Ex post methodology

BeZero Carbon Ratings

BeZero

Contents

Introduction

BeZero Carbon is a global ratings agency for the voluntary carbon market (VCM). Our ratings are a publicly-available, risk-based framework for assessing carbon efficacy. We rate qualifying carbon credits in all sectors.

We take a research-first mindset, fusing traditional capital markets research practices with expertise in environmental sciences and technology. We think creatively about climate problems and build solutions the whole market can use.

We have developed extensive analytical frameworks to rate carbon credits on their likelihood of delivering on their promised carbon emissions avoidance or removal. These analytical frameworks are deeply sector nuanced and bring to the fore our extensive experience in rating hundreds of projects across dozens of sub-sectors.

Our ratings, geospatial, data and research teams are made up of over 70 analysts who create the models and perform the analysis for every rating. They combine expertise in climatic and Earth sciences, in disciplines from remote sensing, forest ecology, ecosystem disturbance, peatlands and blue carbon through to statistics, machine learning, artificial intelligence, sell-side financial research, industrial engineering, and public policy. They hold over 25 PhDs, have published over 200 academic papers and have been cited over 10,000 times in peer-reviewed, scientific academic literature.

The market's number one risk metric, our ratings are available on our website and dozens of marketplaces, and alongside extensive analysis and research on our BeZero Carbon Markets platform.

BeZero Carbon Rating analytical framework and process

A carbon credit is a contract certifying a commitment that a tonne of CO_2e (i.e. a tonne of carbon dioxide or an equivalent amount of other greenhouse gases) has been removed or avoided for a given period of time as a direct result of carbon project activities.

This commitment typically relies upon third-party verification and validation, and ongoing monitoring, of a project's adherence to a given methodology for a given activity. Methodologies are designed and maintained by standard bodies, and in some instances have additional validation by industry initiatives such as the ongoing Integrity Council for the Voluntary Carbon Market. Some standard bodies also act as registries for the issued credits. This process, known as accreditation, is binary by design. It results in a standardised unit of account, i.e. a tonne of CO_2e avoided or removed, and credits are transacted and eventual climate claims made upon that basis.

However, in our view, solely relying on a binary assessment to understand carbon efficacy, or carbon credit quality is insufficient. Whether or not a whole tonne of CO_2e has been achieved cannot be verified with absolute accuracy. Assessing the quality of carbon projects involves counterfactual analysis, a mix of subjective and objective parameters that change over time. The heterogeneous nature of engineered and nature-based avoidance and removal projects also prohibits perfect fungibility.

In order to assess the CO_2e achieved with confidence, we believe all carbon market participants (e.g. developers, investors, intermediaries, and end buyers) of carbon credits need information and tools to understand the risks and uncertainties present. This is equally important across the various phases of project development, where the project has yet to issue any carbon credits, as it is for those parties interacting with credits that have been issued.

We have designed an approach to assessing the carbon efficacy risk for issued carbon credits. This framework is applicable to any project type in any sector accredited by any standards body, and leverages a blend of qualitative and quantitative factors; financial, environmental, policy assessment techniques; and primary and secondary data sources.

BeZero Carbon Rating definition

A BeZero Carbon Rating (BCR) represents our opinion on the likelihood of a carbon credit achieving a tonne of CO_2e avoided or removed. It is an opinion on the greenhouse gas efficacy of a carbon credit.

The BCR is conveyed using an eight-point alphabetical scale ranging from 'highest' to 'lowest' likelihood.

Table 1. BeZero Carbon Rating scale and definitions

Rating symbol	Definition
BeZero Carbon Rating **AAA**	The credit issued by the project has the **highest** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **AA**	The credit issued by the project has a **very high** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **A**	The credit issued by the project has a **high** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **BBB**	The credit issued by the project has a **moderate** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **BB**	The credit issued by the project has a **moderately low** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **B**	The credit issued by the project has a **low** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **C**	The credit issued by the project has a **very low** likelihood of achieving 1 tonne of CO_2e avoidance or removal.
BeZero Carbon Rating **D**	The credit issued by the project has the **lowest** likelihood of achieving 1 tonne of CO_2e avoidance or removal.

The rating is not an assessment of:

- The broader risks faced by a carbon project, e.g. fraud, negligence, default risk, political interference, or business interruption, other than the extent to which such risks may inform our assessment of carbon efficacy.

- Other specific elements of the credit's quality other than how they relate to carbon efficacy, such as potential co-benefits from broader ecological and social impacts. These could include biodiversity effects; social, health or economic impacts on local communities; or actual or potential SDG claims. To the extent that such effects may compromise carbon efficacy, they would be taken into consideration, e.g. when considering stakeholder relations and the effect on non-permanence or leakage risk.

Steps in the rating process

The BeZero Carbon ratings analytical framework encompasses three broad elements:

- **Project governance assessment**: This pre-rating project analytics and governance screening includes: a review and standardisation of project data; governance screening of carbon accounts and issuance; verification against double counting; assessment of project claims; and application of our qualifying criteria to test eligibility for a BCR.

- **Carbon efficacy assessment**: An holistic review of all evidence across all risk factors in the BCR methodology.

- **Aggregated risk assessment** including rating assignment and ongoing monitoring.

The following diagram shows our analytical framework.

