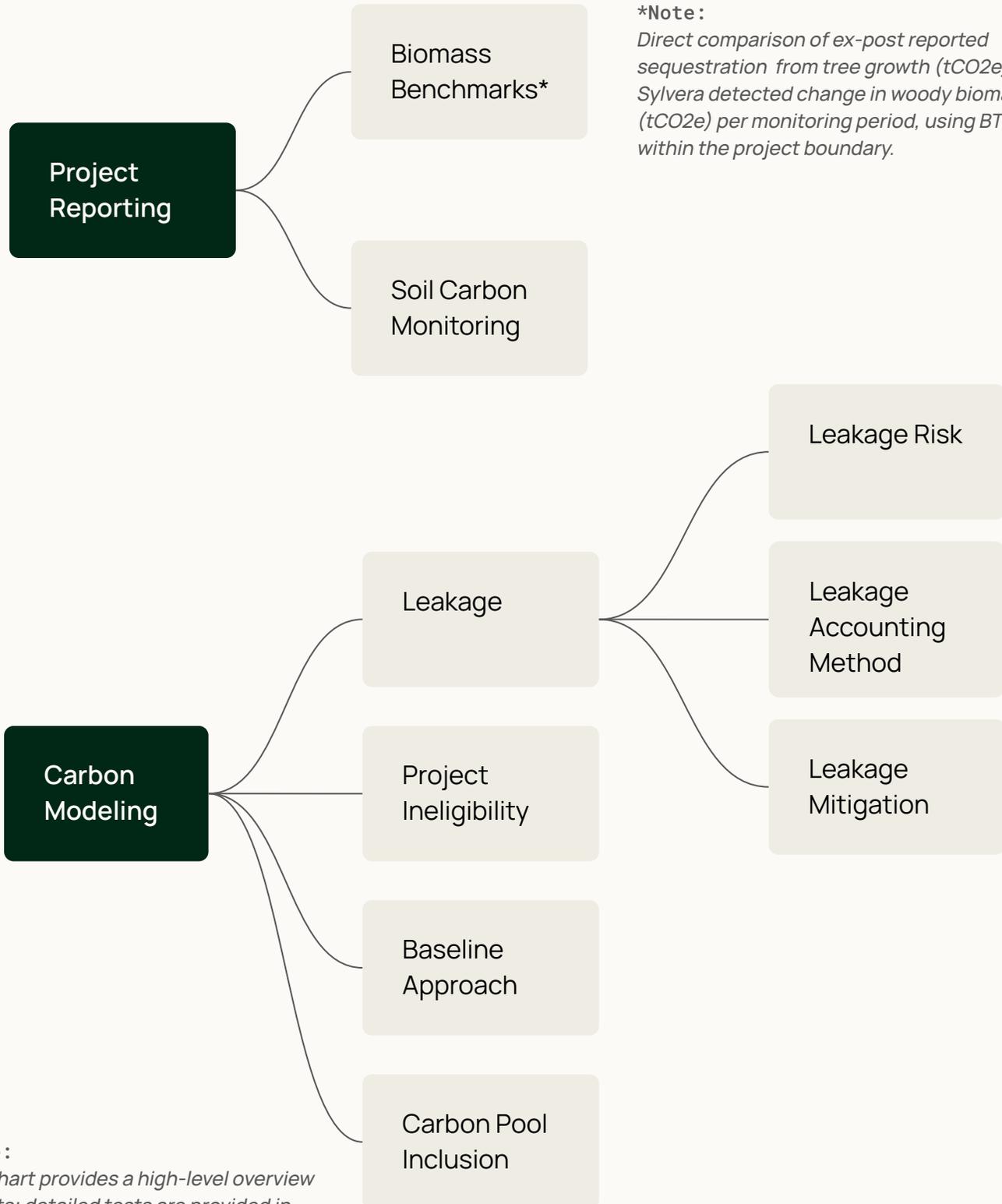
Two **Project Reporting** scoring pathways exist depending on data availability (see flowcharts):
- <u>Pathway 1:</u> Accurate project boundary and low error BTS data available
- <u>Pathway 2:</u> Accurate project boundary or low error BTS data NOT available

A scoring cap is imposed if the **Project Reporting** component finds that Sylvera cannot verify a significant portion (< 60%) of claimed sequestrations from tree growth. Otherwise, the **Carbon Accounting** pillar score is an average of the **Carbon Modeling** and **Project Reporting** components.

Carbon Accounting

Project Reporting
- Biomass Benchmarks*
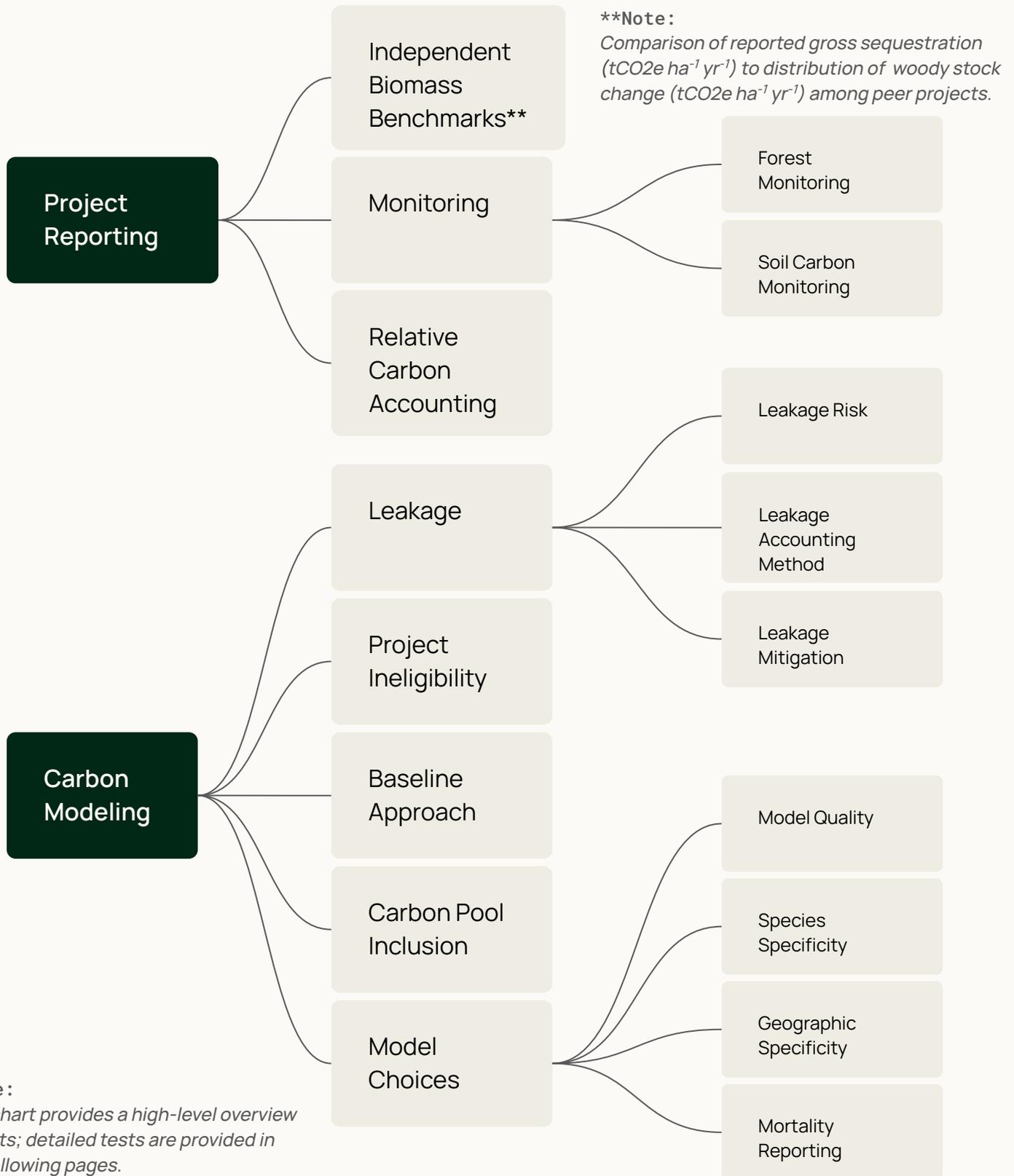- Soil Carbon Monitoring

*Note:
Direct comparison of ex-post reported sequestration from tree growth (tCO2e) with Sylvera detected change in woody biomass stock (tCO2e) per monitoring period, using BTS data within the project boundary.

Carbon Modeling
- Leakage
  - Leakage Risk
  - Leakage Accounting Method
  - Leakage Mitigation
- Project Ineligibility
- Baseline Approach
- Carbon Pool Inclusion

*Note:
This chart provides a high-level overview of tests; detailed tests are provided in the following pages.

Carbon Accounting

Pathway 2: Accurate project boundary or low error BTS data NOT available*

Project Reporting
- Independent Biomass Benchmarks**
- Monitoring
  - Forest Monitoring
  - Soil Carbon Monitoring
- Relative Carbon Accounting

Note:
Comparison of reported gross sequestration (tCO2e ha⁻¹ yr⁻¹) to distribution of woody stock change (tCO2e ha⁻¹ yr⁻¹) among peer projects.

Carbon Modeling
- Leakage
  - Leakage Risk
  - Leakage Accounting Method
  - Leakage Mitigation
- Project Ineligibility
- Baseline Approach
- Carbon Pool Inclusion
- Model Choices
  - Model Quality
  - Species Specificity
  - Geographic Specificity
  - Mortality Reporting

*Note:
This chart provides a high-level overview of tests; detailed tests are provided in the following pages.*

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Project Reporting

CARBON ACCOUNTING

ⓘ Description

The accuracy of project reported gross carbon sequestration claims from forest growth (tCO2e) compared to Sylvera's proprietary Biomass Time Series (BTS) data and the thoroughness of monitoring methods for other parameters reported in project documentation. Benchmarking claimed sequestrations against Sylvera's BTS data and the quality of monitoring indicates the likelihood of over-crediting in gross sequestration claims.

⟨⟩ Scoring Logic

The **Project Reporting** score takes two pathways depending on data availability:

<u>Pathway 1:</u> Accurate project boundary and low error BTS data available. Calculated as a weighted average of the **Biomass Benchmarks** score and the **Soil Carbon Monitoring** score, depending on the scale of removals from Soil Organic Carbon (SOC) in gross sequestrations. The score represents the over-crediting risk associated with gross sequestrations across both woody biomass, and SOC (if included), considering proportion of ex-post sequestration from tree growth that Sylvera can verify within the PA in each monitoring period, alongside the quality of reporting SOC change.

<u>Pathway 2:</u> Accurate project boundary or low error BTS data NOT available. Calculated as an average of the **Independent Biomass Benchmarks**, **Monitoring**, and **Relative Carbon Accounting** scores. The score represents the likely over-crediting risk associated with sequestrations claims, considering the conservativeness of reported gross sequestrations compared to peer projects, alongside the quality of reporting carbon stock change across key carbon pools. This pathway allows for an assessment of over-crediting where a direct comparison of biomass gains from tree growth per monitoring period within the PA is blocked due to the unavailability of a project boundary or quality BTS data.

Biomass Benchmarks

Pt.1

CARBON ACCOUNTING – PROJECT REPORTING

ⓘ Description

Comparing project reported gross sequestration from tree planting against Sylvera's observed geospatial biomass data. Ex-post sequestrations for each monitoring period are compared to Sylvera observed woody biomass change within the PA. This comparison indicates the volume of gross sequestrations that can be verified. High discrepancies indicate over-crediting risks.

Scoring Logic

Pathway 1: Accurate project boundary and low error BTS data available

Compares project reported gross plantation removal claims (tCO2e) for each monitoring period to Sylvera observed change in woody biomass stock (tCO2e) *within the project boundary over the same period*, measured by BTS.

BTS data represents change in woody biomass stock of both the above-ground (AGB) and below-ground biomass (BGB) carbon pools in tCO2e within the PA. Comparison to project reported gross plantation removals gives the proportion of gross removals from key carbon pools (AGB and BGB) that can be verified.

Sylvera observed woody biomass change / Project reported gross plantation removals = % Biomass Benchmarks score

BTS data (tCO2e) checks both the accuracy of project activity data (tree planting) and the conservativeness of carbon stock assumptions to quantify the amount of tCO2e sequestered from each unit of activity data in a single test.

Larger discrepancies (the smaller the % of project reported plantation removals that Sylvera can verify) indicate greater over-crediting risk.

Biomass Benchmarks

CARBON ACCOUNTING – PROJECT REPORTING

Scoring Logic - illustrative example

Pathway 1: Accurate project boundary and low error BTS data available

Monitoring period ———— Carbon removals claimed by project = **70 tCO2e**

Woody Stock (tCO2e)

100

40

60

Time

Biomass detected in project area by Sylvera BTS over time
- 95% confidence interval based on uncertainty measurement

Biomass *change* (100–40) over monitoring period = **60**

= Score = **60/70** => **86%**
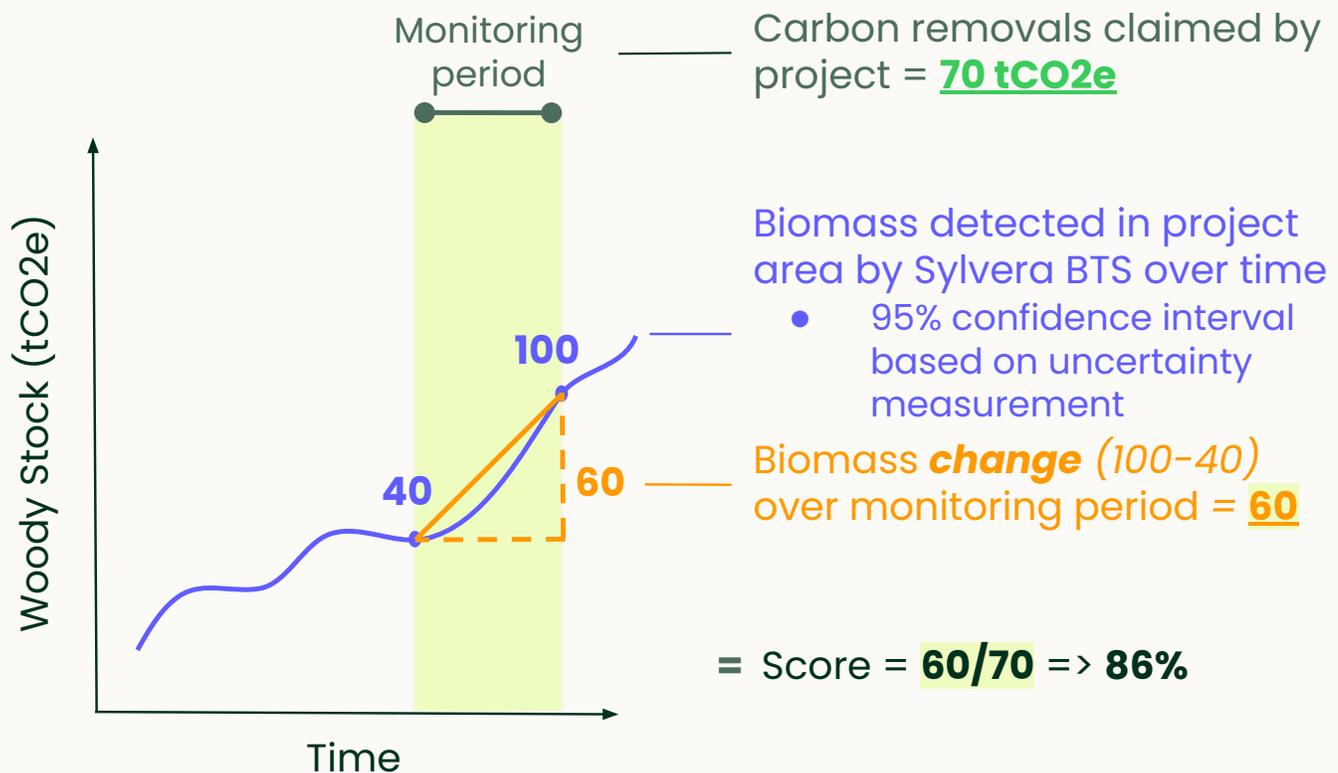
Example (theoretical) project BTS biomass change. Scoring is based on relative size of project claim, compared to change in Sylvera BTS; Score 86%

