The Calyx Global Approach to Ratings

A high-level summary.
Calyx Global’s mission is:

**Better Carbon Markets for the planet and for people.**

Calyx Global provides carbon ratings and research that helps businesses understand how much they can rely on carbon credits’ claims of impact on CO2/climate, biodiversity, communities, and more. When assessing quality, two aspects of a carbon credit are evaluated, the first being the risk that a credit will not deliver on its promise to reduce emissions or remove carbon and the second is a rating of claimed contributions towards Sustainable Development Goals (SDGs).

With our platform and process, users can be confident that the credits they choose are high quality and protect themselves from financial and reputational risk. We work with a global team of experts and partners with deep carbon project expertise to evaluate the unique risk areas of different methodologies and conduct detailed bottom-up research to rate each project.
Calyx Global GHG Rating

A level of confidence in whether credits represent a unique, permanent, metric tonne of CO2 emission reduction or removal.

Our full ratings scale is from A+ to E (10 steps), which is available to Calyx Global subscribers. We make some ratings publicly available that use a simplified A to E scale (in 5 steps).

1– Program-level screening

Our first step is to screen programs issuing credits. Examples of programs are: Verified Carbon Standard, Gold Standard, puro.earth, and others. A minimum level of governance, transparency, and operational features provide assurance that a carbon crediting program is issuing high quality credits. We therefore focus our ratings on credits issued by programs that pass our screening.

2– Methodology-level assessment

We use Calyx Global’s GHG Integrity Framework to do a “deep dive” into methodologies that are used as a basis for emission reduction or removal claims for various project types.

For example, an assessment is made for avoided unplanned deforestation using VM7; or large-scale hydropower using ACM2. These methodology-level assessments allow Calyx Global to focus project level analysis on methodological “gaps” or areas where we can expect high variability in GHG integrity.

3– Project-level rating

The majority of time and energy is spent on project-by-project analysis. Calyx Global develops Project Assessment Frameworks for project types using specific methodologies.

For example, we have project assessment frameworks for: large-scale renewable energy using ACM2; avoided unplanned deforestation using VCS methodologies (e.g. VM7, VM9, etc.); landfill gas projects using ACM1.

The Project Assessment Frameworks align with the GHG Integrity Framework to drive comparability and consistency in our ratings. The frameworks are then applied project-by-project to generate project-specific ratings.
1– Program-level screening

**CARBON CREDITING PROGRAM**
Examples: American Carbon Registry, Gold Standard, Verified Carbon Standard

2– Methodology-level assessment

**PROJECT TYPE**
Examples: Large-scale grid connected solar, Landfill gas utilization, Avoided Unplanned deforestation

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>METHODOLOGIES</th>
<th>TOOLS</th>
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<tbody>
<tr>
<td>American Carbon Registry Standard (v7.0)</td>
<td>ACM0002: CDM methodology for large-scale grid connected renewable energy</td>
<td>CDM Tool 21: Demonstration of additionality of small-scale project activities</td>
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<tr>
<td>Reserve Offset Program Manual (March 2021)</td>
<td>VM0015: VCS methodology for avoided unplanned deforestation</td>
<td>VT0001: VCS tool to demonstrate additionality for AFOLU projects</td>
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<td>Puro Standard General Rules (Version 3.0)</td>
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3– Project-level ratings

**PROJECTS**
Examples:
- 70MW Bhadia Solar Power
- Kariba REDD+
- Henrico County Landfill Gas
- RemTec ODS Mexico

Carbon crediting programs develop standards and approve methodologies and tools.

Rules provided by the standard, methodology and tools are used to generate emission reduction or removal claims by projects.

Calyx Global assesses each project individually to provide ratings per project.
Program-level Screening

Does the carbon crediting program meet a minimum bar of quality and rigor?

Calyx Global focuses its ratings on credits issued by carbon crediting programs that meet certain minimum criteria. We believe carbon credit quality assurance requires such programs to have certain characteristics and have developed a screening tool that we apply to all carbon crediting programs that covers the following areas:

- **Governance:** The administration and governance of the program, issues related to conflicts of interest, procedures to manage complaints and grievances, and whether the standard defines and ensures the legal attributes and property aspects of credited units

- **Rules and procedures:** Whether the program’s governance structure and regulatory documentation are publicly available, and how methodologies are developed and approved

- **Stakeholder engagement:** The extent to which public comment is required and the requirements for the program to respond

- **Transparency:** The level of public information required on credited projects, such as project design and implementation, how emission reductions or removals were calculated, SDG contributions and any auditing of the project or its claims

- **Validation and verification:** Whether both are required by an independent, accredited third party, the procedures and guidance provided to such parties, and oversight to ensure robust and consistent practice

- **Registry:** This includes secure registry operations, public information showing issuance, cancellation, and retirement of units (including parties who have retired them), and procedures to avoid overlapping claims.