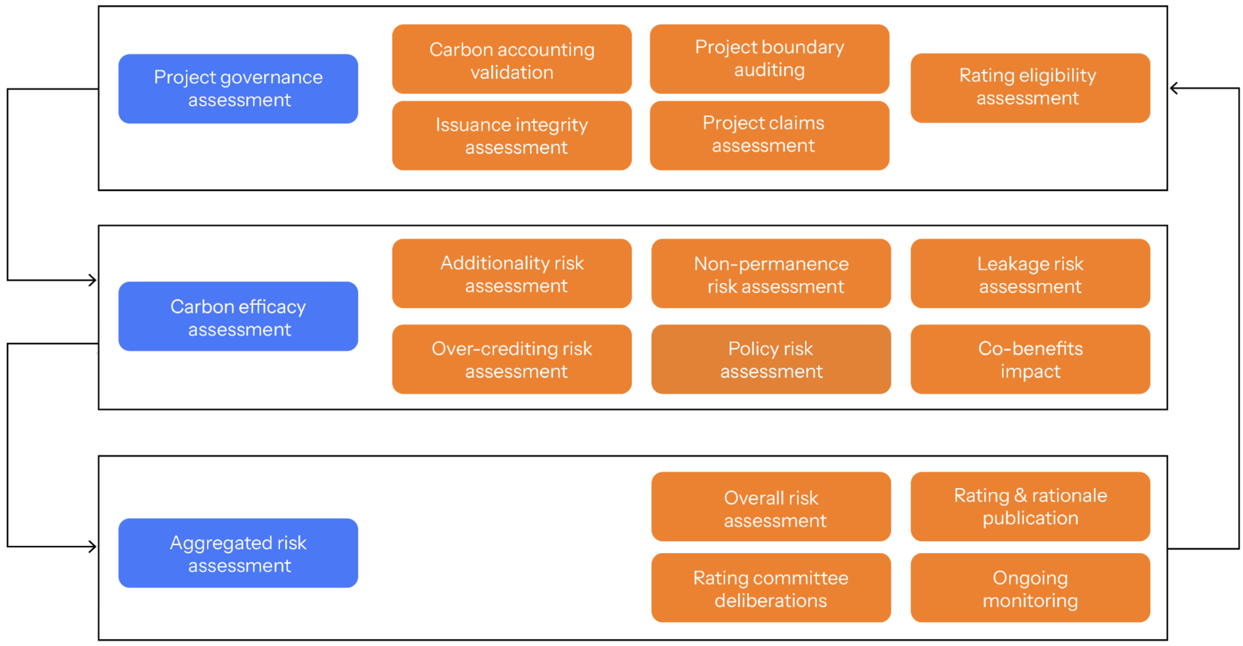

Figure 1. The various stages of the analytical framework that lead up to a BeZero Carbon Rating.

Introduction to risk factor framework

The BCR follows a robust analytical framework involving a detailed assessment of five critical risk factors affecting the quality and carbon efficacy of credits issued by the project:

Additionality: The risk that a credit purchased and retired does not lead to a tonne of CO_2e being avoided or sequestered that would not have otherwise happened.

Over-crediting: The risk that more credits are issued than tonnes of CO_2e achieved by a given project due to factors such as unrealistic baseline assumptions.

Leakage: The risk that emissions avoided or removed by a project are pushed outside the project boundary.

Non-permanence: The risk that the carbon avoided or removed by the project will not remain so for the time committed, and any associated information risk.

Policy: The risk that the policy environment undermines the project's carbon effectiveness.

Note that we have phased out analysis of perverse incentives as a standalone risk factor, and have transitioned to incorporating any evidence of this risk in the most appropriate of the other five risk factors.

Across a carbon credit's lifecycle, BeZero Carbon's assessment of carbon efficacy risk looks at the same risk factors for ex post ratings, ex ante ratings, and the BeZero Scorecard. The following table summarises how and where risk factors overlap across the three products.

Table 2. The overlap of risk factor assessments across a carbon credit's lifecycle.

Ex post ratings	**Ex ante ratings**
Additionality Policy	Additionality
Over-crediting Leakage	Carbon accounting
Non-permanence & information risk	Non-permanence Information risk
Perverse incentives *Note that we have phased out analysis of perverse incentives as a standalone risk factor, and have transitioned to incorporating any evidence of this risk in the most appropriate of the other five risk factors.*	Captured in other risk factors
Not applicable	Project execution risk

Holistic assessment

The assessment of a carbon credit's efficacy includes a detailed, project-specific, bottom-up, and top-down analysis to provide a comprehensive assessment of risk.

To make their assessment, BeZero Carbon analysts use a broad range of qualitative and quantitative inputs including, but not limited to, financial, environmental, and policy assessment techniques based on primary and secondary data sources.

BCR opinions, therefore, incorporate a comprehensive review of the fundamental drivers of risks associated with carbon efficacy at a project and vintage level, including, inter alia, natural, technological, economic, social, legal and regulatory factors.

Sector and country analysis

Top-down analysis focuses on the market sector of a proposed project, the country and/or region where it is based, and the methodology and standards applied. The bottom-up analysis focuses on interrogating the project's claims and the extent to which top-down risks are mitigated. Risks to carbon efficacy take account of all available evidence from top-down and bottom-up, and how these interact with each other.

Our assessments are based on all available project documentation in combination with our in-house models, frameworks and databases. These include geospatial and Earth observation evidence and techniques where relevant, and a curated database from peer-reviewed literature, industry research and third-party datasets totalling more than 4000 sources as of July 2023.

Standards and methodology screening

The BeZero Carbon Rating is not an assessment of compliance with standards body rules or the accreditation process. As an assessment of carbon efficacy, the methodology and standards followed form only one part of the overall review. Nevertheless, the strength, effectiveness and scientific integrity of those methodologies and the rigour with which they have been implemented by each project form an integral part of our rating analysis. This reflects that it is not necessarily the methodology in isolation that drives credit quality, but how a project applies it (which can sometimes vary considerably).

Our analytical approach evaluates the rules of each standards body and each methodology on an individual basis. This screening includes an assessment of methodology development and consultation (for an overview of why this is important, see our Insight on VCM methodologies). Further to this, we consider all deviations from methodologies exhibited by projects. Moreover, we consider the risks associated with projects that apply older or invalid methodologies, for example, due to outdated emission factors and global warming potentials.