Biomass Benchmarks

⊞ Data Inputs

Input name	Description
Sylvera Biomass Time Series (BTS) - Emission Removals (tCO2e) – within PA	Sylvera BTS from PA - Proprietary dataset* quantifying the amount of carbon sequestered from woody biomass change (tCO2e) over each monitoring period.
Plantation Removals (tCO2e)	Amount of carbon sequestered from tree plantation (tCO2e) over each monitoring period reported ex-post. Values are normalised and converted by Sylvera if reported in different units.
Project Boundary	KML file of project boundary used for geospatial analysis using BTS data. If boundary size changes over the project lifetime, the relevant boundary is used for each monitoring period.
Monitoring Period Duration	Start and end date of each relevant monitoring period

Soil Carbon Monitoring

CARBON ACCOUNTING – PROJECT REPORTING

ⓘ Description

If the project includes removals from the SOC pool, the certainty of the reported SOC change values are relevant to the accuracy of credit quantification. As Sylvera cannot directly verify carbon stock change in the SOC pool, methodological tests are employed. Monitoring methods considered less robust, or carrying greater uncertainty increases the likelihood of over-crediting. Considering methods to monitor SOC change alongside the direct comparison of sequestration claims from woody biomass pools (see **Biomass Benchmarks**), allows for a holistic view of the integrity of gross sequestration claims.

Note: This standalone **Soil Carbon Monitoring score** is only included in **Pathway 1**. For **Pathway 2**, the lack of a full Biomass Benchmarks percentage score is supplemented by further monitoring tests (see **Monitoring score**)

Scoring Logic

Pathway 1: Accurate project boundary and low error BTS data available

The **Soil Carbon Monitoring score** evaluates the quality of methods to monitor and quantify SOC, if included. Methods relying direct measurements of soil samples and/or peer-reviewed soil models, detailing clear laboratory procedures are considered higher integrity than those relying on default SOC values. Conservative, geographically specific default values from peer-reviewed reputable sources may be acceptable; non-specific default values are considered worst-practice, being likely to result in inaccurate quantification of removals from SOC change.

Data Inputs

Input name	Description
SOC measurement approach	Characterization of the method used to monitor and measure SOC change, as reported in project documentation.

Independent Biomass Benchmarks Pt.1

CARBON ACCOUNTING – PROJECT REPORTING

ⓘ Description

Where project boundaries or low error BTS data is unavailable, reported gross plantation removals are compared to Sylvera observed data of similar projects. High reported values compared to peers suggests a lack of accuracy in activity reporting and/or a lack of conservativeness carbon quantification assumptions, increasing over-crediting risk.

⚙ Scoring Logic - continued

<u>Pathway 2:</u> Accurate project boundary or low error BTS data NOT available

Benchmarking is done by creating a peer group of projects with similar characteristics, using inputs categorizing project activity type, geographic location [country], biome, and species planted. Sylvera runs geospatial analysis on the boundaries of peer group projects to generate annual average carbon removal rates (tCO2e/ha/yr) of these comparison projects, using our biomass dataset.

Compare project reported annual average carbon removal rate (tCO2e/ha/yr) from tree planting, with a range of carbon removal rates (derived from Sylvera's observed geospatial biomass data) from a peer group of projects. The reported value is compared to the distribution of peer project values in the narrowest peer group possible. Project reported values that show agreement with the more conservative quartiles of the peer group distribution indicate lower over-crediting risk.

If Monitoring Reports are available, the annual average carbon removal rate is a weighted average based on vintage-level ex-post reported plantation removals. Otherwise, the annual average removal rate is based on total estimated ex-ante plantation removals.

Independent Biomass Benchmarks   Pt.2

CARBON ACCOUNTING – PROJECT REPORTING

Data Inputs

Input name	Description
Sylvera Biomass Time Series - Annual Emission Removals (tCO2e/yr) – Peer Group Range	Sylvera Biomass Data from a range of peer projects - Proprietary dataset* quantifying the average per year annual amount of carbon removed due to biomass growth in a project area in tCO2e.
Annual Emission Removals (tCO2e/yr)	Average per year annual amount of carbon removed by project in tCO2e. Values are normalised and converted by Sylvera if reported in different units. If monitoring reports are available ex-post vintage-level data is used. Ex-ante estimated removals used otherwise.
ARR activity type (Proj Activity)	The characterisation of the planting activities of the project (scale, commercial or non-commercial).
Planting Area Size (ha)	Size of the area planted in the project.
Country	Country in which the project activity takes place.
Biome	Biome in which the project activity takes place.
Species planted	Species planted by the project.

*Demol et al. Multi-scale lidar measurements suggest miombo woodlands contain substantially more carbon than thought. *commun Earth Environ* **5**, 366 (2024). DOI:10.1038/s43247-024-01448-x

Monitoring

ⓘ Description

Certainty of the project's reported activity data and reported carbon values across relevant carbon pools and the ability to independently verify them are critical to constraining the accuracy of credit quantification. Greater uncertainty increases the likelihood of over-crediting. The score considers methods to monitor change in woody biomass pools, and SOC (if included).

Note: This **Monitoring score** is only included in Pathway 2; evaluating methods to monitor change in woody biomass pools (e.g., AGB, BGB, deadwood, litter, etc) supplement the lack of a full Biomass Benchmarks percentage score. Additional methodological analysis is redundant for **Pathway 1**, as poor monitoring would result in inaccurate reporting of gross plantation removals that show up as discrepancies in the direct comparison with Sylvera observed woody biomass change (see **Biomass Benchmarks**).

⁂ Scoring Logic

The **Monitoring score** is calculated using a weighted approach, combining **Forest Monitoring** and **Soil Carbon Monitoring.**

Weighting is based on the relative representation of SOC within total gross sequestration claims to ensure integrity risks reflects the actual volume of over-crediting risk within carbon pools. For example, Mangrove projects often have significant removals from SOC relative to removals from woody biomass gains. This approach ensures the quality of monitoring in larger pools drives the score, and monitoring concerns in pools that represent only a small portion of total removal claims do not unfairly penalize a project's overall Rating.

Forest Monitoring

ⓘ Description

Certainty of the project's reported activity data and reported carbon values from tree planting and growth within within key woody biomass pools are critical to constraining the accuracy of credit quantification. Methods to monitor tree planting and growth with greater uncertainty increases the likelihood of inaccurate plantation removals reporting and over-crediting.

Note: This **Forest Monitoring Score** is only included in **Pathway 2**. See **Monitoring score** for further details.

⬡ Scoring Logic

The **Forest Monitoring score** is calculated as a weighted average of **Carbon Tracking Uncertainty**, **Monitoring Technology Reliability,** and **Stratification**.

Monitoring Technology Reliability

(i) Description

The dependability and precision of tools (e.g., remote sensing, field measurement devices) used to track tree planting/growth to quantify carbon removal from biomass gains.

Scoring Logic

The **Monitoring Technology Reliability** score is calculated by considering the maturity and validation status of the monitoring technologies and datasets; more robust, well-validated systems result in a higher score. Reliable and scalable technology such as wall-to-wall remote sensing, or robust field sampling boosts data accuracy. Some projects use multiple complementary methods, as such the scoring is driven by the highest-quality (lowest risk) technology included.

Data Inputs

Input name	Description
Project monitoring approach	List of methods the project uses to monitoring/plans to tree planting and growth in the PA, as reported in project documentation

Carbon Tracking Uncertainty

CARBON ACCOUNTING – PROJECT REPORTING – MONITORING – FOREST MONITORING

ⓘ Description

The dispersion and size of the areas over which the project activities take place. This impacts the ability to monitor and report that scale, influencing the accuracy of carbon projections.

Scoring Logic

The **Carbon Tracking Uncertainty** score evaluates how the choice of plot size and distribution affects the robustness of tree planting/growth monitoring, and subsequent reporting of carbon removals from biomass gains. Large contiguous plots, reducing the complexity of monitoring tree growth and biomass gains and may result in more accurate reporting. Conversely, several small plots distributed over a large geographic area may be more challenging to monitor and have greater potential for monitoring inaccuracy.

Data Inputs

Input name	Description
Project spatial distribution	Characterization of the size of plots (ha), number of plots, and geographic distribution of plots that make up the PA.

Relative Carbon Accounting Benchmarks Pt.1

CARBON ACCOUNTING – PROJECT REPORTING

(i) Description

Standardised estimated annual carbon dioxide removals (tCO_2/ha/yr) represent the average removals via sequestration claimed per year, adjusted for the size of the project. High values when compared to peers can suggest a lack of accuracy in the project's activity reporting and/or a lack of in the carbon quantification assumptions, increasing the risk of over-crediting.

Note: Scoring component only used when project boundaries or low error BTS data is unavailable to supplement integrity insights when a full percentage Biomass Benchmarks score cannot be computed.

Scoring Logic

Pathway 2: Accurate project boundary or low error BTS data NOT available

Benchmarking is done by creating a peer group of projects with similar characteristics, based on a characterization of activities conducted, geographic location, biome, and species planted.

Compare an input reported carbon value, annual average carbon removal rate (tCO_2e/ha/yr), with a range derived from project reported values from a peer group of projects. The reported value is compared to the distribution of peer project values in the narrowest peer group possible. project reported values that show agreement with the more conservative quartiles of the peer group distribution indicate lower over-crediting risk.

Stratification

ⓘ Description

The approach taken to stratification when monitoring the PA to quantify carbon removal from biomass gains. Stratification is necessary for precise and accurate activity data in heterogeneous areas. Factors such as land-classification, hydrology, species, etc., may impact biomass gains. Monitoring, quantification, and sampling approaches should consider heterogeneous conditions, and use appropriate strata in its reporting to ensure removal claims represent each strata in the PA.

⸙ Scoring Logic

The **Stratification score** is calculated by considering the project context (e.g., heterogeneous vs homogeneous conditions within the PA) and whether the approach to stratification appropriately represents these conditions. Detailed stratification that considers all relevant factors that may lead to heterogeneous growth conditions such as planting year, activity, species, and site conditions (e.g., soil type, rainfall), etc., are considered best-practice, increase the accuracy of carbon accounting. Failure to consider stratification in heterogeneous conditions, or inappropriate stratification that does not consider all relevant factors may increase inaccuracy. A lack of stratification may be acceptable in homogeneous growth conditions are homogenous; provided a strong justification is given.

⊞ Data Inputs

Input name	Description
Stratification approach	Characterization of the project's approach to stratifying/plans to stratify the PA, considering the PA context and technical justifications.

Data Inputs

Input name	Description
Project Reported Peer Group - Estimated Annual Emission Removals (tCO2e/yr)	Peer group range of reported values - Estimated Annual Emission Removals (tCO2e/yr)
Annual Emission Removals (tCO2e/yr)	Average per year annual amount of carbon removed by project in tCO2e. Values are normalised and converted by Sylvera if reported in different units. If monitoring reports are available ex-post vintage-level data is used. Ex-ante estimated removals used otherwise.
ARR activity type (Proj Activity)	The characterisation of the planting activities of the project (scale, commercial or non-commercial).
Planting Area Size (ha)	Size of the area planted in the project.
Country	Country in which the project activity takes place.
Biome	Biome in which the project activity takes place.
Species planted	Species planted by the project.

Carbon Modeling

CARBON ACCOUNTING

ⓘ Description

The carbon-related modeling choices made by a project refers to accounting approaches used to calculate net emissions removals (tCO2e) from project activities, including carbon model choices such as biomass carbon stock assumptions, accounting boundaries and approaches to baseline, and leakage emissions. from what model the project uses and what the model includes. Such factors can influence the accuracy of the carbon accounting and ultimately overcrediting risk.

⬡ Scoring Logic

Scoring the project on the basis of how it choices to approach net carbon emission removals (tCO2e). The **Project Modeling** score takes two pathways depending on data   availability:

Pathway 1: Accurate project boundary and low error BTS data available.

Calculated as a weighted average of the **Baseline Approach**, **Carbon Pool Inclusions**, **Leakage**, and **Project Ineligibility** scores.

Pathway 2: Accurate project boundary or low error BTS data NOT available.
Calculated as a weighted average of the **Baseline Approach**, **Carbon Pool Inclusions**, **Leakage**, **Model Choices**, and **Project Ineligibility** scores. The **Model Choices** score is included in **Pathway 2** to account for model choice to quantify the amount of carbon (tCO2e) associated with each unit of activity data (tree planting/growth) where Sylvera BTS data is not available to direct verify biomass gains.

Note: If the **Project Ineligibility** score indicates a severe risk of intentional clearance of existing forests to establish project activity, this is a severe over-crediting risk and caps the **Project Modelling** score (see **Project Ineligibility**)

Leakage

ⓘ Description

The approach to quantifying leakage emissions—a key parameter in quantifying net removals. Leakage emissions are emissions attributable to project activities due to the displacement of emissions due to project implementation. Leakage may be caused by baseline activities shifting outside the PA (activity-shifting leakage) or by altering supply and demand of certain commodities so that emissions are caused by market activities elsewhere (market leakage).

Scoring Logic

The **Leakage** score is calculated as an average of the **Leakage Risk**, **Leakage Accounting**, and **Leakage Mitigation** scores.

Leakage Risk

ⓘ Description

The likelihood that emissions-causing activities would be displaced from the PA based on pre-project land use. The likely scale of leakage emissions depends on whether the PA was previously used for productive activities that may shift elsewhere or affect market dynamics, such as agriculture. To understand the conservativeness if a project's leakage accounting method and efforts to mitigate leakage, leakage risk must first be identified to ensure approaches are commensurate with risk.

⁝⋰ Scoring Logic

The **Leakage Risk** score considers whether there is a risk that pre-project activities could be displaced elsewhere.

The pre-project land used reported in Project Documentation is identified and cross-checked with desk-based research to identify the most-likely pre-project land use scenario and land use trends. Land previously under productive activities are deemed at higher risk of leakage than degraded land that was under no productive use.

▦ Data Inputs

Input name	Description
Pre-project land use	Categorization of the pre-project land use category as reported in project documentation and cross-checked.

Leakage Accounting Method

(i) Description

The appropriateness of the approach to quantifying the volume leakage emissions (tCO2e) within net removal claims. Approaches ary in conservativeness and accuracy, affecting over-crediting risk.