Credits from programs that do not meet a minimum quality threshold are flagged.

We generally do not rate credits issued by programs that do not meet a minimum quality bar. However, there may be emerging credit types that show promise or are being actively pursued by buyers. In such cases, we may rate such credits, but will clearly flag the rating with a warning about deficiencies in the program issuing the credits.
Calyx Global has developed a “GHG Integrity Framework” that provides a consistent approach to rating the confidence we have that a credit is what it claims, i.e. a unique, permanent, additional and conservatively estimated (metric) ton of CO2e emission reduction or removal.

The GHG Integrity Framework assesses credits according to six risk factors.

**Additionality**: The risk that the project generating credits would have been implemented even in the absence of revenues from carbon credits.

- **Over-crediting**: The risk that the credit was issued based on an overestimation of the real impact of the project. This includes assessing the risk of:
  - **Baseline**: The risk that the project baseline overestimates emissions or underestimates removals that would have occurred in the absence of revenues from carbon credits;
  - **Project emissions**: The risk that the project emissions are underestimated or project removals are overestimated;
  - **Leakage**: The risk that the project activities induce indirect emissions or reduced removals outside of the project accounting boundary, and that these potential effects have been ignored or underestimated when quantifying emission reductions or removals.

**Permanence**: The risk that carbon credits generated by a project represent mitigation that could be reversed without a sufficient guarantee of full compensation;

**Overlapping claims**: The risk that the carbon credit does not represent an exclusive claim (i.e. claims do not overlap with another project) to an emission reduction or removal.
Methodology-level Assessment

Calyx Global’s methodology-level assessments are a combination of the inherent risk of the activity type combined with provisions in standards, methodologies and tools that are used to make emission reduction or removal claims. We apply the Calyx GHG Integrity Framework to determine these risks.

What is the inherent risk of specific activity types?

We first assess the risks inherent to the activity types that generate emission reductions or removals – for example, the installation of a methane capture and use system at a landfill or the protection of a forest. Inherent risks are risks that a project type carries before such risks are mitigated by accounting rules (such as methodologies that constrain how projects can claim emission reductions or removals). Inherent risks are identified based on academic research and expert knowledge. Inherent risks can change over time, as the economic and technical characteristics of the activity types evolve – for example, the inherent additionality risk of large-scale renewable energy can increase over time as the costs of such energy declines.

The selection of the activity type is critical—we select a level of granularity that results in meaningful ratings, i.e., where we believe the variability of the resulting ratings will be low for projects within the activity type. If we believe variability is high, we try to identify narrower subsets of activities to reduce the chance that the risk rating is incorrect. For example, renewable electricity using ACM2 is split into hydro, wind and solar since these have different characteristics; or for landfill gas we look at projects that generate energy (those that capture and use the energy) versus those that flare (i.e., GHG destruction only).

How do standard-level rules, together with individual methodologies, mitigate or exacerbate inherent risks of activity types?

In this step, we look at how standard-level rules may reduce or, in some cases, increase the inherent risks identified at the activity type level. Risks to GHG integrity can also be addressed through the development and application of methodologies and related tools specific to particular activity types. Methodologies, for example, often provide detailed requirements for determining additionality, establishing baselines, accounting for leakage, and conducting project monitoring. Standards can also mitigate permanence risk through insurance mechanisms.

The output is a Calyx Global methodology-level assessment

The inherent risks of various project types are combined with the “guardrails” or provisions found in methodologies (including those in the standard and tools that may be used by the project). The result is a Calyx Global methodology-level assessment that assesses each of our six risk factors (as above). These methodology level assessments are used to support our Project Assessment Frameworks (below) and are also available to our customers.
Project-level Ratings

Calyx Global develops Project-level Assessment Frameworks for “project type + methodology” combinations

Calyx Global PAFs are used to generate project-specific ratings and are focused on:

1. areas where we see gaps or weaknesses in the methodologies that can cause GHG integrity risk (i.e., the “pain points” of methodologies), and
2. areas where we expect to see variability among projects using the same methodology.

Calyx Global Project-level Assessment Frameworks use a systematic approach to promote comparability in ratings

GHG Integrity Frameworks used to assess methodologies are applied at the project-level but with more granular guidance for the specific project activity, to address the unique qualities of different activity types. This results in consistency in our ratings, as well as comparability across ratings for different activity types (e.g., cookstoves, renewable energy, forestry, etc.).