Monitoring of registry operations and credit tracking also form part of our analytical process. We screen registry and standards body rules and processes, and take account of any strengths or weaknesses, in our assessment of relevant risk factors. This includes reconciliation of data and risk buffer rules (see our report on buffer pools) and their potential implications for over-crediting and non-permanence risk respectively. Further details can be found in the section of this methodology on project governance assessment.

Project-and vintage-specific analysis

Our bottom-up assessment considers all publicly-available project documentation and data, including that provided by the standards body, registry, or project developer, and any information from third-party sources, and data sourced using our internal models, notably including proprietary geospatial and Earth observation evidence and techniques where relevant.

Vintage-level assessments are made on two fronts:

- **Project reporting and crediting**: Our analysis ensures that, across each ratable vintage for a project, we identify whether projects correctly issued credits towards the market and buffer pool and that where credits are transferred, vintage labelling correctly maps onto cancellation certificates.

- **Risk factor assessments**: For each of our carbon efficacy risk factors, our analysis spans each ratable vintage of a project. This allows us to incorporate changes in project boundaries, baselines, issuance and buffer contributions over time. It also enables a dynamic process for assessing the role of policy, changes in forestry investment landscapes, and other exogenous factors in reducing forest loss and productivity relative to the project.

Geospatial and Earth Observation

For all Nature-Based Solution (NBS) projects, data and analysis from our Geospatial and Earth Observation team forms a core part of the analytical process. The team draws on a diverse set of data inputs, including but not limited to airborne and spaceborne LiDAR, synthetic-aperture radar, and multispectral measurements, with spatial resolutions ranging from centimetres to kilometres, and temporal frequency and coverage from days to decades.

Other geospatial inputs include data on road and river networks, human demographics, land ownership and governance, soil and climate data, and biodiversity. We also draw on our extensive database of ground-measured carbon, spanning thousands of forest inventory sites globally. These geospatial data are combined in statistical and machine learning frameworks, to inform project and vintage level risk associated with common practice, over-crediting, leakage and non-permanence.

The BeZero Carbon Rating reflects the balance of evidence across all types of information, geospatial or otherwise. Subject to project-specific characteristics and evidence, our geospatial analysis may not be paramount in the final rating view if, for example, financial, policy or other analysis is deemed more decisive. In all cases, non-spatial data (e.g. buffer pool contributions) provide essential context.

Project governance assessment

Data collection, assessment, and governance

A historical lack of top-down market standardisation on the reporting structure of carbon accounting has led to each project's public data and methods being reported in a unique way. Further, we find multiple examples where the calculations behind vintage-level credit issuance cannot be recreated from the information available in the public documentation.

To enable better governance of crediting data which is also fungible across the market, we have built a standardised model that can be applied to any project type, and any standards body. The BeZero Carbon Accounting Template is a simple but powerful tool. It consists of the four key components required to calculate issuance:

- Baseline assumption
- Project net emissions
- Leakage
- Risk buffer allocation

In certain cases, a fifth component accounts for uncertainty discounts applied by a project, which is often the case for NBS projects. These building blocks are designed to be the highest level of categorisation that capture all elements that feed into the calculation of potential issuance while being applicable to all project types in the market.

Underlying each component are calculations ranging in complexity and depth depending on the project. For example, a zero baseline is assumed for many removal projects, whereas baseline assumptions for NBS projects may require multiple stages of cleaning and structuring by our data collection team. We collect each component at a vintage level given that variations can occur within a project's lifetime.

Aggregating these data is the first step to enable downstream assessments of project claims, auditing of project boundaries across the various vintages, verification of registry-reported data, and assessments of double counting.

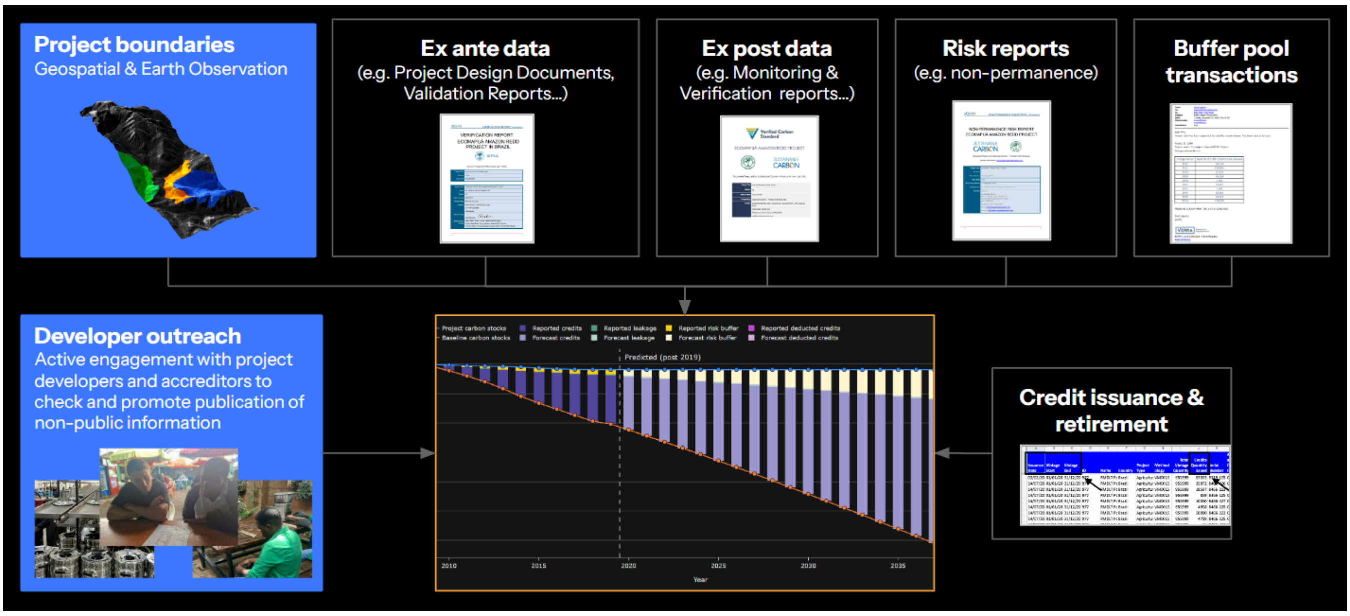

Figure 2. Aggregation of data to BeZero's standardised data template.