Scoring Logic

The **Leakage Approach** score considers whether the quantification of leakage emissions is conservative and is likely to cover the potential scale of actual leakage. Project approaches to leakage emissions generally involve a leakage risk assessment. If leakage is found to be non-negligible, emissions are accounted for through monitoring, or a deduction within the net removal calculation. Sylvera considers whether a robust assessment was conducted and if conservative accounting of leakage emissions is applied.

A detailed leakage assessment of pre-project land use and land use trends, combined with monitoring of leakage events to deduct emissions as they occur is best-practice. Leakage deductions are pragmatic and reasonable to lower monitoring complexity when leakage risk is less severe. Assuming leakage to be negligible is only acceptable if accompanied by a well-evidenced assessment displaying no leakage risk. However, a small deduction to account for any unexpected leakage is considered more conservative for all projects.

Leakage Approach

CARBON ACCOUNTING – CARBON MODELING – LEAKAGE

Data Inputs

Input name	Description
Leakage approach	Categorization of the project's approach to leakage accounting
Leakage deduction %	% emissions deducted from net removals to account for leakage, if applied.
Leakage emissions (tCO2e)	Volume of ex-post reported leakage emissions (tCO2e)

Leakage Mitigation

(i) Description

The efforts of a project to reduce leakage events occurring.

Scoring Logic

The **Leakage Mitigation** score considers whether there are efforts in place to mitigate potential leakage risk.

Mitigations to reduce leakage events, and the volume of leakage emissions are best-practice in contexts where leakage risk is high. Mitigation measures increase the project's impact and help ensure that leakage accounting measures, such as leakage deductions, are enough to cover the actual scale of leakage emissions. Absence of mitigation measures may be acceptable when there is a strong justification that leakage risk is low.

Data Inputs

Input name	Description
Leakage mitigation	List of leakage mitigation efforts/plans as reported in project documentation.

Project Ineligibility

CARBON ACCOUNTING – CARBON MODELING

ⓘ Description

Confirmation that the PA was not intentionally cleared of forest to establish project activities prior to the project start. Intentional forest clearance to establish ARR activities creates perverse incentives and results in no net emission removals as biomass is lost at baseline, creating a "carbon debt". Intentional clearance is a severe over-crediting risk, and projects displaying forest clearance should be considered eligible for crediting, generating no real emission removals.

⟨Y⟩ Scoring Logic

The **Project Ineligibility** score applies geospatial analysis, using Hansen Global Forest Change data (Hansen et al., 2013) to identify forest loss in the PA over a 10-year look back period before the project start date. Significant losses identified within this period can indicate intentional clearance—a severe over-crediting risk.

When significant loss is identified, this is combined with a review of land-ownership, project context, and visual inspection of satellite imagery to confirm intentional clearance is the most likely cause. This approach avoids penalizing projects where forest loss is due to ongoing background degradation by outside actors.

▤ Data Inputs

Input name	Description
Hansen FNF (ha) (Hansen et al, 2013)	Hectares of forest loss in the PA 10 years prior to project start year—project start year. .
Land Ownership	Identification of land owner under the project and pre-project scenarios.

Baseline Approach

CARBON ACCOUNTING – CARBON MODELING

ⓘ Description

The approach used to quantify baseline removals. Defining the baseline scenario and quantifying baseline removals is critical to calculating net emissions removed due to project activities. Baseline removals are the removals that would have occurred form land-use in a without-project—or business-as-usual scenario. Removals due to project activities must exceed removals from baseline vegetation growth for net removals to be achieved. Approaches to quantifying baseline emissions vary in accuracy and conservativeness, affecting over-crediting risk.

Scoring Logic

The **Baseline Approach** score reflects what methods and assumptions have been used to quantify baseline removals. Approaches can be broadly categorized into two types: *static* and *dynamic*. Static refers to assumptions about the amount of removals that may have occurred in a without-project scenario based on a most-likely baseline scenario that are applied to the net removal calculation for a given monitoring period, or over the entire project lifetime. Dynamic refers to continuous real-time monitoring of baseline removals using proxy areas. Dynamic baselines are considered more conservative and accurate as then ensure removals from project activities are only crested if they exceed trends seen in proxy areas. Static baselines may not account for long-term trends or background vegetation growth and may lead to non-conservative or inaccurate carbon accounting.

If a static baseline approach is chosen, the score also considers whether conservative assumptions and approaches made. For example, whether the volume of baseline removals is assumed to be greater than zero (i.e., non-negligible), and whether the baseline is monitored and re-assessed at regular intervals to better reflect any changing land-use trends.

Baseline Approach

CARBON ACCOUNTING – CARBON MODELING

Data Inputs

Input name	Description
Baseline methodology	Categorization of the approach used to quantify baseline removals (e.g., Static vs Dynamic)
Baseline removals (tCO2e)	The volume of ex-post reported baseline removals (tCO2e).
Methodology	The methodology the project is created under.

Carbon Pool Inclusion

(i) Description

The carbon pools included in accounting boundaries. Emission removals from tree planting can be generated within different carbon pools (e.g., woody biomass, soil carbon accumulation, etc.). The carbon pools a project chooses to include or exclude within its accounting boundaries can influence the conservativeness and accuracy of carbon accounting and ultimately overcrediting risk. Excluding carbon pools that are not deemed key pools (those experiencing significant change due to project activities) that carry a risk of measurement uncertainty is deemed a conservative choice.

Scoring Logic

The **Carbon Pool Inclusion** score reflects which carbon pools are included in project accounting and the associated risk of non-conservativeness based on , the relative scale of each pool within net emission removals, methodological requirements and measurement reliability they can be measured.

Including only key carbon pools, required for all ARR projects such as above-ground biomass (AGB), and below-ground biomass (BGB) is the most conservative choice.

Other less significant pools, such as harvested wood products, deadwood, and litter, may be included. This is deemed less conservative, although the total over-crediting risk is not severe as these pools tend to be relatively low volume.

Optionally including carbon pool that carry significant measurement challenges, such as Soil Organic Carbon (SOC), where not required by the methodology, is considered non-conservative due to high-variability in SOC measurements, and potential inaccuracy, Where a methodology requires SOC as a key carbon pool (e.g., Mangrove projects), inclusion is justified but may carry some risk of inaccuracy or over-crediting due to measurement uncertainty, which can be mitigated to different degrees depending on the measurement approach (see Monitoring score).

Carbon Pool Inclusion

Data Inputs

Input name	Description
Project carbon pools	The pools of carbon that the project has included in their carbon calculations.
SOC removals (tCO2e)	The volume of reported ex-post removals (tCO2e) from the SOC. Used to quantify the relative scale of the SOC pool, if included.
Net Removals (tCO2e)	The total reported ex-post net removals (tCO2e). Used to quantify the relative scale of the SOC pool, if included.
Project activity	Characterization of project activity.
Methodology	The methodology the project is created under.

Model Choices

ⓘ Description

There are many different approaches that involve different models and assumptions for quantifying the carbon sequestration from tree planting. Modeling biomass carbon gains from ARR activities in terms of tCO2e involves quantifying the area planted (activity data), then calculating the amount of tCO2e associated with each unit of activity data. Assumptions and calculations may vary based on methodology, but generally include growth curves, carbon biomass stock values, and allometric equations to calculate how much carbon is sequestered in the area planted by the project activities. The choice of modeling assumptions can greatly impact the conservativeness and accuracy of carbon accounting.

Scoring Logic

Scoring the equations and assumptions applied by the project for carbon accounting on the basis of whether they are peer-reviewed, or direct measures, as well as region- and species-specific which is considered best practice for accurate carbon quantification. Each underlying factor is considered of equal importance.

The score is calculated as the average of the **Model quality**, **Geographic specificity of modeling assumptions**, **Species specificity of modeling assumptions, and Mortality Reporting** scores.

Note: **Model Choices** and its subcomponents are only included in **Pathway 2** to supplement the lack of direct comparison of reported gross sequestrations (tCO2e) from tree planting with Sylvera's BTS data. As BTS data represents carbon sequestered in tree biomass in tCO2e, this encompasses the accuracy of activity data reported (area planted/regenerated) and the resulting amount of tCO2e simultaneously, additional tests are excluded from **Pathway 1**. **Pathway 2** assesses the accuracy of activity data (see **Monitoring** score), then the appropriateness of the assumed resulting amount of carbon stock (**Modeling Choices**) separately to assess the gross sequestration claims (tCO2e).

Model Quality

ⓘ Description

The extent to which underlying assumptions in project models are evidence-based and validated through the evaluation and approval by others working in the same field. Strong assumptions reduce uncertainty and improve credibility.

Scoring Logic

This score evaluates the credibility of the equations and assumptions used to quantify carbon biomass gains in terms of tCO_2e in project modelling. Assumptions supported by widely accepted peer-reviewed sources from scientific literature are considered lowest risk. Assumptions that lack clarity of their source, or are not from peer-reviewed sources are deemed at a higher risk of inaccuracy or non-conservatism.

Data Inputs

Input name	Description
Peer review of assumptions	Identifying source(s) of the assumptions and equations used by the project are reported in project-documentation cross-checked with scientific literature.

Species Specificity of Modelling Assumptions

ⓘ Description

Every tree species has unique approximate growth curves, carbon stock values, and mortality in different biomes, therefore the more species-specific modeling that is used, the higher likelihood that the carbon accounting is accurate and conservative.

Scoring Logic

This score assesses whether the equations and assumptions used in project carbon accounting are tailored to the species present in the PA. Species-specific assumptions improve accuracy and reduce uncertainty, while generic or inappropriate assumptions increase risk of error. Non-species specific assumptions, or assumptions of unclear specificity are deemed higher risk.

Data Inputs

Input name	Description
Species based modeling	Identifying the source(s) of the assumptions and equations used as reported in project documentation and whether they are specific to the project species.
Species planted	List of tree species planted or regenerated by the project as reported in project documentation.

Geographic Specificity of Modelling Assumptions

ⓘ Description

The degree to which the project's model inputs reflect the local region, biomes, climate, and ecological conditions based on location. High specificity ensures more accurate and context-relevant carbon projections.

Scoring Logic

This score evaluates whether the equations and assumptions used in project modeling are tailored to the project region. Greater regional specificity increases robustness, while generic or irrelevant assumptions increase risk of over-crediting. Where available, sources specific to the project activity and species, within the project region or country are likely to be most accurate. A lack of regional specificity, such as global default values are more likely to be inaccurate.

Data Inputs

Input name	Description
Region specific modeling	Identifying whether the source(s) of the assumptions and equations used are specific to the project region.
Project region(s)	Sub-national region the project is located in.
Country	Country the project is located in

Mortality Reporting Risk

ⓘ Description

Mortality is the death of trees which can take place at any point in a tree's life cycle, but as often more likely to take place in earlier stages. Therefore, some mortality is typical for ARR projects and needs to be accounted for, else there is a risk of over crediting.

Scoring Logic

This score assesses whether the project accounts for tree mortality in its carbon accounting. Since mortality is inevitable in projects involving planting, failing to account for it is considered a non-conservative assumption that risks overestimating carbon biomass gains.

Data Inputs

Input name	Description
Mortality assumptions	Identifying whether the project accounts for mortality in its carbon assumptions either through a % deduction, or robust monitoring of mortality events within its activity data reporting.

Additionality

ⓘ Description

The project's additionality reflects the likelihood that the emission removals/reductions are a direct consequence of the project activities and would not occur in the absence of the project. Assessing additionality involves examining the credibility of the difference between the project and baseline scenario by considering the financial viability of the project activities, policy and regulatory incentives/restrictions, as well as common practice in the project's region.

Financial Additionality:
We consider the project's type (e.g. natural regeneration, commercial plantation etc.), whether the project owner receives additional income from other revenue streams such as the sale of timber products, and determine the likelihood of whether the sale of carbon converts the project from sub-economic in the business as usual scenario to economic in the "with offset project" scenario.

Policy & Regulatory:
We evaluate whether there are legal, regulatory or fiscal incentives in place for the type of project at the regional or national level that may reduce a project's likelihood of additionality.

Common Practice:
We assess the extent to which similar ARR activities are conducted in the nearby region, with the assumption that a project is less likely to be additional if there exist many similar (non-VCM) projects in the region or country of interest and evidence provided to explain difference in need for carbon finance is not sufficient.

⟡ Scoring Logic

Take the minimum of the additionality components: **Financial**, **Common Practice** and **Policy & Regulatory**. If data for one factor is missing, the calculation uses the available factors only.

Additionality

```
Common
Practice ──┬── Baseline Common Practice
           │
           ├── Project Common Practice ──┬── Forest cover common practice
           │                             │
           │                             └── Project Activity Common Practice
           │
           ├── Proponent Common Practice ──┬── Prior Implementation
           │                               │
           │                               └── Proponent History
           │
           └── Adoption Barriers

Policy and
Regulatory ──┬── Policy Country Score
             │
             └── Gov Country Score

Financial ──┬── Financial Model Unavailable ── Activity-based Financial Additionality
            │
            └── Financial Model Available ── IRR Financial Additionality Assessment
```

Common Practice

ⓘ Description

Examining whether the project or baseline activities are common practice in the project's region helps with identifying significant barriers or support for their implementation. This could highlight the necessity (or lack thereof) of the carbon project and undermine/support the project's additionality.

⚙ Scoring Logic

The **Common Practice** score is taken through the average of the **Baseline Common Practice, Project Common Practice, Proponent Common Practice** and **Adoption Barriers** scores.

Baseline Common Practice

ⓘ Description

Baseline Common Practice assesses whether the baseline activity assumed by the project is widely practiced and established in the project's country or region, and whether that activity is increasing, stable, or declining over time. This component evaluates both the prevalence of the baseline activity and its trend, supported by the strength and relevance of available evidence. A baseline activity that is common and increasing would indicate a higher likelihood that the baseline scenario is credible without the project.

Scoring Logic

The **Baseline Common Practice** score is taken through the average of the **Prevalence and Trend** scores.

Data Inputs

Input name	Description
Prevalence Score	The Prevalence Score evaluates whether the baseline activity is commonly practiced in the project's country or region. It is based on a qualitative assessment of the extent to which the activity is established as common practice, adjusted for the strength and relevance of the supporting evidence. Stronger, more recent, and more authoritative sources increase confidence in the assessment, while limited, outdated, or weak evidence reduces it.
Trend Score	The Trend Score evaluates whether the baseline activity is becoming more prevalent, decreasing, remaining stable, or shows no clear evidence of change over time in the project's country or region. This assessment combines a qualitative judgement on the direction of the trend with adjustments based on the strength and relevance of the evidence used. Higher scores reflect stronger confidence that the observed trend accurately represents real-world conditions.

Project Common Practice

ⓘ Description

Project Common Practice assesses whether the project's ARR activities are already widely implemented in the project's region and whether similar land-use outcomes would be expected without the project. This component evaluates the extent to which the project represents a departure from prevailing land management practices, considering both the commonality of the specific project activities and the existing forest cover context in the surrounding landscape. A project that is uncommon in terms of its activities or occurs in an area with limited comparable forest cover indicates a lower likelihood that the observed removals would have occurred without the project, supporting additionality.

Scoring Logic

The **Project Common Practice** score is taken through the minimum of the **Project Activity Common Practice** and **Forest Cover Common Practice** scores. If data for one factor is missing, the calculation uses the available component only.