Research and Analytics

Calyx Global analysts must answer each question within the relevant Project Assessment Framework (specific to the project type) – this requires a range of investigations using various pieces of information.

<table>
<thead>
<tr>
<th>PROJECT ASSESSMENT FRAMEWORK (PAFS)</th>
<th>Registry documentation has information about the project claims of emission reductions and co-benefits</th>
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<tbody>
<tr>
<td>To assess each project, we answer multiple questions using a range of information sources.</td>
<td><strong>Satellite data</strong> can be used to assess, e.g. forest carbon project claims</td>
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</tbody>
</table>

Our team of analysts also research a range of issues that affect our ratings, for example:

- **Penetration rate** of specific technologies in specific places (e.g. wind power in India)
- **Common practice** for specific activities (e.g. how common are improved cookstoves in Malawi)
- **Regulations** that may impact (e.g. landfill gas flaring in the USA)
Aggregating the Six Risk Factors into GHG Ratings

Once we have established the risk for each of the factors above, we combine these into an overall GHG rating for each project. The outcome is a letter grade from A+ to E that is an assessment of the risk that the carbon credits from the project are not achieving the emission reductions or removals that are claimed. A+ denotes a low GHG integrity risk, or high confidence in the claims. By contrast an E denotes high GHG integrity risk, or low confidence, in the claims. We sometimes provide public information on a scale of 5 steps, A to E (without the “+”).

For each of the six risk factors we assess (additionality, leakage, etc.), we assign a low to high risk rating in five steps: low risk, low-medium risk, medium risk, medium-high risk, and high risk. Each risk is assigned a number of “demerits” that factor into our scoring. The scale is not linear from low to high risk, i.e. a high risk results in considerably more demerits in our system. These demerits are additive – doing well in one area cannot ‘balance out’ doing poorly in another. That means a project can have an E rating if it has high risks in just a couple of important categories. Each of the six risk factors are also not treated equally, as we believe some characteristics have a stronger influence on the overall GHG integrity of projects’ claims of emission reduction (or removal).

Additionality is a critical concept for carbon credits. Therefore, in the Calyx Global rating framework, a credit rating can never be better than its additionality assessment. For example, if the project is assessed to have a Medium non-additionality risk, it cannot achieve a B rating. The additionality risk is therefore the starting point for the overall rating of the credit.

The next most important risk factors in our overall ratings are how well the baseline is set and the risk of uncompensated reversals (i.e., non-permanence). If a project has high risk on either of these elements they receive a certain number of “demerits” that move them down the ratings scale. For example, if a project starts at medium risk of non-additionality, a high risk of an overestimated baseline can push the rating down to the E level.

The final risk factors are: how well the project determines emissions from the activity, whether we believe leakage is fully accounted for, and the potential for overlapping claims (with other carbon projects).
Calyx Global has developed a SDG Impact Framework that allows us to rate claimed contributions to United Nations Sustainable Development Goals (SDGs).

Granular-level assessment. Our standardised approach assess each claimed project contributions to the SDGs, and we take into account:

- **Level of change**: the degree to which project activities led to specific, positive SDG contributions;
- **Depth and quality of evidence**: the degree and thoroughness of information collected and reported.

Verified SDG contributions. We only rate certified SDG contributions that have been audited by an independent third party. We do not rate “self-reported” claims.

Publicly available information. Our ratings are based exclusively on the information provided in the project documents. In other words, our ratings presume that the burden of proof is on the project to communicate its SDG contributions and verify them through a third party. For example, we may rate a project’s claim to an SDG contribution as having “insufficient evidence” (see SDG scoring impact below). This does not suggest that the project made no contribution to a particular SDG. Rather, it indicates that the project did not provide sufficient evidence to assert that the project makes a quality contribution.

Mapping project-level actions onto contributions to SDG targets. Existing certifications do not currently use a standardized format for reporting on SDG contributions. Some projects make no mention of SDGs or only identify the goal, rather than demonstrating how a project activity contributes to an SDG at the target level. Unless projects explicitly identify targets, we link a project activity to the most relevant SDG target, based on the description provided in the project documents.

**EXAMPLE OF PROJECT ACTIVITIES:**
Planting fruit and nut trees, livestock enterprises, community gardens, establishment of food processing facilities within the project area

**PROJECT ACTIVITIES CONTRIBUTE TO:**
Target 2.1: By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
Level of Change

We use the Theory of Change model to assess the levels of change. Based on verified and available evidence, we draw on a causal analysis to assess whether a project is able to establish a clear link from project activities to outputs, outcomes or impacts (“project results chains”). In project results chains, project activities may deliver specific services or products (outputs). The uptake of those goods and services is defined as an outcome. The outcome, in turn, may lead to real world change in the form of a durable impact.