For each sub-sector, BeZero Carbon has built additional modules that supplement the basic Carbon Accounting Template.

For every project, we impose a strict governance structure that ensures data integrity. First, all project documentation is labelled according to its version and vintage. The project data are then cleaned and structured to fit the key components underlying potential issuance and the sub-sector Carbon Accounting Template modules. Data validation checks are made against the registry-reported issuance (see Registry issuance) and a developer outreach process is initiated in cases where reported data do not reconcile or are poorly disclosed. Finally, each project's individual Carbon Accounting Template and associated modules are peer-reviewed by two data analysts, and the underlying data are stored in a central data store. Each project's Carbon Accounting Template is subject to continual updates to reflect changes in project documentation, new issuance, and cancellation of credits, for example, and at each instance, subject to peer review.

For every project, BeZero assigns a credit type label of 'Avoidance', 'Removal', or 'Both'. The credit type label is not a scientific assessment of the carbon stocks and flows that underpin the carbon credit. Rather it is assigned with reference to a number of factors including project activities, market definitions and conventions. BeZero Carbon assesses the quality and carbon efficacy of all credits on their own merits and is agnostic to sector or credit type classifications. BeZero does not have a predetermined view on the quality of credits based on credit type.

BeZero has developed an automated system that monitors existing, new, and deleted documents within four major standards bodies: American Carbon Registry, Climate Action Reserve, Gold Standard, and Verra. Changes are detected within 24 hours, and a notification to review the project and its documents is triggered. For rated projects beyond of the above-mentioned standards bodies, a monthly manual check is performed.

Assessment of project claims

Once the project Carbon Accounting Template is created and approved at review, the data are used to assess project claims of emissions removals or avoidance. This step of our assessment is entirely project-specific. and we assess claims at the vintage level. For example, we assess whether credits reported for each vintage within monitoring and verification documents correctly detail the baseline, leakage, and non-permanence assumptions laid out by the project, and accurately reflect Registry issuance.

Where project claims cannot be verified or are incorrect, this informs our risk factor assessments and drives lower ratings. Where project claims deviate from ex ante forecasts, we identify the drivers of change.

Project boundary auditing

For all NBS projects, digital information on the spatial extent of carbon accounting is important for our independent assessment of carbon efficacy, both historically and in our assessment of future risk. Digital boundaries (e.g. KML, Shapefile, GeoPackage, GeoJSON) are required for the project area, and may also be required for the leakage belt and/or reference region(s), depending on the methodology.

To obtain these boundaries, we first check if they are published on the registry or elsewhere in the public domain (e.g. on a project proponent's website). We continuously monitor registry websites for updates (see Data collection, assessment and governance section). Where available, we audit the boundaries by comparison to images embedded in project documentation for the relevant vintage, and by reference to area units and locations stated in project documents.

We find that around 30% of nature-based projects do not make their project area boundaries available in digital formats, either on the registry or through the project proponent. Of those that do, around 20% require correction by BeZero, for example, because the project area has reduced or been extended since publication of the boundaries. Moreover, we find that over 90% of REDD projects do not make leakage belts and/or reference regions available in digital formats.

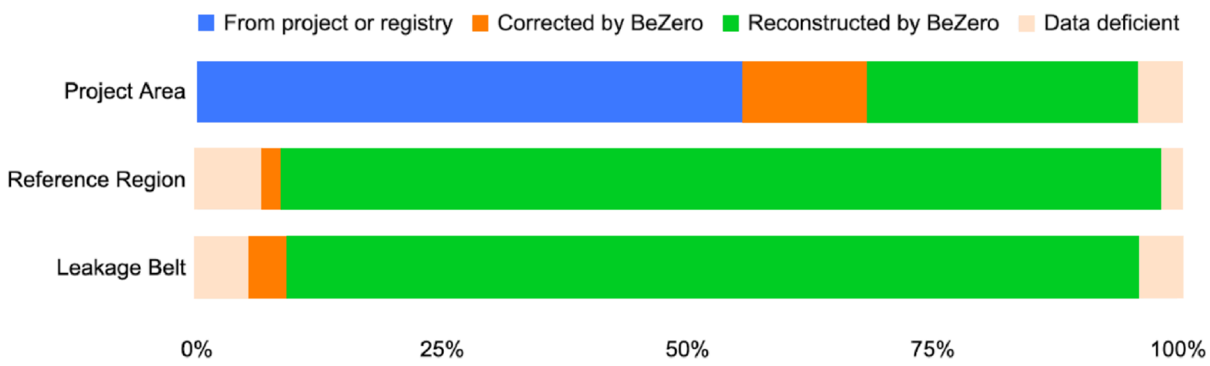

Figure 3. Public availability of digital boundary data for 177 nature-based projects rated by, or in the vicinity of projects rated by BeZero Carbon (as of August 2023). Many project areas, and the majority of leakage belts and reference regions, require in-house correction or reconstruction by our geospatial analysts.