Forest Cover Common Practice

ⓘ Description

The prevalence and trend of forest cover in the project's country could indicate if reforestation activities and land conversion for other uses are (un)common. This helps determine whether the project activities are a common practice without support from the carbon market, which could undermine/support the project's additionality claim.

Scoring Logic

The overall score sums the **Forest Cove**r with the **Forest Cover Trend** scores.

Data Inputs

Input name	Description
Forest Cover	The percentage of forested land in the country could indicate whether the project activities are common in the country, which could undermine the project's additionality. A high percentage of forest cover in the country could signal that the conversion of forested land is uncommon.
Forest Cover Trend	The forest cover trend shows if the percentage of forest cover has been increasing or decreasing in the country in the last few decades. Assessing the trend helps with understand if the reforestation activities are common (forest cover is increasing) or the land conversion is becoming widespread (forest cover is decreasing).

Project Activity Common Practice

ⓘ Description

This component evaluates whether ARR activities comparable to those implemented by the project are commonly practiced in the project's country or region. The assessment is tailored to the project's activity type and draws only on relevant common practice indicators (such as agroforestry, mangrove restoration, natural regeneration, or tree planting). Activities that are less common indicate that similar outcomes are less likely to occur without the project, supporting additionality. Where no applicable activity category exists or sufficient data is unavailable, this component is not scored.

Scoring Logic

The **Project Activity Common Practice Score** is calculated through the average of any of the following that are available and relevant to the project type: **Agroforestry Common Practice**, **Mangrove Common Practice**, **Natural Regeneration Common Practice, Plant Prevalence**.

Data Inputs

Input name	Description
Agroforestry Common Practice	Assesses how common agroforestry systems comparable to those implemented by the project are in the project's country or region. The score is calculated as the average of prevalence and trend assessments, indicating both current adoption and changes over time.
Mangrove Common Practice	Assesses how common mangrove restoration or management activities comparable to those implemented by the project are in the project's country or region. The score reflects the average of prevalence and trend assessments.
Natural Regeneration Common Practice	Assesses how common natural regeneration approaches comparable to those implemented by the project are in the project's country or region. The score is calculated as the average of prevalence and trend assessments.
Plant Prevalence	Assesses how common tree planting is as a land-use practice in the project's broader region. The score is based on the proportion of land area classified as planted forest at a subnational level, expressed as a percentage.

Proponent Common Practice

ⓘ Description

Proponent Common Practice assesses whether the project developer has an established track record of implementing comparable activities without reliance on carbon market revenues. This component evaluates the extent to which the proponent's prior experience and behaviour indicate that the project activities would not be routinely undertaken in the absence of carbon finance. A proponent with limited or recent experience, or with a history of reliance on carbon revenues, is less likely to implement similar activities without the project, supporting additionality.

⚙ Scoring Logic

The Proponent Common Practice score is calculated as the average of the **Proponent History** and **Prior Implementation** components where available. For pre-issuance assessments, only the Proponent History component is used.

Prior Implementation

ⓘ Description

Prior Implementation assesses whether the project activities were already being implemented before formal project registration and the extent to which those activities pre-date the project's ex-post crediting period. This component is only applied for post-issuance assessments.

Scoring Logic

The score is based on the length of time between project registration and the start of the ex-post crediting period. Projects with longer periods of prior implementation receive lower scores, reflecting a higher likelihood that activities may have occurred without carbon market incentives. Where prior implementation is identified and a carbon finance plan exists, the assessment incorporates an evaluation of the project's carbon finance arrangements, using the **Carbon Finance Plan Score**

Data Inputs

Input name	Description
Carbon Finance Plan Score	The Carbon Finance Plan assesses the extent to which the project's financial viability depends on anticipated carbon revenues. It considers evidence such as offtake agreements, loans, upfront investments linked to carbon returns, or broader business plans predicated on carbon income. Greater dependence on carbon finance supports additionality, while limited or no evidence of reliance reduces it.

Proponent History

ⓘ Description

Proponent History evaluates the extent and nature of the proponent's past experience with activities comparable to those implemented by the project. The assessment distinguishes between exact versus similar activities, recent versus established implementation, and whether past activities were undertaken independently or consistently reliant on carbon finance. Lower scores reflect a stronger history of independently delivering similar activities, while higher scores reflect limited, unclear, or carbon-dependent experience.

⚙ Scoring Logic

The score is determined based on qualitative categories describing the proponent's historical involvement in comparable activities, including the type of activities undertaken, the duration of experience, and the extent of reliance on carbon finance.

Adoption Barriers

ⓘ Description

Adoption Barriers assess whether structural or capacity-related constraints limit the ability of relevant stakeholders to implement the project's ARR activities without targeted support or incentives. This component focuses on the capacity of implementing stakeholders and the broader economic context in which the project operates. Higher barriers suggest that adoption of similar activities is less likely to occur without the project, supporting additionality.

⚙ Scoring Logic

The Adoption Barriers assessment is first based on the capacity of the primary implementing stakeholders. Where stakeholder capacity indicates that adoption barriers are not material, this component is not scored. Where material adoption barriers are identified, the final score reflects the average of **Stakeholder Capacity** and the **GNI Score**.

▦ Data Inputs

Input name	Description
Stakeholder Capacity	Assesses the capacity of the primary planting or implementation agents responsible for delivering the project activities. The assessment considers the scale, resources, and technical capability of the stakeholder group, such as smallholders, local communities, commercial operators, NGOs, or technical partners. Lower-capacity stakeholders are considered more likely to face adoption barriers, while more established or commercially capable actors are considered to face fewer barriers.
GNI Score (Gross National Income)	Assesses the broader economic context of the project based on the country's income classification at the project start year. Lower-income contexts are considered more likely to face structural and financial barriers to adopting ARR activities without external support, while higher-income contexts are considered to face fewer such barriers.

Policy and Regulatory

ⓘ Description

Policy & Regulatory assesses the extent to which existing laws, regulations, and public policy incentives support or mandate the implementation of the project's ARR activities. This component evaluates whether the policy environment reduces the need for carbon market incentives by making similar activities economically attractive or legally required. Strong policy and regulatory support can weaken the case for additionality, while limited or unclear policy support strengthens it.

⁙ Scoring Logic

The Policy & Regulatory score is determined using the **Policy Country Score** and the **Gov Country Score**. Where the policy country score indicates fully supportive conditions, it is used on its own. If the gov country score is not applicable, the final score is equal to the policy country score. In all other cases, the final score is calculated as the sum of the policy country score and the gov country score.

Policy Country Score

ADDITIONALITY – POLICY AND REGULATORY

ⓘ Description

All relevant policies that could apply to the project or baseline activities in the project's country are taken into account, as their extensiveness and effectiveness (or lack thereof) can undermine/support the project's additionality.

Scoring Logic

This components filters a database of policies that we have assessed while rating ARR projects. The test filters policies on applicability, based on whether they are in the same jurisdiction and are relevant to the project activities, taking the maximum (highest risk) applicable policy.

Data Inputs

Input name	Description
Policies	List of all policies extracted, marked as incentive or regulation (same database as Estimated Ratings)

Gov Country Score

ⓘ Description

Gov Country assesses the quality of governance in the project's host country and its potential influence on the likelihood that project activities would occur without carbon market support. This component draws on an external governance effectiveness indicator and is applied only where governance conditions materially affect project additionality, taking into account the strength of the country's policy environment. Where governance is strong and policy conditions already support implementation, this component is not applied.

⟐ Scoring Logic

The Gov Country score is applied where **Governance Effectiveness** is sufficiently strong to influence project implementation and where the **Policy Country Indicator** does not already reflect supportive policy conditions; in all other cases, this component is not scored.

▦ Data Inputs

Input name	Description
Governance Effectiveness	An external indicator reflecting the quality of public institutions, regulatory effectiveness, and government capacity in the project's host country.
Policy Country Indicator	An assessment of the strength of country-level policies relevant to the project's activities, used to determine whether governance conditions are already reflected elsewhere in the additionality assessment.

Financial Additionality

ADDITIONALITY

(i) Description

Financial Additionality assesses whether carbon credit revenues are a necessary factor for implementing and sustaining the project's ARR activities. This component evaluates whether the activities are likely to proceed in the absence of carbon market support, using both activity-based assumptions and, where available, financial modelling. The assessment considers expected costs, alternative sources of value, and the extent to which non-carbon incentives may already justify implementation. Where project activities are likely to occur without carbon revenues, the case for additionality is weaker.

Scoring Logic

The Financial Additionality score is determined by the project type and the availability of a financial model. Where no financial model is provided, the assessment is based on **Activity-Based Financial Additionality**, with adjustments for **Secondary Revenue** in commercial projects and **Parallel Funding** in non-commercial, mangrove, and natural regeneration projects. Where a financial model is available, an **IRR Financial Additionality Assessment** is conducted

Data Inputs

Input name	Description
Parallel Funding	Assesses whether the project receives material non-carbon funding alongside carbon revenues. The presence of parallel funding suggests reduced reliance on carbon finance, while its absence supports financial additionality.
Secondary Revenue	Assesses the extent to which the project is expected to generate material non-carbon revenues, such as from timber or other outputs. Higher expected secondary revenues indicate reduced dependence on carbon finance.

Activity-Based Financial Additionality

ADDITIONALITY – FINANCIAL ADDITIONALITY

ⓘ Description

The scale of the project activities and their commercialization potential could indicate the availability and extent of alternative revenue streams outside the carbon market, which could incentivize the project's implementation even without VCM support and undermine the project's additionality claims.

Scoring Logic

The type and scale of project activities are used as a proxy for financial additionality. If a project implements a range of activities, the average of all returned activities is taken.

Data Inputs

Input name	Description
ARR activity type	The ARR Activity Type is selected from a predefined set of categories reflecting the scale and commercial orientation of the project's activities, including large-scale or small-scale planting, subsistence-based approaches, natural regeneration, mangrove restoration, mixed activity types, or cases where insufficient information is available.

IRR Financial Additionality Assessment

ⓘ Description

The IRR Financial Additionality Assessment evaluates whether the project's expected financial returns indicate a reliance on carbon credit revenues to proceed. This assessment compares projected returns under a business-as-usual scenario and the project scenario against an appropriate hurdle rate, and evaluates the extent to which carbon revenues improve project viability. Projects that remain financially unattractive without carbon revenues demonstrate stronger financial additionality, while projects that are financially viable regardless of carbon revenues demonstrate weaker additionality.

Scoring Logic

The IRR Financial Additionality Assessment takes the lower of the **IRR Score** and the **Uplift Score**, with the result constrained where **Secondary Revenue** is significant to account for reduced reliance on carbon revenues.

Data Inputs

Input name	Description
IRR Score	Assesses the relative financial attractiveness of the project by comparing the internal rate of return of the business-as-usual scenario, the project scenario, and an applicable hurdle rate. This input evaluates whether the project is financially viable without carbon revenues, marginally viable, or only viable once carbon revenues are considered.
Uplift Score	Assesses the extent to which carbon credit revenues improve the project's financial returns relative to the business-as-usual scenario. Larger improvements in returns indicate a greater reliance on carbon revenues to enable the project and therefore stronger financial additionality.
Secondary Revenue	Assesses the extent to which the project generates material non-carbon revenues that reduce reliance on carbon finance.

Permanence

ⓘ Description

The project's permanence reflects the likelihood of carbon being successfully sequestered for an atmospherically significant time (i.e. 100 years) as a result of the project activities. Assessing permanence involves examining potential risks that could prevent long-term sequestration of carbon. Sylvera's Permanence score takes an additive risk approach, where we assess multiple causes of carbon stock loss individually and let each risk speak for itself. The approach considered metrics for each potential cause of carbon stock loss that assess both the likelihood of a risk factor occurring, and the potential scale of loss such an event to give an overall risk of carbon reversal across all risk factors. Likelihood is assessed through variables that (1) demonstrate that the physical destruction of trees by this phenomenon is historically common and/or increasing, (2) are from third party models which demonstrate short return intervals for significant events, and (3) are known to be triggers of the physical phenomenon. The scale of potential risks considers variables that (1) demonstrate the extent of the impact of past events, (1) are known to be determinants of the effect of the physical phenomenon, (3) actions that can have a mitigative effect.
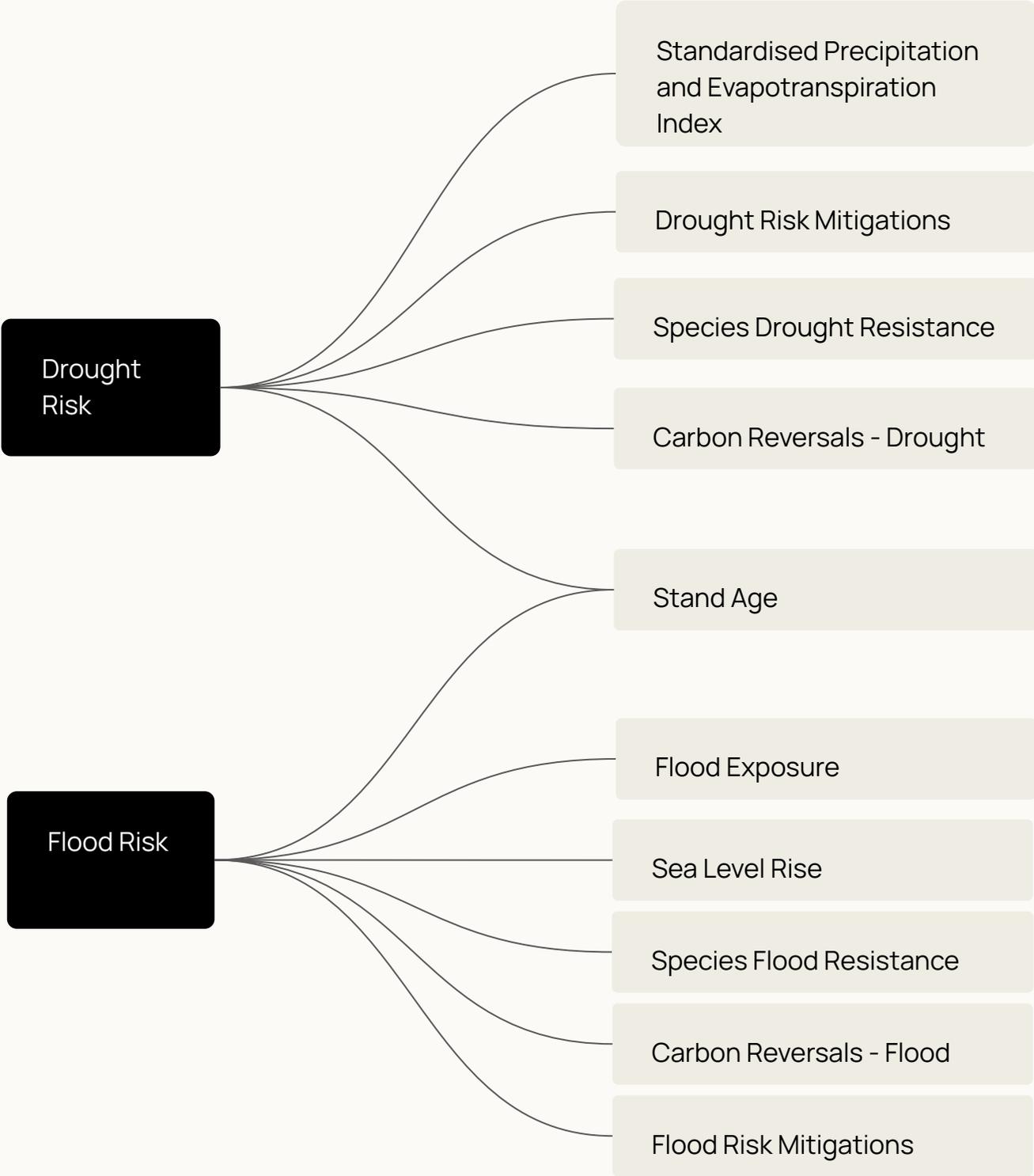
⚙ Scoring Logic