In the Calyx Global ratings approach, an output alone does not meet the criteria for a quality contribution, unless there are measures in place to ensure continuity of delivered goods/service or to ensure uptake of that good/service.

Change at the level of outcome is weighted most heavily, enabling projects to achieve a rating of “excellent” for contributions that demonstrate clear outcomes. One of the reasons for giving a heavier weighting to outcomes than to impacts is the difficulty of attributing impacts directly to the project – as often they are the result of multiple factors, some unrelated to project activities.

**EXAMPLE:**

SDG Target 2.1
Increased access to food

**ACTIVITY**
Planting of fruit and nut trees  
*Specific actions the project is implementing*

**OUTPUT**
Number of fruit and nut trees planted  
*Immediate, tangible deliverable by project activities*

**OUTCOME**
Volume of food produced (and consumed)  
*Change that an output may start to bring about*

**IMPACT**
Number of people experiencing increased food security  
*Real world changes effected by the project-impact may only be partially attributable to project*
Depth and Quality of Evidence

We assess the quality and degree of information collected and reported for each claimed SDG contribution, based on verified and publicly available information.

The level of assurance that a specific SDG contribution has occurred because of a project's activities depends on:

- whether the contribution will be implemented in the future (plan or predicted) or has actually been implemented (actual); and
- whether the description of the contribution in the project document is narrated, estimated, quantified, or quantified using a clear methodology.

EXAMPLE:

Weakest to strongest evidence of attribution

<table>
<thead>
<tr>
<th>Predicted</th>
<th>Narrated</th>
<th>Estimated</th>
<th>Quantified</th>
<th>Clear methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expect more children will go to school</td>
<td>Increase children enrollment in school</td>
<td>Around 400 children enrolled</td>
<td>876 of children in school</td>
<td>Dropout rate decreased by _% - surveys</td>
</tr>
</tbody>
</table>

It is worth noting that where projects only predict outputs, outcomes or impacts—but have not actually delivered these—the project does not get any credit for this claim.
Scoring SDG Impact

**Individual SDG Scoring**

Calyx Global scores each SDG contribution separately, rating them as Excellent, Very Good or Good.

The score for each contribution reflects the extent to which the benefit can be attributed to the project by the level of change achieved and the quality of evidence provided. The scoring is cumulative and requires the establishment of a causal chain (i.e., an impact can only be scored if it is preceded by an output and outcome). It is worth noting that low scores on one contribution will not detract from high scores on other contributions.

Sometimes the rating is “Insufficient evidence” if: (a) the output is only predicted, but not yet delivered; or (b) there is evidence of an output, but it has not led to an outcome yet, and no information is provided on measures in place that aim to move the results towards an outcome.

While we acknowledge the interlinked nature of SDGs, in the interest of fairness and consistency across projects, we avoid double-counting and therefore do not allow one contribution (at the outcome and impact level) to be counted simultaneously under more than one target.

**Overall SDG Impact Rating**

Finally, the SDG scoring system follows a weighted sum approach, adding together contributions at the target level which are then converted into an overall SDG Rating. Calyx Global SDG ratings are reflected in a number of stars, ranging from one star to five stars, demonstrating a scale of quality and higher positive impact on SDG from a project.

It is our hope that these assessments provide buyers with a useful framework for comparing projects and for considering what further documentation they may wish to request from project developers to substantiate SDG claims.

To learn more about the Calyx Global ratings process, find additional information at Calyxglobal.com/resources or request a demo at info@calyxglobal.com

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A Calyx Global GHG or SDG rating does not constitute any form of advice or recommendation with respect to any particular carbon project or class of projects. A Calyx Global rating does not indicate that any investment in a particular carbon project or class of projects is suitable for any person and does not provide any forecast whatsoever as to the development and performance of any such project or class of projects. Calyx Global does not accept any liability whatsoever for any loss, expense, cost or liability, howsoever arising from any person’s decision to procure credits from, participate in, invest in or in any manner take financial exposure with respect to any carbon project. The information used to rate a carbon project has been developed from a range of sources which Calyx Global has limited opportunity to verify. Calyx Global accepts no liability to any person for any loss, expense, liability or claim that they may incur as a consequence of making any decision or taking any action in reliance on a Calyx Global rating. All rights including copyright and rights of authorship are vested in and reserved by Calyx Global. Calyx is a trademark subject to registration with the United States Patents and Trademark Office. The information provided here with respect to Calyx Global methodologies, including our assessment frameworks, are proprietary to Calyx Global and must not be used to rate, evaluate or assess a carbon project or imitate Calyx Global carbon project ratings without our prior written consent.