Our method for the correction or reconstruction of project boundaries, where necessary, starts with georeferencing control points (e.g. map features such as graticules, natural features such as coastlines or rivers, or manmade features such as road junctions) in images embedded in project documents. Our team then applies graphical techniques to filter and sharpen the available imagery, followed by algorithms to extract the project boundaries in a digital, vector format. Where these semi-automated procedures are insufficient, we may trace the boundary by hand. In some cases, sections of the boundaries may follow roads, rivers, political borders, concessions or easements, or other spatial data, in which cases we draw on our geospatial database of such features to assist in accurate delineation. Similarly, we use high-resolution satellite or aerial imagery where boundary demarcations are clearly visible from above. In all cases, we check our results for consistency with the area units and depictions in project documents.

Where it is not possible to reliably reconstruct project boundaries through the techniques described above, we contact the standards body and/or project proponents, to request that the required information be made publicly available. Any remaining uncertainty regarding the exact location of the project is considered in our interpretation of geospatial evidence and may influence our assessment of information risk.

Double counting

We audit project boundaries (for NBS) not only for the specific project being rated, but also for any project operating or under development within a radius of 50 km. This is important for the landscape context of common practice and baselines assessments, and also provides a spatial check on whether the same land is or has previously been included by more than one project, or by the same project across more than one standards body.

As part of BeZero's data collection, assessment, and governance process, we assess risks of double counting, which typically emanate from three key sources:

- **Transfer of projects between standards bodies:** Where projects transfer between accreditation entities, our data analysis evaluates whether credits have been accurately cancelled to facilitate the transfer. This assessment checks for credit transfer and cancellation certifications by vintage and credit quantity.

- **Allocation of credits towards national registry or buffer structure:** In certain instances, for projects to participate in the voluntary carbon market, a set allocation of their credits must be issued towards a national registry or buffer system to support national GHG targets or permanence safeguards, respectively.

- **Transformation of ex ante or provisional credits to ex post credits:** Under certain standards bodies, projects may be able to issue ex ante (also called provisional) credits and retire these. To ascertain that these credits are not double counted once project activities have materialised, we ensure that the credits associated with each vintage batch are retired in only a single instance.

Our double counting risk assessments interrogate whether projects have accurately reported, issued and cancelled credits as part of the above three processes. Where there are data discrepancies or uncertainties, projects are deemed to have eligibility, over-crediting and/or information risks. As part of our double counting assessments, we scrutinise the unique serial codes of each credit (and credit batch) on the registry of each standards body.

Registry issuance

Another important aspect of our pre-rating analytics and data governance assessment is a review of the integrity of reported issuance. This includes validation checks of project-reported data against registry issuance. Here, we evaluate four key variables:

- Project monitoring reporting and verification (MRV) crediting volumes and vintages align with registry issuance towards the market
- Project-reported buffer credits have been accurately deposited towards the buffer pool
- Credit status within the buffer pool for cancellations or 'hold'
- Credit cancellations for the purpose of reversals or transfers

This step enables us to determine whether over-crediting risk exists due to elevated and undocumented issuance, whether permanence risk exists due to under-resourcing of the buffer pool or credit cancellations or whether double-counting risks exist.

Rating eligibility

For projects to qualify for a BeZero Carbon Rating, they must meet our primary qualifying criteria. These criteria are centred around quality and transparency. These basic criteria alongside the BeZero Carbon Accounting Template allow us to build a standardised starting point for any project, registered to any standards body.

The primary criterion is that the project has applied an additionality test, or has otherwise provided sufficient information on how it is deemed additional. The other criteria centre on third-party auditing and public disclosure of sufficient information to assess the project's claims. All three act as limiting factors for whether BeZero accepts a project to be rated at all.

Additionality - i.e. whether, in the absence of carbon revenues, the avoidance or removal activity would be viable - is the founding principle of a carbon credit project. Consistent with this, additionality is a limiting factor for the BeZero Carbon Rating from the outset of the analytical process: as of July 2023, 41 of 129 ineligible projects assessed to date were deemed not rateable due to poor additionality disclosure and/or reporting.

For all projects, sufficient public disclosure of project claims includes crediting calculations, registry issuance (inclusive of buffer pool allocations), project boundaries, and applied methodologies (and their versioning).

Through these primary eligibility criteria, we ensure that all project validation and verification documentation as well as registry operations related to the project are traceable and are governed by standards body processes for oversight. Where a project fails to be sufficiently transparent or conduct a third-party audit, these projects are considered ineligible for a rating.

Continuous monitoring of eligibility criteria

To ensure that our ratings remain up to date, we monitor if a project meets our eligibility criteria on an ongoing basis. This ensures that minimum criteria around project transparency and disclosure are continuously met.

Should the availability of documentation change once a project has been rated, BeZero Carbon has a robust due diligence process to understand the reason and if such changes are permanent. This includes the following steps:

- BeZero Carbon will contact the registry, certification bodies and the project developer to identify underlying reasons for change in document disclosure, if data will be shared publicly again and within what timeframe.
- BeZero provides these organisations two weeks to restore the availability and disclosure to levels consistent with our eligibility criteria.
- If documents remain unavailable after this two week period, the rating will be placed on 'rating watch'.
- BeZero will continue to make reasonable efforts to follow up with the project developer, registry and certification bodies to determine if and when the documents will be made available in public domain. We will allow another four weeks for this process.
- If during this period, the relevant data and documents are shared again in the public domain, we will verify that these documents contain required information to meet our eligibility criteria. Where projects meet our criteria again, the rating will be removed from rating watch.
- If the relevant documents and information are not restored in public domain within the aforementioned timeframe, the project will no longer be eligible for a BeZero Carbon Rating. Accordingly, BeZero Carbon will 'withdraw' the rating.