Using a combination of project-specific info on design and mitigations, pre-computed geospatial statistics and country risk profile data we are able to approximate the permanence risk for each project.
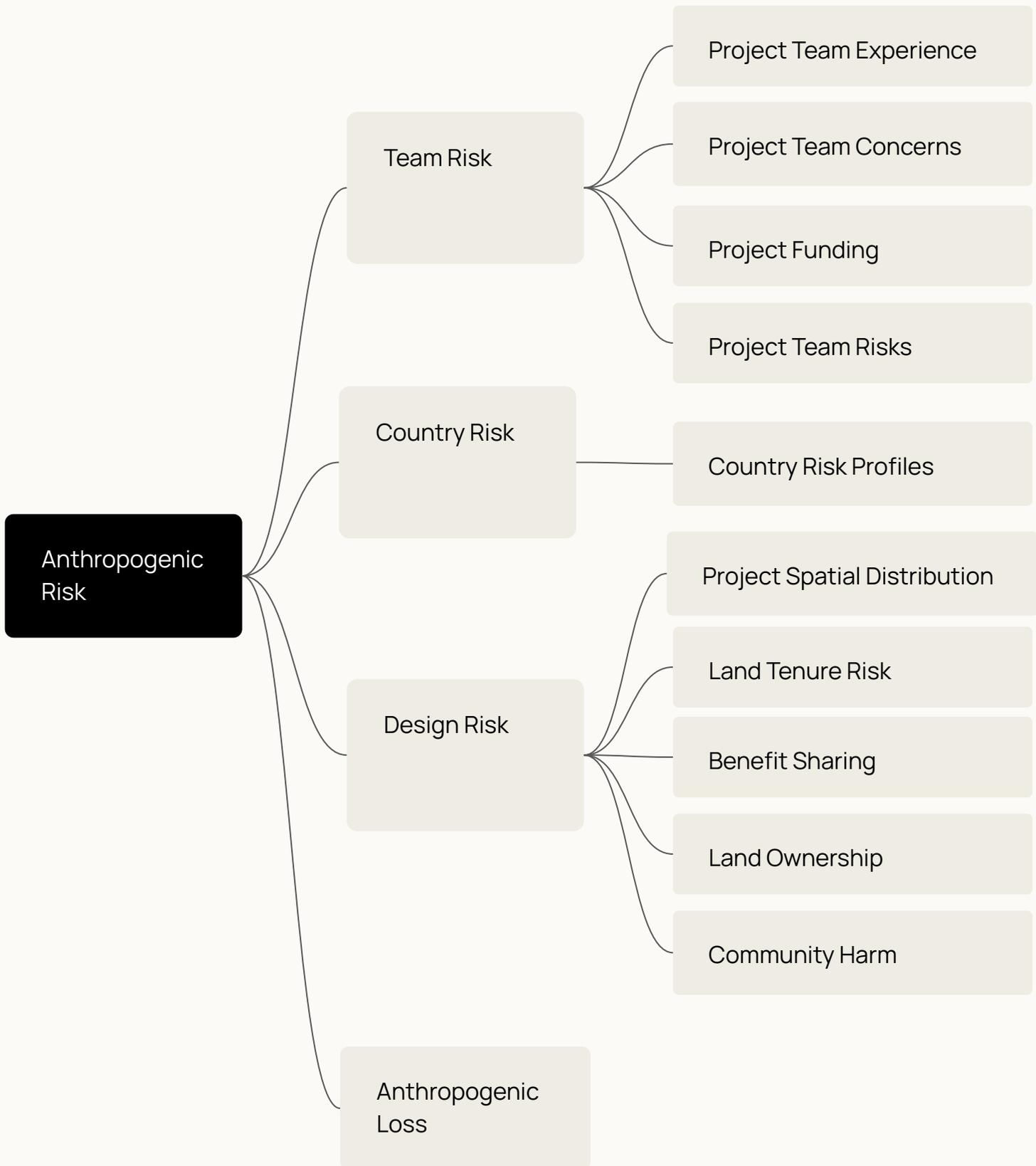
The **Permanence** score reflects the project's exposure to non-permanence risks such as **Pests**, **Drought**, **Fire, Storm, Flood**, or **Anthropogenic** threats. The score is calculated by taking the minimum score of these risks (the highest risk score).

Permanence

Fire Risk
- Fire Weather Index (FWI)
- Fire Risk Mitigations
- FDFL
- Carbon Reversals - Fire

Storm Risk
- Carbon Reversals - Storm
- Storm Prevalence
- Storm Risk Mitigations

Pest Risk
- Native Pest Resistance
- Mixed Species Resistance
- Pest Risk Mitigations
- Carbon Reversals - Pests
- Drought Risk
- Recent Abiotic Disturbance
- Recent Pest Outbreak

Permanence

Drought Risk
- Standardised Precipitation and Evapotranspiration Index
- Drought Risk Mitigations
- Species Drought Resistance
- Carbon Reversals - Drought
- Stand Age

Flood Risk
- Stand Age
- Flood Exposure
- Sea Level Rise
- Species Flood Resistance
- Carbon Reversals - Flood
- Flood Risk Mitigations

Permanence

Anthropogenic Risk

- Team Risk
  - Project Team Experience
  - Project Team Concerns
  - Project Funding
  - Project Team Risks
- Country Risk
  - Country Risk Profiles
- Design Risk
  - Project Spatial Distribution
  - Land Tenure Risk
  - Benefit Sharing
  - Land Ownership
  - Community Harm
- Anthropogenic Loss

Fire Risk

PERMANENCE

(i) Description

Fire is one of the main physical drivers of carbon stock losses in projects that involve biological storage, which can ultimately lead to credit reversal events. Assessing fire risk is essential for understanding the likelihood of the project's impact being reversed by a natural hazard.

Scoring Logic

The Fire Risk score is first assigned using predefined rules where specific combinations of **FDFL**, **Carbon Reversals - Fire**, **Fire Weather Index (FWI)**, and **Project Fire Mitigations** apply. These rules directly assign scores for clearly defined low and high risk combinations. Where a project does not meet any of these predefined conditions, the Fire Risk score is calculated using a weighted formula that combines **Fire Weather Index (FWI)**, **FDFL**, and **Carbon Reversals - Fire**, with an adjustment applied where **Project Fire Mitigations** are present.

For pre-issuance projects, **Carbon Reversals - Fire** and **FDFL** are not considered. In these cases, the Fire Risk score is based solely on the **Fire Weather Index (FWI)** and **Project Fire Mitigations**. For mangrove projects, the Fire Risk score is subject to a minimum threshold, such that the score can never be 1 or 2.

Fire Weather Index (FWI)

ⓘ Description

The (FWI) is a numerical scale indicating wildfire risk based on weather conditions. It ranges from 0 to 100 with higher values signifying a greater likelihood and intensity of potential fires. The FWI is calculated using temperature, relative humidity, wind speed, and rainfall data to assess and quantify fire risk conditions.

Scoring Logic

The Fire Weather Index (FWI) score assesses long-term wildfire risk by evaluating how frequently fire danger exceeds moderate levels, using both historical observations and future climate projections. FWI captures meteorological conditions that influence fire ignition and spread, drawing on weather variables such as temperature, precipitation, relative humidity, and wind speed.

The assessment considers two time horizons:
- **FWI Historic Score**, based on observed conditions over the period 2001–2024; and
- **FWI Future Score**, based on projected conditions from 2025–2100 under a high-emissions climate scenario.

The final FWI score is calculated as the minimum of **FWI Historic Score** and **FWI Future Score**.

Data Inputs

Input name	Description
FWI Historic Score	How often fire danger exceeded moderate during the historical period (2001-2024)
FWI Future Score	How often future climate projections (2025-2100, SSP5 - 8.5) predict fire danger levels above moderate.

Fire Risk Mitigations

ⓘ Description

The project developers could implement various activities to mitigate potential natural hazards. This could reduce the potential permanence risks to the project.

Scoring Logic

The Fire Risk Mitigations score is determined by whether the project undertakes activities that directly reduce fire risk. These activities include:

- Fire Patrols
- Satellite Monitoring
- Fire breaks (setup, expansion, or maintenance)
- Thinning
- Fire brigade
- Other fire monitoring systems
- Dispersed project area
- Fire-fighting equipment
- Fire resistant species
- Deadwood and litter management

If at least one fire risk mitigation measure is implemented, the project's fire risk score is adjusted to reflect reduced fire risk. If no mitigation measures are present, no adjustment is applied.

Data Inputs

Input name	Description
Natural risks mitigations	The present or planned (claimed) project natural risk mitigations.

Fire-Driven Forest Loss (FDFL)

ⓘ Description

Fire-Driven Forest Loss (FDFL) assesses the extent to which the project area has historically experienced forest loss caused by fire. This component evaluates both the absolute area and the proportion of the project boundary affected by fire-induced forest loss over a long historical period, providing an indication of the project's underlying exposure to fire disturbance.

⚙ Scoring Logic

The FDFL score is based on the proportion of the project area that experienced fire-driven forest loss during the issuance period. Projects with a smaller share of area affected by historical fire receive higher scores, reflecting lower inherent fire exposure, while projects with larger proportions of fire-driven loss receive lower scores, reflecting higher underlying fire risk.

Carbon Reversals - Fire

PERMANENCE — FIRE RISK

ⓘ Description

Carbon Reversals - Fire assesses whether the project has experienced reported carbon reversals or losses attributable to fire events. This component captures evidence of realised fire-related impacts on credited carbon stocks, providing an indicator of demonstrated vulnerability to fire beyond modeled or historical exposure.

Scoring Logic

The score is determined based on whether fire-related carbon reversals have been reported for the project. Projects with no known fire-related losses receive higher scores, while projects with documented losses receive lower scores, with more substantial or material losses resulting in a greater reduction in the score.

Storm Risk

PERMANENCE

ⓘ Description

Storm Risk assesses the project's exposure and vulnerability to storm-related reversal events, such as extreme weather damage. This component combines evidence of past storm-related reversals with an assessment of how prevalent storm impacts are in the project area, adjusted for the presence of mitigation measures. It reflects both realised storm impacts and underlying exposure.

⟨⟩ Scoring Logic

The Storm Risk score is calculated by first defining a constrained score range based on the severity of **Carbon Reversals – Storm**. A normalised risk level is then derived from **Storm Prevalence**, with adjustments applied where **Storm Risk Mitigations** are present. The final storm risk score is calculated by interpolating within the constrained range using this normalised risk level.

Carbon Reversals - Storm

PERMANENCE – STORM RISK

ⓘ Description

Carbon Reversals - Storm assesses whether the project has experienced reported carbon reversals or losses attributable to storm-related events. This component captures evidence of realised storm impacts on credited carbon stocks, providing an indicator of demonstrated vulnerability beyond modeled or prevalence-based risk.

⬡ Scoring Logic

The score is determined based on whether storm-related carbon reversals have been reported for the project. Projects with no known storm-related losses receive higher scores, while projects with documented losses receive lower scores, with more substantial or material losses resulting in a greater reduction in the score.

Storm Prevalence

PERMANENCE — STORM RISK

ⓘ Description

Storm Prevalence assesses how frequently the project region has been exposed to severe storm events, with a focus on high-speed wind storms that pose a risk to forest permanence. This component evaluates historical storm activity affecting the broader project area, capturing exposure to extreme wind events capable of causing significant damage to carbon stocks.

⊙ Scoring Logic

Storm Prevalence is informed by geospatial storm data derived from the **EDH Storm Event Analytics Dataset**. The score is based on the frequency of years in which severe storms affected the project region, including storms reaching high wind-speed thresholds. The assessment incorporates both the number of years with severe storm exposure between 2001 and 2024 and the occurrence of very high-speed storms detected in the region since 1995. Projects with less frequent exposure receive higher scores, while projects with more frequent or extreme storm exposure receive lower scores.

⊞ Data Inputs

Input name	Description
EDH Storm Event Analytics Dataset	This dataset provides state-level, annual storm observations, including the average maximum wind speed (in knots) of storms affecting each region within a defined buffer around the project area. The data has global spatial coverage and temporal coverage from 1995 onwards, enabling assessment of long-term storm exposure and associated permanence risk from high-speed wind events.

Storm Risk Mitigations

ⓘ Description

The project developers could implement various activities to mitigate potential natural hazards. This could reduce the potential permanence risks to the project.

⟨⟩ Scoring Logic

The Storm Risk Mitigations score is determined by whether the project undertakes activities that directly reduce storm risk. These activities include:

- Polyculture and/or diverse species planting
- Thinning
- Dispersed project area

If at least one storm risk mitigation measure is implemented, the project's storm risk score is adjusted to reflect reduced storm risk. If no mitigation measures are present, no adjustment is applied.

▦ Data Inputs

Input name	Description
Natural risks mitigations	The present or planned (claimed) project natural risk mitigations.

Pest Risk

ⓘ Description

Pests are one of the main physical drivers of carbon stock losses in projects that involve biological storage, which can ultimately lead to credit reversal events. Assessing pest risk is essential for understanding the likelihood of the project's impact being reversed by a natural hazard.

⟨⟩ Scoring Logic

The Pest Risk score is calculated by first converting **Recent Pest Outbreak**, **Native Pest Resistance, Mixed Species Resistance, Drought Risk**, and **Recent Abiotic Disturbance** into risk values, which are then weighted and combined into a composite risk measure. This composite risk is adjusted where **Pest Risk Mitigations** are present and normalised to a 0–1 risk level. A constrained score range is then selected based on **Carbon Reversals - Pest**, and the final score is derived by interpolating within this range according to the normalised risk level, with higher risk levels resulting in lower scores. For mangrove projects, a minimum score threshold is applied such that the Pest Risk score cannot be 1-2. This score does not consider reversals or abiotic disturbance for pre-issuance projects.

Native Pest Resistance

ⓘ Description

The nativeness of species planted informs the potential severity of the pest risk, as native species are more adapted to local ecosystems and resistant to local pests.

Scoring Logic

- Natural regeneration (no planting involved) → very low risk.
- Mostly native species → low risk.
- Mixed species composition → neutral risk.
- No information disclosed → neutral risk.
- Mostly non-native species → high risk.

Data Inputs

Input name	Description
Nativeness of species planted	Whether the species being planted by the project are native to that area or not.

Mixed Species Resistance

ⓘ Description

Different planting structures within the project can facilitate or hinder the spread of pests and pathogens. Monocultures have a higher risk of promoting pests and diseases, while it is harder for pests to spread among different plant species planted closely together in polycultures.

Scoring Logic

- Natural regeneration (no planting involved) → very low risk.
- Polyculture planting → low risk.
- Mixed species → neutral risk
- No information disclosed → neutral risk.
- Monoculture planting → very high risk.

Data Inputs

Input name	Description
Planting structure	The planting structure (i.e. inter-mixing of species) that the project deploys/will deploy.

Pest Risk Mitigations

ⓘ Description

The project developers could implement various activities to mitigate potential natural hazards. This could reduce the potential permanence risks to the project.

⟨ɞ⟩ Scoring Logic

The Pest Risk Mitigations score is determined by whether the project undertakes activities that directly reduce pest risk. These activities include:

- Drought-resistant species
- Polyculture and/or diverse species planting
- Dispersed project area
- Irrigation
- Natural pest control training
- Pesticides
- Disease-infected tree extraction
- Pest monitoring via site visits

If at least one pest risk mitigation measure is implemented, the project's pest risk score is adjusted to reflect reduced pest risk. If no mitigation measures are present, no adjustment is applied.

⬚ Data Inputs

Input name	Description
Natural risks mitigations	The present or planned (claimed) project natural risk mitigations.

Carbon Reversals - Pest

PERMANENCE – PEST RISK

ⓘ Description

Carbon Reversals - Pest assesses whether the project has experienced reported carbon losses or reversals attributable to pest or disease outbreaks. This component captures evidence of realised impacts on credited carbon stocks caused by biotic disturbances, providing an indicator of demonstrated vulnerability beyond modeled or prevalence-based pest risk.

⚙ Scoring Logic

The score is determined based on whether pest-related carbon reversals have been reported for the project. Projects with no known pest-related losses receive higher scores, while projects with documented losses receive lower scores, with more substantial or material losses resulting in a greater reduction in the score.

Drought Risk

ⓘ Description

Drought Risk assesses the extent to which the project area is exposed to drought conditions that may increase vulnerability to pest and disease impacts. This component evaluates historical patterns of water stress using a standardised drought indicator, recognising that prolonged or frequent drought can weaken vegetation resilience and increase susceptibility to pest-related carbon losses.

Scoring Logic

The Drought Risk score is derived from a historical drought severity indicator that reflects how often drought conditions exceeded normal levels during the assessment period. Higher drought severity corresponds to higher pest-related drought risk, while lower drought severity corresponds to lower pest-related drought risk. The assessment is based on categorised drought risk levels derived from the **Standardised Precipitation and Evapotranspiration Index.**

Data Inputs

Input name	Description
Standardised Precipitation and Evapotranspiration Index	The Standardised Precipitation and Evapotranspiration Index (SPEI) measures relative water surplus or deficit over time by comparing precipitation and evaporative demand against long-term climatic conditions, enabling identification of drought severity and duration.

Recent Abiotic Disturbance

PERMANENCE – PEST RISK

(i) Description

Recent Abiotic Disturbance assesses whether the project has experienced recent carbon reversal events attributable to non-biological natural hazards. This component captures evidence of realised disturbances that may weaken ecosystem resilience and increase susceptibility to future risks, including pest-related impacts.

Scoring Logic

The score is determined based on the presence of any reported carbon reversal events associated with **Carbon Reversals – Drought**, **Carbon Reversals – Fire**, **Carbon Reversals – Flood**, **Carbon Reversals – Pest**, or **Carbon Reversals – Storm**. Where one or more such events are recorded, the disturbance indicator is applied; where no such events are recorded, no disturbance is assumed.

Recent Pest Outbreak

PERMANENCE — PEST RISK

(i) Description

Recent Pest Outbreak assesses whether the project region has experienced pest outbreak events in the recent past that could increase the risk of vegetation damage and carbon loss. This component captures evidence of regional biotic disturbances that may indicate elevated vulnerability to future pest-related impacts.

Scoring Logic

The score is determined based on the presence and recency of recorded pest outbreak events affecting the project region. Projects with no recorded outbreaks receive higher scores, while projects with more recent outbreak events receive lower scores, with outbreaks occurring closer to the present resulting in a greater reduction in the score.

Drought Risk

PERMANENCE

(i) Description

Drought is one of the main physical drivers of carbon stock losses in projects that involve biological storage, which can ultimately lead to credit reversal events. Assessing drought risk is essential for understanding the likelihood of the project's impact being reversed by a natural hazard.

Scoring Logic

The Drought Risk score is determined using a combination of climate exposure and project resilience indicators. Exposure is assessed using the **Standardised Precipitation and Evapotranspiration Index**, which captures the severity of drought conditions affecting the project area. This exposure is evaluated alongside **Stand Age** and **Species Drought Resistance** to reflect biological resilience, with adjustments applied where **Drought Risk Mitigations** are present. The assessment also accounts for realised drought impacts through **Carbon Reversals – Drought**, which constrain the range of possible scores. Specific combinations of these inputs are used to directly assign scores where drought risk is clearly characterised, while all other cases are evaluated using a composite risk formulation that maps overall drought risk to a final score.

Standardised Precipitation and Evapotranspiration Index

ⓘ Description

The Standardised Precipitation and Evapotranspiration Index (SPEI) metric is a relative measure of surface water surplus (for positive values) or deficit (negative SPEI values) with respect to the climate of the reference period, and it is based on a global initiative of standardised simulations of climate change.

Scoring Logic

Within the Drought Risk assessment, **Standardised Precipitation and Evapotranspiration Index** (SPEI) values are converted into a drought risk indicator by reflecting how frequently drought conditions exceed normal levels. This indicator is incorporated into the broader drought risk calculation alongside project-specific resilience factors and adjusted where drought mitigation measures are present. Higher drought severity contributes to higher drought risk, while lower severity contributes to lower risk, following the same normalisation and aggregation approach used for pest-related drought risk.

Data Inputs

Input name	Description
Standardised Precipitation and Evapotranspiration Index	The Standardised Precipitation and Evapotranspiration Index (SPEI) measures relative water surplus or deficit over time by comparing precipitation and evaporative demand against long-term climatic conditions, enabling identification of drought severity and duration.

Drought Risk Mitigations

PERMANENCE – DROUGHT RISK

Description

The project developers could implement various activities to mitigate potential natural hazards. This could reduce the potential permanence risks to the project.

Scoring Logic

The Drought Risk Mitigations score is determined by whether the project undertakes activities that directly reduce drought risk. These activities include:

- Satellite monitoring
- Polyculture and/or diverse species planting
- Thinning
- Dispersed project area
- Irrigation

If at least one drought risk mitigation measure is implemented, the project's drought risk score is adjusted to reflect reduced drought risk. If no mitigation measures are present, no adjustment is applied.

Data Inputs

Input name	Description
Natural risks mitigations	The present or planned (claimed) project natural risk mitigations.

Species Drought Resistance

ⓘ Description

Species Drought Resistance assesses the inherent ability of the tree species planted by the project to withstand drought conditions. This component reflects how species selection influences the project's resilience to water stress and the likelihood of drought-related impacts on vegetation health and carbon permanence.

Scoring Logic

The score is derived by categorising each planted species according to its relative drought tolerance and calculating the average resistance level across all species for which data is available. Projects dominated by highly drought-resistant species receive higher scores, while projects relying on less drought-tolerant species receive lower scores, indicating greater vulnerability to drought-related risk.

Carbon Reversals - Drought

PERMANENCE – DROUGHT RISK

(i) Description

Carbon Reversals - Drought assesses whether the project has experienced reported carbon losses or reversals attributable to drought-related events. This component captures evidence of realised impacts on credited carbon stocks resulting from prolonged or severe water stress, providing an indicator of demonstrated vulnerability beyond modeled drought exposure.

Scoring Logic

The score is determined based on whether drought-related carbon reversals have been reported for the project. Projects with no known drought-related losses receive higher scores, while projects with documented losses receive lower scores, with more substantial or material losses resulting in a greater reduction in the score.

Stand Age

ⓘ Description

Stand Age assesses the maturity of the planted or regenerating vegetation and its implications for vulnerability to environmental stress and disturbance. Younger stands are generally more susceptible to drought, pests, and other natural risks, while more established stands tend to be more resilient.

Scoring Logic

The score is determined based on the number of years since planting. Recently established stands receive lower scores reflecting higher vulnerability, while more mature stands receive higher scores reflecting increased resilience.

Flood Risk

PERMANENCE

(i) Description

Flood Risk assesses the project's vulnerability to flood-related disturbances that may result in carbon losses. This component evaluates exposure to flooding or sea-level rise alongside project-specific resilience factors, recognising that flood risk is influenced by environmental conditions, vegetation characteristics, management practices, and any history of realised flood-related impacts.

Scoring Logic

The Flood Risk score is calculated using a combination of environmental exposure and project resilience indicators, with different treatments applied depending on project type and issuance status. For post-issuance terrestrial projects, the assessment combines **Flood Exposure**, **Stand Age**, **Species Flood Resistance**, and **Carbon Reversals - Flood**, with predefined combinations used to directly assign scores where flood risk is clearly characterised. In all other cases, these inputs are converted into a composite risk measure, adjusted for **Flood Risk Mitigations**, and mapped to a constrained score range.

For mangrove projects, the same approach is applied using **Sea Level Rise** in place of flood exposure, with specific combinations used where applicable and a default composite calculation otherwise.

For pre-issuance projects, the scoring logic follows the same structure but excludes **Carbon Reversals - Flood**, reflecting the absence of post-issuance reversal data. The final Flood Risk score reflects the combined influence of exposure, resilience, mitigation measures, and, where applicable, realised flood-related impacts.

Flood Exposure

ⓘ Description

Flood Exposure assesses the extent to which the project area is physically exposed to flooding risk. This component evaluates both the severity and likelihood of flooding affecting the project region, capturing how deep floodwaters may be, how frequently floods may occur, and how much of the project area could be impacted. Higher exposure indicates a greater risk of flood-related damage to vegetation and carbon stocks.

⚙ Scoring Logic

Flood Exposure is calculated using the **Flood Exposure Dataset**, which combines information on flood depth, flood frequency, and the proportion of the project area exposed to flooding. Risk is assessed across multiple flood-depth categories and weighted by the likelihood of occurrence, with the aggregated result reflecting the total percentage of the project area exposed to a severe flood event. Higher values indicate greater overall flood exposure.

▦ Data Inputs

Input name	Description
Flood Exposure Dataset	The Flood Exposure Dataset is a geospatial product derived from predictive flood models that estimate the proportion of land area exposed to flooding under a 1-in-100-year flood scenario, incorporating flood depth and frequency with global spatial coverage.

Sea Level Rise

PERMANENCE — FLOOD RISK

ⓘ Description

Sea Level Rise assesses the exposure of coastal and wetland areas to inundation risk driven by rising sea levels. This component is only included for mangrove projects, where permanent or recurrent inundation can affect vegetation survival and carbon permanence.

Scoring Logic

The Sea Level Rise score is calculated using the **Sea Level Rise Dataset**, which estimates the proportion of wetland area projected to be inundated under a one-metre sea level rise scenario. Higher projected inundation corresponds to higher exposure and lower scores, while lower projected inundation corresponds to lower exposure and higher scores.

Data Inputs

Input name	Description
Sea Level Rise Dataset	Sea level rise exposure is derived from the World Bank Sea-Level Rise Dataset, which provides country-level projections of wetland inundation under future climate scenarios.

Species Flood Resistance

ⓘ Description

Species Flood Resistance assesses the inherent ability of the tree species planted by the project to tolerate flooding and waterlogged conditions. This component reflects how species selection influences the project's resilience to flood-related disturbances and potential carbon losses.

Scoring Logic

The score is calculated by categorising each planted species according to its relative flood tolerance and averaging the resistance levels across all species for which data is available. Projects dominated by highly flood-resistant species receive higher scores, while projects relying on less flood-tolerant species receive lower scores, indicating greater vulnerability to flood-related risk.

Carbon Reversals - Flood

PERMANENCE – FLOOD RISK

(i) Description

Carbon Reversals - Flood assesses whether the project has experienced reported carbon losses or reversals attributable to flood-related events. This component captures evidence of realised impacts on credited carbon stocks caused by flooding, providing an indicator of demonstrated vulnerability beyond modeled flood exposure.

Scoring Logic

The score is determined based on whether flood-related carbon reversals have been reported for the project. Projects with no known flood-related losses receive higher scores, while projects with documented losses receive lower scores, with more substantial or material losses resulting in a greater reduction in the score.

Flood Risk Mitigations

ⓘ Description

The project developers could implement various activities to mitigate potential natural hazards. This could reduce the potential permanence risks to the project.

Scoring Logic

The Flood Risk Mitigations score is determined by whether the project undertakes activities that directly reduce Flood risk. These activities include:

- Dispersed project area
- Irrigation

If at least one flood risk mitigation measure is implemented, the project's flood risk score is adjusted to reflect reduced flood risk. If no mitigation measures are present, no adjustment is applied.

Data Inputs

Input name	Description
Natural risks mitigations	The present or planned (claimed) project natural risk mitigations.

Anthropogenic Risk

ⓘ Description

The project's impact could be reversed or hindered due to human-driven factors. Assessing potential internal and external anthropogenic risks is crucial for understanding the likelihood of the project being interrupted and/or its impact reversed due to human interference.

Scoring Logic

The Anthropogenic Risk score is first determined by **Anthropogenic Loss**, where documented human-driven losses directly set the score. If no anthropogenic loss is recorded, the score takes the minimum of **Country Risk, Team Risk,** and **Design Risk**. Where **Country Risk** is below a defined threshold, the minimum is taken between **Team Risk** and **Design Risk**, with the result capped accordingly; where **Country Risk** exceeds this threshold, the minimum is taken across **Country Risk, Team Risk**, and **Design Risk.**

Team Risk

(i) Description

Team Risk assesses the likelihood of anthropogenic carbon losses arising from the capacity, experience, and reliability of the project team. This component evaluates whether the project team has the expertise, organisational strength, and financial backing required to implement and sustain project activities over time.

Scoring Logic

The Team Risk score is first determined using specific conditions where **Project Team Risks** or uniformly moderate assessments across **Project Team Experience, Project Team Risks**, and **Project Team Concerns** directly assign the score. In all other cases, the score is calculated by converting **Project Team Experience, Project Team Concerns, Funding,** and **Project Team Risks** into risk-oriented values, averaging these inputs, and mapping the result to a higher-risk score range. Lower experience, greater concerns, weaker funding, and higher identified risks result in higher Team Risk scores.

Project Team Experience

PERMANENCE – ANTHROPOGENIC RISK – TEAM RISK

ⓘ Description

The project's team experience (or lack thereof) could affect the way in which the project activities are implemented. This could potentially limit or ensure the long-term effectiveness of the activities, affecting the project's permanence.

⚙ Scoring Logic

Projects are scored on the basis of the proponents track record in developing carbon projects.

⊞ Data Inputs

Input name	Description
Entities	The entities involved with the project.

Project Team Concerns

ⓘ Description

The project's team reputation could point to potential mismanagement risks, which could limit the long-term effectiveness of the project activities or interrupt their implementation.

Scoring Logic

The Project Team Concerns score evaluates potential risks associated with the project team using compliance checks (e.g., ComplyAdvantage). It assumes that links with nefarious activities could undermine the effectiveness of project operations.

- If there are no ComplyAdvantage results of concern → very low risk.
- If there is one ComplyAdvantage result of concern → moderate risk.
- If there are multiple ComplyAdvantage results of concern → very high risk.

Data Inputs

Input name	Description
Known proponent legal flags	Whether there any ComplyAdvantage hits of concern related to the project proponents.