Aggregated risk assessment

Overall rating view and limiting factors

Risk factor weighting

We make a preliminary view of carbon efficacy risks based on three core components ordered by their relative importance in determining credit quality: Additionality, Carbon Accounting and Non-Permanence. While all core components are important drivers of carbon efficacy, their relative role is subjective to the materiality of individual risks. Note that carbon accounting includes an assessment of both over-crediting and leakage.

In particular, our assessments typically afford the highest importance to Additionality in our final opinion. However, the overall rating assigned considers the balance of evidence across all risk factors and the extent to which each risk factor informs our overall view on the carbon efficacy of the carbon credit (i.e. the likelihood that it truly delivers a tonne of greenhouse gases either avoided, reduced or removed).

It should be noted that assigning the rating is a deeply analytical process, wherein the sole objective is to assign ratings reflective of the carbon credit's efficacy or quality. In exigent circumstances where a specific risk factor is considered to have an overbearing impact on the overall rating, the rating can be constrained by said factor. This is applied asymmetrically, i.e. there is only a downside if a risk factor is deemed especially significant, it cannot have a positive mitigating effect on the overall rating.

Internal peer review

The lead analyst completes their analysis and prepares a draft report. The draft analysis incorporates detailed input from the Geospatial and Data Analytics teams. This draft report is also peer-reviewed by at least two other analysts who have not worked on the assignment.

Peer review is an interactive process aimed at ensuring uncertainties are investigated further and conclusions are stress tested. Following completion of the peer review process, and consensus is reached among the lead analyst, geospatial analysts, and peer reviewers, a final draft rating report is prepared.

The report thus finalised is submitted to the Rating Committee for consideration, which is the sole body that can assign BeZero Carbon Ratings (ex ante or ex post).

Rating Committee

The Rating Committee is made up of members of the Ratings team and senior members of the Research team. The committee is subject to quorum requirements and is chaired by one of the senior members of the Ratings and Research organisation (e.g. the Director of Carbon Ratings or Chief Research Officer). Members of the Geospatial and Earth Observation team must attend in the case of NBS projects. Peer reviewers are also expected to attend committee meetings relevant to the projects they have been assigned to.

All rating analysts are invited to attend and participate in the deliberations. At the committee, the lead analyst presents their analysis and rating recommendation. The Rating Committee's role is to interrogate their recommendation by asking questions and/or seeking clarifications. If the Rating Committee requires additional information or clarification which cannot be addressed at the meeting, the rating cannot be assigned until all outstanding issues are deemed resolved by the committee. Unanimous approval by the Rating Committee is required for a final rating to be assigned.

Ongoing monitoring

Continuous monitoring

All BeZero Carbon Ratings are valid at all times and are monitored on an ongoing basis. The assigned lead analyst is responsible for reviewing all new information pertaining to the project, sector and methodology. Such information includes new satellite imagery, new research, new project documents including new monitoring reports, new or changed regulations, changes in methodology, and other information deemed relevant to the project or the rating. The analyst also monitors the continuing availability of information in the public domain, an essential criterion for a project to be eligible for the BeZero Carbon Rating. The analyst takes note of these developments and assesses their implications (if any) on the rating.

Rating reaffirmation

The publication of a monitoring report is typically a trigger for a detailed review of the rating. At this point, the lead analyst will collate all the new information pertaining to the relevant project that has been published since the last Rating Committee Meeting in which that project was discussed, including information they have reviewed during their ongoing monitoring. They will reconfirm that the project continues to meet the eligibility criteria and that all information regarding the project remains available in the public domain.

A detailed review report is prepared and follows the same process of independent peer review before being presented at a forthcoming Rating Committee, along with the analyst's recommendation on the rating. The Rating Committee discussions and deliberations are similar to the process followed for assigning a new rating.

If the new information or changes to information is not considered to have a material impact on the rating, following unanimous approval of the Committee, the rating is reaffirmed. All reaffirmations, along with their rationale, are published on the BeZero website and the BCM platform.

Rating watch

If, as part of the monitoring process, the lead analyst is of the opinion that the new information could potentially have a material impact on the rating, or that the publicly available information has been withdrawn/compromised, the lead analyst prepares a report with a recommendation to place the rating on 'watch'. This note goes through independent peer review and is then presented and discussed at the Rating Committee Meeting (similar to the process involved in assigning a new rating or a rating review). If the Rating Committee unanimously believes that the new information (or the withdrawal of publicly available information) could affect the rating, the rating will be placed on 'watch'. All ratings placed on 'watch' are published on the BeZero website and the BCM platform.

The committee could also disagree with the analyst's recommendation and conclude that no action needs to be taken.

Once a decision has been made to place a rating on 'watch', the analyst will collect and analyse all new information, conduct additional research as required, and prepare a detailed report for Rating Committee consideration. This note will be independently peer reviewed before it is presented and discussed at the Rating Committee. The Rating Committee could unanimously decide to:

- Upgrade the rating to a higher level
- Downgrade the rating to a lower level
- Reaffirm the rating

Immediately thereafter, the rating will be removed from 'watch'. The revised rating/reaffirmation along with removal from 'watch' is published on the BeZero website and the BCM platform.

Ratings watch actions are primarily applied for reviews triggered by external events or changes to a project and its operation. In cases where internal reviews drive ratings changes, they may be supported by external advisory notes for consumers of the rating. These notes will describe the internal change, the scope of impact and the likely direction of ratings change if relevant.

BeZero's ongoing monitoring and 'rating watch' process is summarised in the diagram below.