Project Funding

ⓘ Description

Assessing the availability of funding to conduct the project activities is crucial for understanding potential implementation risks, as the lack of necessary funding could lead to reversing the project's impact.

Scoring Logic

The Project Funding score assesses the level of financial security available to support the project.

- If the project has secured some funding and/or offtake agreements → very low risk.
- If the project has not disclosed whether funding or offtake agreements have been secured → moderate risk.
- If the project has disclosed that neither funding nor offtake agreements have been secured → very high risk.

Data Inputs

Input name	Description
Funding	The extent of the funding secured by the project.

Project Team Risks

ⓘ Description

Project Team Risks assesses potential risks associated with the project team based on findings from adverse media reviews. This component captures reputational, legal, or operational concerns that may affect the team's ability to successfully deliver and sustain the project.

⟨⟩ Scoring Logic

The score is determined based on the presence and severity of adverse media findings related to the project team. Teams with no identified adverse media receive higher scores, while teams with minor or significant adverse findings receive progressively lower scores, reflecting increased risk.

Country Risk

ⓘ Description

External factors associated with the geopolitical context of the project's country could interrupt or reverse the impact of the project's activities. Assessing potential geopolitical risks is crucial for understanding the likelihood of the project's impact being reversed.

Scoring Logic

The **Country Risk** score is based on the **Country Risk Profiles** component.

Country Risk Profiles

ⓘ Description

Country risk score reflects the risk levels associated with a variety of factors that could hinder the project's implementation, including the country's political stability, government effectiveness and reputation, corruption levels etc.

Scoring Logic

Countries are scored on:

- Government reputation

- Political stability and

- Track record with human rights

to infer the inherent risk to operations in that country.

See more with Country Profiles.

Data Inputs

Input name	Description
Sylvera Country Profiles Product	Risk profiles for carbon credit projects across key countries.

Design Risk

ⓘ Description

Community buy-in is necessary for successful project operations. The presence of benefit-sharing mechanisms, or public evidence of community harm, are used as proxies for community buy-in to evaluate project design risk to longer term operations.

⌖ Scoring Logic

Design Risk is first assigned using specific rule-based combinations where particular patterns of **Land Tenure Risk**, **Community Harm**, and **Benefit Sharing** apply. If these conditions are not met, the score is derived by converting **Project Spatial Distribution**, **Land Tenure Risk, Benefit Sharing**, **Land Ownership**, and **Community Harm** into risk-oriented values and averaging them to produce an overall design risk assessment. Lower underlying input scores indicate higher design risk.

Project Spatial Distribution

ⓘ Description

Project Spatial Distribution assesses how the spatial arrangement of project areas influences implementation complexity and risk. The distribution of plots can affect monitoring, management effectiveness, and exposure to localised disturbances.

Scoring Logic

The score is determined based on whether the project is implemented as individual large plots, distributed small plots, or a combination of plot sizes. Projects concentrated in individual large plots receive higher scores, while projects implemented across more distributed small plots receive lower scores, reflecting increased complexity and potential risk.

Land Tenure Risk

ⓘ Description

Land Tenure Risk assesses the security and clarity of land tenure and carbon rights associated with the project area. This component evaluates whether legal arrangements governing land access, use, and carbon ownership are sufficiently defined and robust to support long-term project implementation. Weak, unclear, or incomplete tenure and carbon rights increase the risk of disputes, revocation, or interruption to project activities.

Scoring Logic

Land Tenure Risk is determined by assessing **Land Tenure** and **Carbon Rights**, with the final score taking the minimum of the two to reflect the more limiting risk factor.

Data Inputs

Input name	Description
Land Tenure	Land Tenure assesses the existence, clarity, and strength of legal agreements governing access to and use of the project land, including evidence of ownership or authorised use.
Carbon Rights	Carbon Rights assess whether the legal right to generate and claim carbon credits is clearly defined, documented, and secured for the duration of the project's crediting period.

Benefit Sharing

PERMANENCE – ANTHROPOGENIC RISK – DESIGN RISK

ⓘ Description

Mechanisms ensuring that the benefits (e.g., revenue, resources, capacity-building) derived from the project are equitably distributed among stakeholders, including local communities and project partners. Benefit-sharing is one of the key ways in which a community can ultimately benefit from a project, and therefore positive implementation can be used as a proxy for engagement and long-term success operating the project.

Scoring Logic

The score is determined based on the significance of benefit-sharing arrangements and the quality of evidence supporting their implementation. Projects with clearly documented, material benefit-sharing arrangements receive more favourable scores, while projects with limited, unclear, or poorly evidenced benefit-sharing receive less favourable scores. Where local communities are the project proponent and directly receive carbon revenues, this is reflected positively in the assessment. If community stakeholders are not involved in the project, benefit sharing is not considered in the scoring.

Land Ownership

PERMANENCE − ANTHROPOGENIC RISK − TEAM RISK

ⓘ Description

Land Ownership assesses the clarity and security of land ownership arrangements associated with the project. This component evaluates both the underlying ownership structure of the land and the nature of the legal relationship between the project proponent and the landowner, recognising that unclear or weak arrangements can increase the risk of disputes or project disruption.

Scoring Logic

The Land Ownership score is calculated by averaging the assessments of **Ownership Type** and **Ownership Agreement**, reflecting both who owns the land and how the project proponent is legally entitled to use it.

Data Inputs

Input name	Description
Ownership Type	Ownership Type describes whether the project land is privately owned, community-owned, publicly owned, or unclear, reflecting the baseline ownership structure of the land.
Ownership Agreement	Ownership Agreement assesses the legal basis under which the project proponent has access to and rights over the project land, such as ownership, lease, concession, or other formal agreements.

Community Harm

PERMANENCE – ANTHROPOGENIC RISK – DESIGN RISK

ⓘ Description

Potential negative impacts on local communities - such as land conflicts or reduced access to resources - arising from project activities. Evidence of community harm suggests a lack of successful and/or positive engagement locally, which could threaten the long-term success operating the project.

Scoring Logic

The score reflects a gradient of risk based on available evidence of community harm. Projects with no evidence of harm, or where harm is unlikely, receive more favourable assessments, while projects with substantiated and significant harm receive less favourable assessments. Where harm has occurred, active and effective measures to address it reduce risk, whereas the absence of remediation efforts increases risk.

Anthropogenic Loss

PERMANENCE – ANTHROPOGENIC RISK

ⓘ Description

Anthropogenic Loss assesses whether the project area has experienced human-driven forest loss, such as harvesting, clearcutting, or other anthropogenic disturbances. This component captures evidence of realised losses attributable to human activity, providing a direct indicator of risk to carbon permanence arising from management practices or land-use pressures.

Scoring Logic

The score is determined based on the presence and severity of documented anthropogenic forest loss, including unreported harvesting or other human-driven disturbances. Projects with evidence of extensive or repeated anthropogenic loss receive less favourable scores, while projects with no evidence of such losses receive more favourable scores. Where no applicable evidence is identified, this component does not adversely affect the assessment.

Safeguarding and Co-Benefits

ⓘ Description

Ensuring that the necessary community and environmental safeguards are in place for a project, where relevant, is critical to ensure the project's successful on-going operations (captured within the Permanence Score) as well as reputation (see Reputational Risk for more information) and ensuring the *No Net Harm principle* is met. The extent to which the project goes above and beyond carbon impact to contribute to the local community and biodiversity is measured as "Co-benefits" considering the type of project activities and benefit-sharing mechanisms as place, which can be used as a quality differentiator dependent on the user's priorities.

Scoring Logic

The **Safeguarding and Co-Benefits** score provides a blended view of a project's overall beyond-carbon impact, combining Safeguarding and Co-benefits to evaluate the likelihood and extent that a project delivers a net benefit for communities and biodiversity by confirming if the requirement of No Net Harm is met, and quantifying Sustainable Development Goal (SDG) contributions. The score assumes that significant risk of net harm to the community or biodiversity prevents any net positive co-benefits.
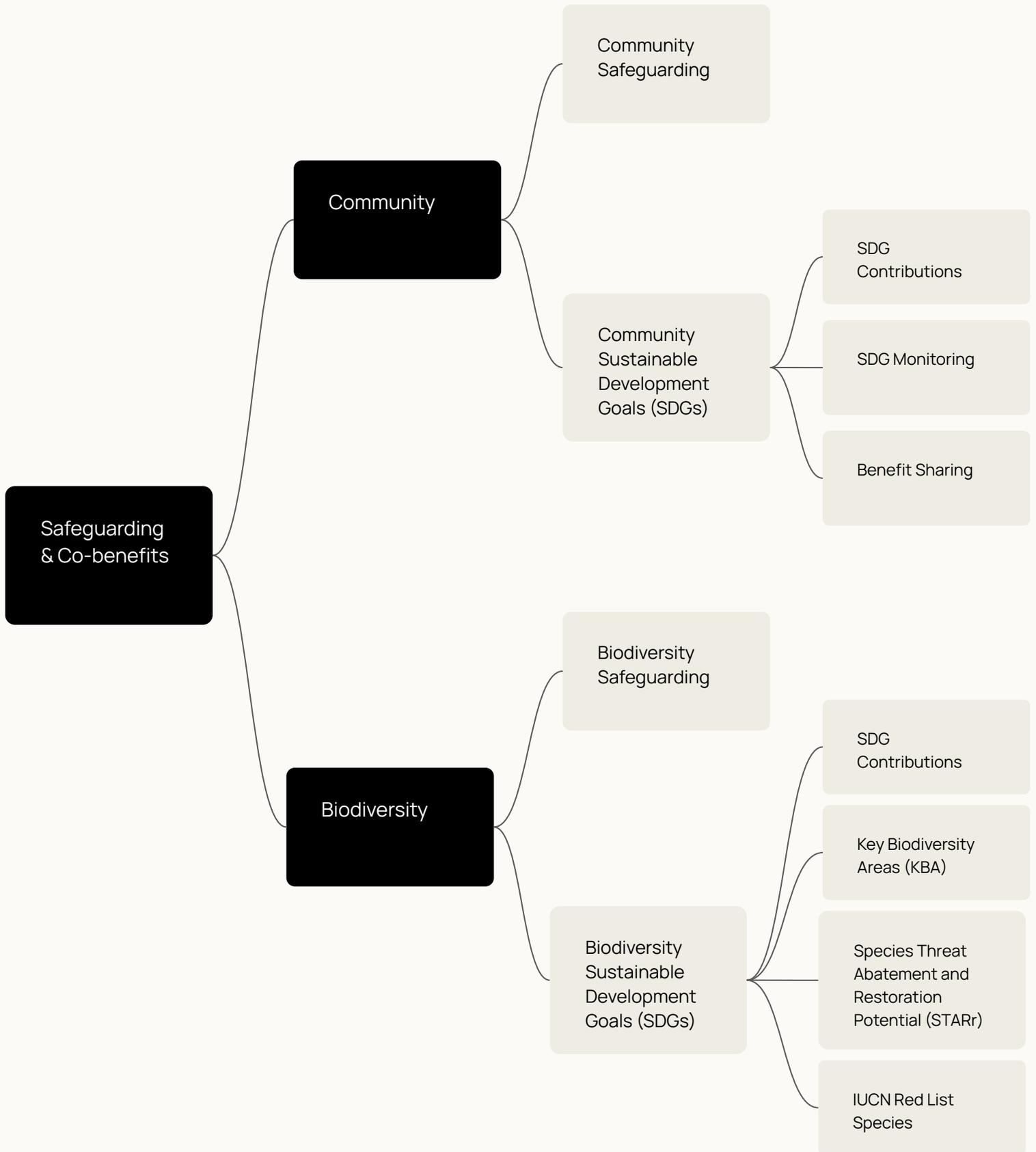
If significant safeguarding risks are present:

- The score is the minimum of the **Biodiversity** and **Community** scores.
- This ensures positive outcomes in one sub-component cannot override evidence of severe harm in the other — a net benefit in both **Biodiversity** and **Community** are required for a positive score.

If significant safeguarding risks are not present:

- The score is the average of the **Biodiversity** and **Community** scores.

Safeguarding and Co-Benefits

```
Safeguarding & Co-benefits
├── Community
│   ├── Community Safeguarding
│   └── Community Sustainable Development Goals (SDGs)
│       ├── SDG Contributions
│       ├── SDG Monitoring
│       └── Benefit Sharing
└── Biodiversity
    ├── Biodiversity Safeguarding
    └── Biodiversity Sustainable Development Goals (SDGs)
        ├── SDG Contributions
        ├── Key Biodiversity Areas (KBA)
        ├── Species Threat Abatement and Restoration Potential (STARr)
        └── IUCN Red List Species
```

Community

ⓘ Description

A holistic view of the likelihood that project activities produce a net benefit to local communities. Considering whether the project meets the principle of *Not Net harm*, and the scale of positive impacts above this minimum requirement. The potential impact of project activities on relevant community stakeholders, both positive and negative, is assessed to evaluate whether safeguards are in place to mitigate any potential harm, and if project activities deliver additional community focussed co-benefits aligned with SDGs.

⚙ Scoring Logic

The **Community** score combines the **Community Safeguarding** and **Community Sustainable Development Goals (SDGs)** components. Where **Community Safeguarding** indicates severe risk of net harm, this acts as a score cap to indicate the overall impact is negative. Otherwise, the two component scores are averaged.

Community Safeguarding

ⓘ **Description**

A gated assessment of the of potential impact of project activities on local communities. Community stakeholders (e.g., land-ownership, employment, livelihoods, etc) are first identified, and the project's activities.are assessed for their potential to cause harm to community stakeholders within the local context. Where stakeholders may be impacted, disclosures of relevant procedures within the documentation assessed to ensure community rights protection to ensure appropriate safeguards are in place to mitigate any negative impact to meet the principle of No Net Harm.

Scoring Logic

The **Community Safeguarding** score considers **seven** safeguarding themes:

1. **Community Engagement, Participation and Transparency**
    Assesses the level of evidence of appropriate prior community engagement and that stakeholders are informed of project activities, where relevant.

2. **Access to Grievance Redress**
    Checks if a transparent, fair, and free-to-access grievance redress mechanism is in place, and the redress process is described.

3. **Human Rights, Indigenous Peoples and Local Communities**
    Checks if IPLCs with land rights have given Free, Prior, and Informed Consent (FPIC), and flags any other reported rights abuses.

4. **Equity and Benefit Sharing**
    Checks if community stakeholders have a right to equity in the project or if there that project activities will displace existing livelihoods or resource access that compensation through benefit-sharing is in place.

Community Safeguarding

Scoring Logic

5. **Land Rights, Resource Access and Involuntary Resettlement**
   Assesses the existing land tenure context to check of community stakeholders have land/resource/access rights over the PA, and/or if there was a transfer of land rights/ownership before the project started. In these contexts, the disclosure of relevant land agreements is checked within the project documentation.

6. **Labour Rights and Working Conditions**
   Identifies if the project employs local community members in project planting activities and whether project documentation discloses information on fair wages, alignment with employment law, and fair working policies.

7. **Gender Equality**
   Assesses whether the project has measures in place to avoid gender based discrimination and harassment of employees or other community stakeholders, where relevant.

The final score follows a set of rules-based scenarios, potential for severe harm, or reports of materialized harms in any of the themes can cap the overall score. Otherwise, a combination of scores are taken, with weightings applied depending on the severity of impact across themes.