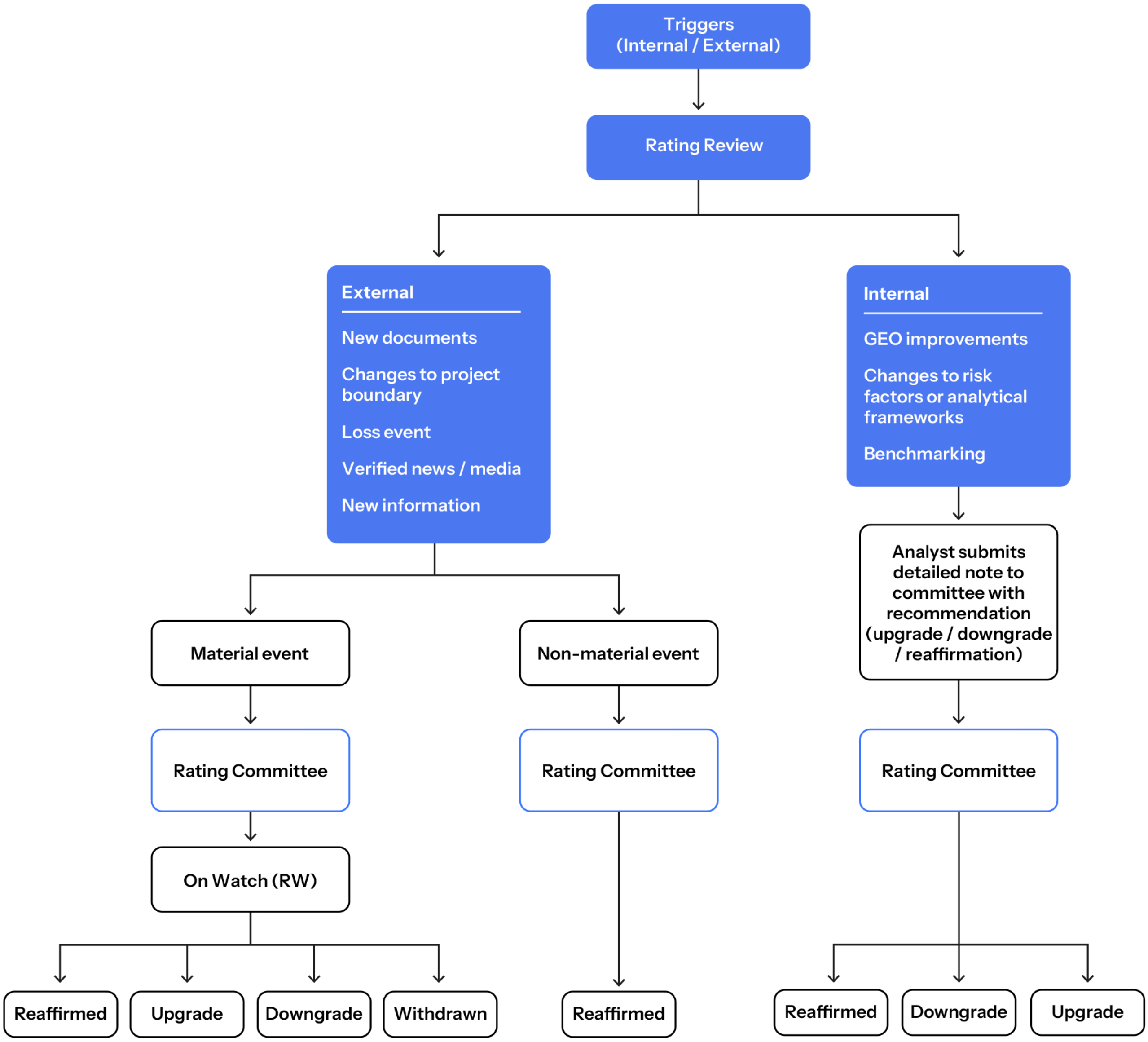

Figure 4. BeZero's ongoing Monitoring and Rating watch process.

Rating withdrawal

BeZero Carbon Ratings are assigned only to projects meeting predefined eligibility criteria. These include documented tests on additionality, formal audit processes, and continued public availability of all relevant information. BeZero Carbon Ratings may be withdrawn in the case of a material impairment in the project's ability to meet any of the eligibility criteria, including partial or complete withdrawal or unavailability of relevant information in the public domain. BeZero may also withdraw its ratings if BeZero Carbon becomes aware of any risks with respect to the ownership of the project and/or usage rights, etc. All rating withdrawals are published on the BeZero website and the BCM platform.

Sector and portfolio reviews

Portfolio reviews are an integral part of the continuous monitoring process carried out by BeZero. This process involves the simultaneous review of the ratings assigned to a homogeneous group of projects/credits, either at a sector/sub-sector or at the country level (as compared to a review of one or two projects at a time).

Portfolio reviews can be triggered by macroeconomic events such as changes in sector dynamics, changes in regulation (global or country-specific) or incorporation of new elements of analyses applicable across a sector/sub-sector. Alternatively, it could be part of a periodic review process to reassess the appropriateness of the ratings in the context of updated methodology, sectoral developments, and comparison of the rating across similar projects.

These reviews can last anywhere from a few weeks to several months, depending on triggers, project-specific factors, and Rating Committee unanimity.

If BeZero believes that a portfolio review may have an impact on the published ratings, some or all ratings in the portfolio may be placed on ‘rating watch’ pending the completion of the full review.

This is particularly important as a portfolio review may involve a recalibration of ratings across the portfolio. The review process will follow the usual process of peer reviews, Rating Committee discussions and decisions. BeZero will publish the resolution of the ‘watch’ and updated ratings at the conclusion of the review process.

Appendix I: Analytical independence

BeZero Carbon acts as an independent third party and is not conflicted in delivering the BCR for the following reasons.