Community Safeguarding

Scoring Logic - illustrative example
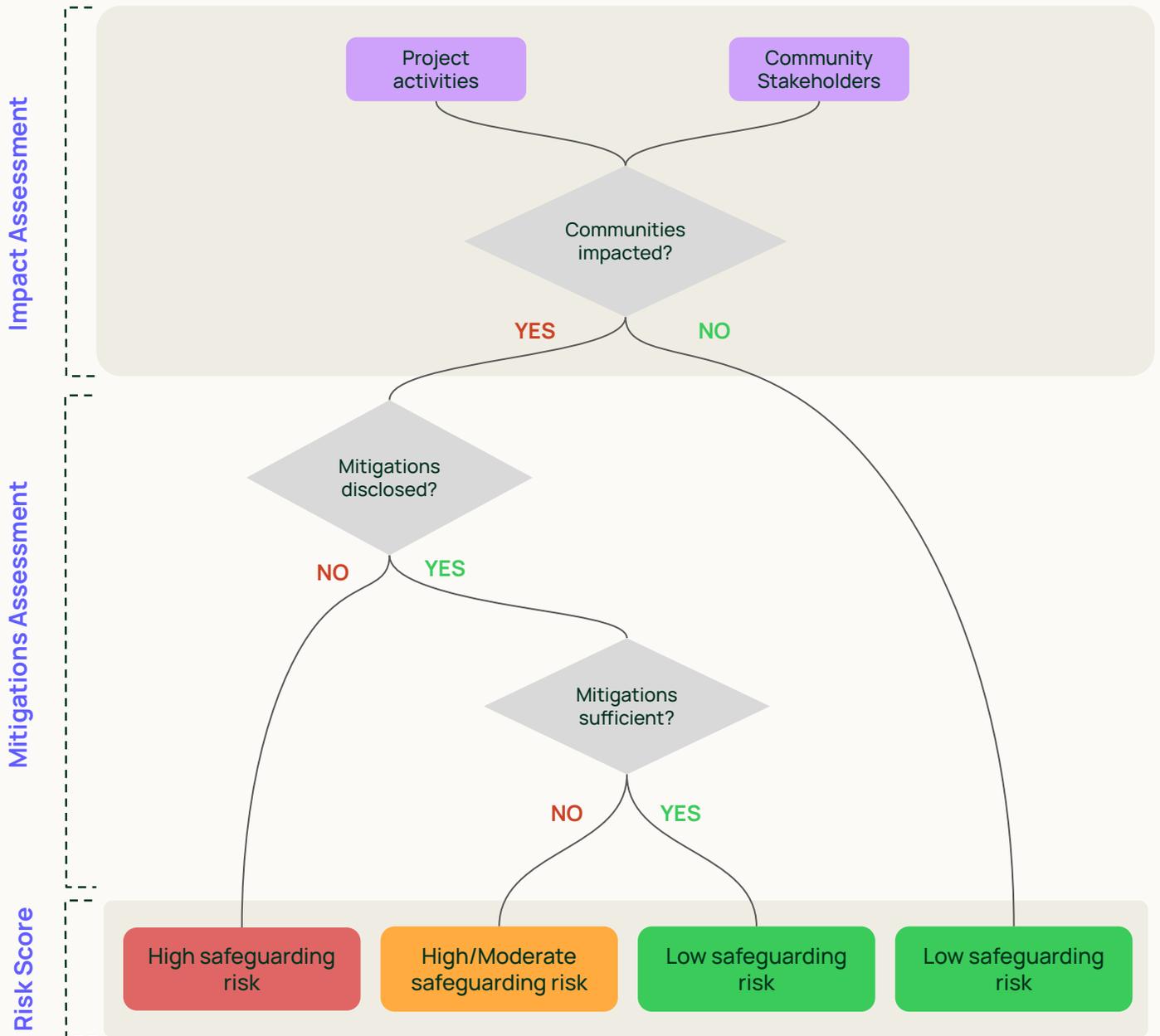
Community Sustainable Development Goals (SDGs)

(i) Description

Considers community co-benefits through the lens of UN SDGs. Project activities or additional community-focussed initiatives implemented by the project that align with SDG targets and indicators are considered to asses the scale of positive community impact.

Scoring Logic

The **Community Sustainable Development Goals (SDGs)** score considers the number of SDGs that the project activities and initiatives target (**SDG Contributions)**, alongside the evidence of tangible impact towards targeted SDGs (**SDG Monitoring**), and whether the project provides additional community benefits through revenue-sharing (**Benefit Sharing**).

SDG Contributions

ⓘ Description

Considers the project activities and community initiatives alignment with the 17 UN SDG targets and indicators to assess the potential for meaningful and tangible contributions to community-focussed SDGs.

Scoring Logic

The **SDG Contributions** score maps project activities and community initiatives against SDGs aims, providing a count of SDGs targeted. Alignment with a given SDG targets indicate verifiable and tangible impacts towards community sustainable development aims. This approach verifies a project's co-benefits claims, only rewarding contributions clearly aligned with SDG targets.

A weighted score is calculated for each targeted SDG, based on the relevant country's progress in achieving that SDG to identify high-impact co-benefits, aligning with development needs. Projects contributing to a variety of SDGs that align with national development aims receive higher scores.

Data Inputs

Input name	Description
Community contributions	List of community initiates/activities implemented by the project as reported in project documentation.
SDG targets	SDG targets and indicators as described by the United Nations.
Country	Country the project is located in.
SDG country progress	Country progress towards SDGs (SDG Report 2025, United Nations).

SDG Monitoring

ⓘ Description

Monitoring plans to track contributions towards SDGs ensures a project can evidence and demonstrate that co-benefits activities have been implemented and their impacts can be reliably monitored and quantified to demonstrate tangible community co-benefits.

Scoring Logic

The **SDG Monitoring** score identifies whether project has a mechanism in place to monitor the implementation and impact of co-benefits activities. Monitoring plans with clear, quantitative metrics that are aligned with SDG targets and indicators are considered best-practice to demonstrate tangible and relevant contributions to community sustainable development. The absence of a monitoring plan, vague metrics, or misalignment with SDG targets lowers the confidence that the project delivered verifiable and material co-benefits.

Data Inputs

Input name	Description
SDG monitoring plan	Whether the project documentation contains a monitoring plan to track co-benefits and SDG contributions. The relevance and quality of metrics used is assessed against relevant SDG targets.

Benefit Sharing

ⓘ Description

Mechanisms ensuring that the benefits (e.g., revenue) derived from the project are equitably distributed among stakeholders, including local communities and project partners. Benefit-sharing is one of the key ways in which a community can ultimately benefit from a project, and therefore positive implementation can be used as a proxy for engagement and long-term success operating the project.

Scoring Logic

The **Benefit Sharing** score identifies whether project has a mechanism in place to share revenues with local communities, the share or revenue distributed to communities, and whether benefit-sharing agreements are transparent with evidence of receipt of benefits. Projects with with transparent benefit-sharing agreements to distribute a significant portion of project revenue to communities score higher.

The presence of a benefit-sharing agreement can increase the overall **Community Sustainable Development Goals (SDGs)** score, identifying projects that provide additional benefits from revenue sharing alongside other SDG contributions.

Data Inputs

Input name	Description
Benefit-sharing disclosure	Whether any benefit-sharing mechanisms have been disclosed, their scale and the level of evidence to back them up.

Biodiversity

SAFEGUARDING AND CO-BENEFITS

ⓘ Description

A holistic view of the likelihood that project activities produce a net benefit to biodiversity and the environment. Considering whether the project meets the principle of *Not Net harm* , and the scale of positive impacts above this minimum requirement. The potential impact of project activity implementation, both positive and negative are assessed compared to the baseline situation to assess whether safeguards are in place to mitigate any potential ecological harm, and if project activities deliver additional biodiversity focussed co-benefits align with Sustainable Development Goals (SDGs).

Scoring Logic

The **Biodiversity** score combines the **Biodiversity Safeguarding** and **Biodiversity Sustainable Development Goals.** Where **Biodiversity Safeguarding** indicates severe risk of net harm, this acts as a score cap to indicate the overall impact is negative. Otherwise, the two component scores are averaged.

Biodiversity Safeguarding

ⓘ Description

An evaluation of the risk of the potential ecological impact of the project's planting activities, and forest management practices evaluated. Activities are assessed for their potential to cause harm to local ecosystems. Forest planting on degraded land is generally considered low-risk for net harm, but certain forest management practices may carry some adverse ecological effects.

Scoring Logic

The **Biodiversity Safeguarding** score considers **two** safeguarding themes:

1. **Environmental Damage and Pollution Prevention**

   Assesses whether the planting activities and forest management regime employed has any risk of adverse environmental or ecological damage compared to a baseline scenario, considering species nativeness, species diversity, and non-selective chemical pesticide/herbicide use.

   Natural forest regeneration, and diverse plantating using polycultures and/or native species create little risk of negative impact. Whereas non-native monocultures, invasive species, and non-selective chemical application may cause adverse impacts.

2. **Biodiversity Conservation and Sustainable Management**

   Geospatial analysis to detect signals of intentional native ecosystems clearance to within the ten years prior to project implementation that would indicate a severe risk of net biodiversity loss.

The score combines insights from these two themes into specific scenario-based scores. Where severe harm is found in either theme, this can cap the overall score. Otherwise, both themes are weighted equally.

Biodiversity Safeguarding

⊞ Data Inputs

Input name	Description
Planting structure	Characterization of the planting structure (e.g., monoculture stands, polyculture stands, natural regeneration) that the project deploys/will deploy.
Species planted	List of species planted.
Nativeness of species planted	Whether the species being planted by the project are considered native to the project region and appropriate to plant in the project area by cross-referencing scientific literature.
Non-selective chemical pesticides/herbicides	List of pesticides/herbicides used, identifying any potentially harmful non-selective chemical additions in land preparation or forest management,

Biodiversity Sustainable Development Goals (SDGs)

SAFEGUARDING AND CO-BENEFITS – BIODIVERSITY

ⓘ **Description**

Considers co-benefits through the lens of UN SDGs. ARR projects have the potential to contribute to SDG 15 (Life on the Land); planting regimes and forest management practices are considered to assess the scale of positive impacts.

⟨⟩ **Scoring Logic**

The **Biodiversity Sustainable Development Goals (SDGs)** score identifies how well aligned the project activities are with UN SDG 15 through the **SDG Contributions** sub-component.

For projects involving natural forest regeneration or natural mangrove restoration, additional components are considered that use geospatial analysis of a set of biodiversity metrics within the PA to identify sites with the highest potential biodiversity gains from project activities. These components are: **Key Biodiversity Areas (KBA), IUCN Red List Species, Species Threat Abatement and Restoration Potential (STARr)**

SDG Contributions

ⓘ Description

Considers the project planting activities alignment with SDG 15 targets and indicators to assess the potential for meaningful and tangible contributions to biodiversity-focussed SDGs.

⟐ Scoring Logic

The **SDG Contributions** score identifies the project planting activities and forest management regime and maps these to SDG 15 targets. Natural regeneration and restoration projects are considered to have strong alignment with SDG 15 aims. Planting diverse native polycultures and avoidance of harmful chemical pesticides can also deliver higher SDG 15 alignment.

The score is weighted based on the progress of the country's towards achieving SDG 15. Projects in countries where SDG 15 progress has been limited are considered higher impact.

SDG Contributions

⚏ Data Inputs

Input name	Description
Planting structure	Characterization of the planting structure (e.g., monoculture stands, polyculture stands, natural regeneration) that the project deploys/will deploy.
Nativeness of species planted	Whether the species being planted by the project are considered native to the project region and appropriate to plant in the project area by cross-referencing scientific literature.
Non-selective chemical pesticides/herbicides	List of pesticides/herbicides used, identifying any potentially harmful non-selective chemical additions in land preparation or forest management,
SDG 15 targets	SDG 15 targets and indicators as described by the United Nations.
Country	Country the project is located in.
SDG 15 country progress	Country progress towards SDG 15 (SDG Report 2025, United Nations).

Key Biodiversity Areas (KBA)

ⓘ **Description**

For projects that conduct natural forest and/or mangrove regeneration, overlap of the PA with biodiverse sites that are significant for global conservation is considered to identify sites with the highest potential for impactful biodiversity gains through ecosystem restoration.

⚙ **Scoring Logic**

The **Key Biodiversity Areas (KBA)** score applies geospatial analysis using Integrated Biodiversity Assessment Tool (IBAT) data to identify if the PA overlaps with any KBAs and the percentage area of any overlap. Projects that have significant overlap with KBAs have higher potential for the most impactful biodiversity gains.

This component is additive; overlap with a KBA may only increase the overall **Biodiversity Sustainable Development Goals (SDGs)** score. The absence of any overlap does not result in an overall score downgrade.

Data Inputs

Input name	Description
Project Boundary	KML file of project boundary used for geospatial analysis.
KBA	% overlap of project boundary with KBAs (IBAT)

Species Threat and Restoration Abatement (STARr)

SAFEGUARDING AND CO-BENEFITS – BIODIVERSITY – BIODIVERSITY SDGs

ⓘ Description

For projects that conduct natural forest and/or mangrove regeneration, identifies projects overlapping with sites where investment in habitat restoration activities would contribute the most impactful biodiversity gains.

⚙ Scoring Logic

The **Species Threat and Restoration Abatement (STARr)** score applies geospatial analysis using the The Species Threat Abatement and Restoration (STAR) metric from IBAT. STAR is is an aggregated metric measuring the likely contribution of investments to reducing species extinction risk. STAR uses two layers to assess the potential contribution of both threat abatement (STARt), and habitat restoration (STARr). For ARR projects, STARr is considered. PAs that overlap with high impact for investment in forest regeneration for biodiversity gains are scored higher.

This component is additive; overlap with higher impact sites, according to STARr) may only increase the overall **Biodiversity Sustainable Development Goals (SDGs)** score to identify where carbon project investment may be most impactful. Lower counts do not result in an overall score downgrade.

🗒 Data Inputs

Input name	Description
Project Boundary	KML file of project boundary used for geospatial analysis.
STARr	Quantification of the potential contribution of restoration activities towards reducing extinction risk, categorizing areas as very low, low, med low, med high, high, very high (IBAT).

IUCN Red List Species

SAFEGUARDING AND CO-BENEFITS – BIODIVERSITY – BIODIVERSITY SDGs

(i) Description

For projects that conduct natural forest and/or mangrove regeneration the number of species at risk of extinction within the PA can identify sites with the highest potential for impactful biodiversity gains through ecosystem restoration.

Scoring Logic

The **IUCN Red List Species** score applies geospatial analysis using IBAT to give a count of the number of species threatened species in the PA. The count includes species classified as *Vulnerable* (VU), *Endangered* (EN), and *Critically Endangered* (CR) under the IUCN Red List of Threatened Species. Projects in areas with higher threatened species count may indicate higher potential for biodiversity gains through ecosystem and habitat regeneration.

This component is additive; higher threatened species counts KBA may only increase the overall **Biodiversity Sustainable Development Goals (SDGs)** score. Lower counts do not result in an overall score downgrade.

Data Inputs

Input name	Description
Project Boundary	KML file of project boundary used for geospatial analysis.
Red List Species	Counts of the number of VU, EN, and CR species present in the project boundary (IBAT).

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