- BeZero Carbon's analysis and the resulting rating is limited to our assessment of the risks associated with the information provided in the public domain and expressed as a risk metric.
- BeZero Carbon does not provide any recommendations or advice on how to change or improve the project.
- BeZero Carbon does not create standards for, develop, invest, or transact in carbon projects. The only exception is the retirement of carbon credits for the explicit purpose of compensating for its own carbon footprint.
- BeZero Carbon does not verify, validate, sanction or in any way influence the number of credits issued by the project.
- BeZero Carbon is not incentivised commercially or in any other sense to deliver a specific rating outcome at the time of the assignment or at any time in the future.
- All members of BeZero's analytical team, including the committee members, are commercially independent of the assigned ratings - i.e. their compensation, benefits, or performance measures are not in any manner linked to the ratings assigned.
- All BeZero staff, including all members of the ratings team, adhere to strict compliance procedures, including, inter alia, prohibition from holding and/or dealing in carbon credits and annual reporting. These standards are akin to standards practised by financial market rating agencies.
- BeZero Carbon has implemented a Rating Committee process, which mitigates the undue influence of individuals on the overall ratings process outcome.

Appendix II: Risk factor definitions and analytical framework matrix

Risk factor	Significant risk	Notable risk	Some risk	Little risk	Very low risk
Additionality The risk that a credit purchased and retired does not lead to a tonne of CO_2e being avoided or sequestered that would not have otherwise happened.	Balance of evidence suggests that projects face significant risks of non-additionality because few barriers exist (e.g. practices are common, offset credit finance represents a tiny proportion of overall revenue, activities are legislated for).	Balance of evidence suggests that: a) projects are marginally additional; b) projects are additional in certain cases; or c) contradictory evidence exists regarding additionality.	Balance of evidence suggests that: a) projects are additional; b) projects are mostly additional except in some limited cases.	Balance of evidence suggests that the project is highly additional because significant barriers exist to prevent project activities (e.g. political, financial, technological etc).	The sole purpose for such projects is carbon removal or reduction and without carbon finance, projects are entirely unviable.
Over-crediting The risk that more credits are issued than tonnes of CO_2e achieved by a given project due to factors such as unrealistic baseline assumptions.	Balance of evidence suggests that overestimated baselines or significant over-crediting risks exist.	Balance of evidence suggests that: a) notable over-crediting and/or non-conservative baseline risks exist; or b) significant risks that are somewhat mitigated by Methodology.	Balance of evidence suggests that: a) baselines are mostly conservative and there are some over-crediting risks; or b) that the methodology effectively mitigate these risks.	Evidence suggests that there is little risk of over-crediting.	Evidence indicates that there is very low risk of over-crediting.
Leakage The risk that emissions avoided or removed by a project are pushed outside the project boundary.	Balance of evidence suggests that significant instances of leakage exist.	Balance of evidence indicates notable instances of leakage or significant instances of leakage that are somewhat mitigated by methodology.	Balance of evidence suggests that leakage risks exist but are a) low or b) effectively mitigated against by methodology.	Evidence suggests that there is little risk of leakage.	Evidence indicates that there is very low leakage risk.
Non-permanence The risk that the carbon avoided or removed by the project will not remain so for the time committed, and any associated information risk.	Balance of evidence suggests that significant instances of non-permanence risks exist.	a) Balance of evidence indicates notable examples of non-permanence or b) significant non-permanence risks that are somewhat mitigated by methodology.	Balance of evidence suggests that non-permanence risks exist but are: a) low or b) effectively mitigated against by methodology.	Evidence suggests that there is little risk of non-permanence.	Evidence indicates that there is very low non-permanence risk.
Policy The risk that the policy environment undermines the project's carbon effectiveness.	Balance of evidence suggests that the policy environment is highly supportive (e.g. measures are already legislated for, thereby undermining the project's carbon effectiveness).	Balance of evidence suggests that the policy environment is supportive (e.g. some measures are already legislated for, somewhat undermining the project's carbon effectiveness).	Balance of evidence suggests that the policy environment may be supportive in some cases.	Evidence suggests that a) policy environment has minimal influence on projects; b) that the policy environment is decidedly not supportive of the project type, enhancing the project's carbon effectiveness.	Evidence indicates that there is very low policy risk to carbon effectiveness (i.e. the project demonstrates success in the face of an unsupportive policy environment).

Appendix III: Additional reading

Check out the ratings resources page on our website to find links to all of our published methodologies, in addition to our series of risk factor assessment frameworks, our frameworks for assessing project methodologies and country-level risks, deep dives on factors influencing the carbon efficacy of projects in various sectors, and more.

Appendix IV: Sustainable development goals

Applying the equality SDGs to the VCM
A focus on climate action: Sustainable Development Goal 13 claims in the VCM
Transparency is key for SDG claims to be an effective asset in the VCM
Interpreting SDG claims in voluntary carbon projects
Time to rethink biodiversity: SDG 14 & 15
Eye for detail: buyers want to know the evidence behind SDG claims
Lost in translation: SDG claims are more than meets the eye
How robust are SDG 3 & 7 claims in the VCM?
Mapping the SDG claim lifecycle: 2023 update
Applying the equality SDGs to the VCM
How economic SDG claims can be impactful in the VCM

Updates and reviews

Version number	Date	Description
1.00	01/06/22	Initial release
1.01	06/07/22	Updated to reflect changes in individual method documents
1.02	31/08/22	Updated to reflect inclusion of sector and portfolio review process and modified Risk Scoring Bucket designation
1.03	24/10/22	Updated to reflect new risk factor terminology
1.04	07/11/22	Updated to reflect new disclaimer and rating process text
1.05	22/11/22	Updated contact details
1.06	13/03/23	Rating scale transition from seven-point scale to eight-point scale
1.07	03/08/23	Updated to provide more detail and granularity to the existing methodology
1.08	23/11/23	Formatting updates
1.09	21/12/23	Updated risk factors: removed weightings and perverse incentives. Introduction of the interaction between ex post and ex ante ratings
1.10	31/01/24	Formatting updates
1.11	15/05/24	Updates to application of ratings watch
1.12	03/09/24	Added details on credit type labels

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