

BUYERS GUIDE TO CARBON CREDIT DATA QUALITY

Data-Driven Tools and Tactics to Find
High Quality Carbon Credits



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AGENDA

PRESENTING THE BUYER'S GUIDE TO DATA QUALITY

INTRODUCTION

Why did we create the Buyer's Guide to Carbon Credit Data Quality

FRAMING

How do you use this Guide?

IMPLEMENTATION STEPS

What is a data package?

1. Building a Carbon Crediting Data Package
2. Tools to Test the Data Package
3. Applying Testing Tools to Assess Credit Quality

CONCLUSION

Putting it all together

PANEL Q&A WITH RMI AND CLIMATE COLLECTIVE EXPERTS



**WHY DID WE CREATE
THIS GUIDE?**

As with all markets, today's VCM reflects a strong, inverse relationship between risk and data quality. This relationship is a core motivator for how carbon credit buyers navigate the market

FOUR CORE RISKS

- CLIMATE PERFORMANCE RISK
- PROJECT DEVELOPER RISK
- IMPLEMENTATION RISK
- PRICE RISK

Risks tied to the carbon, social, and environmental data associated with a carbon credit project. Concerns about greenwashing are about credits that underdeliver on their climate performance.

Risks related to developer credibility and/or experience running a carbon project.

Risks related to operations and MRV associated with developing and delivering carbon credits.

Risks related to the decreasing value of carbon credit investments due to challenges within the market about assessing the relationship between data quality, uncertainty, and credit performance.

STEM FROM DATA ISSUES IN A FRAGMENTED VCM DATA LANDSCAPE

- MEASUREMENT UNCERTAINTY IN EMISSIONS IMPACT
- RELIANCE ON PROXY METRICS TO ASSESS CLIMATE IMPACT
- BURDENSOME PROCESSES TO CALCULATE, VALIDATE, AND VERIFY CARBON CREDITS
- FREQUENTLY OPAQUE OR INACCESSIBLE CARBON CREDITING DATA

This guide provides an analytical and actionable framework to help buyers – and others in the market – identify and value projects with high-quality data

BENEFITS OF A HIGH-QUALITY CARBON CREDITING DATA PACKAGE

- MITIGATE REPUTATIONAL RISKS
- ALIGN WITH MARKET-WIDE PRINCIPLES ON QUALITY
- LEARN ABOUT CARBON CREDITING DATA LANDSCAPE
- DERIVE A DATA-BACKED STORYLINE ABOUT THE CREDITS' CLIMATE PERFORMANCE

BUYERS CAN IMPLEMENT THIS FRAMEWORK IN THREE STEPS

- 1** *Build a data package* for each project that includes all relevant information about how the credits are performing and whether they are achieving their stated climate impact.
- 2** *Use the three testing tools* to evaluate whether the information in the data package is high-quality (i.e. credible, efficient, and trustworthy).
- 3** *Update the data package* (as relevant) as the VCM continually iterates on and improves the data landscape.



HOW DO YOU USE
THIS GUIDE?

This guide helps buyers through the “investigate” stage of their six-stage buying journey

1	STRATEGIZE	“Why are we doing this?”	Define vision for participating in the VCM and define how carbon credits fit into overall decarbonization strategy, budget, and risk profile.
2	IDENTIFY	“What kind of credits do we want to buy?”	Educate yourself on various aspects of credit quality, identify desired attributes, and select preferred project types based on unique preferences.
3	INVESTIGATE	“What is the quality of the project’s crediting data?”	Familiarize yourself with the VCM data landscape, the factors influencing and shaping it, and the performance of data underpinning credits.
4	RESOURCE	“What options do we have available to buy?”	Assess available options and resources required to procure, vet, and transact credits as part of the final buying strategy.
5	ITERATE	“How well do available options support our strategic goals?”	If needed, reconcile the initial strategic considerations based on what is available in the market.
6	IMPLEMENT	“How can we successfully execute the strategy?”	Draft an implementation plan to execute on all sourcing and transaction decisions, secure deals, and disclose claims.

Note: These six steps apply to the process a buyer undergoes before credits are purchased. Once credits are purchased, a buyer must actively manage the portfolio to ensure that the credits are delivering the desired impact and meeting the buyer’s strategic objectives.



WHAT IS A CARBON CREDITING DATA PACKAGE?

A carbon crediting data package guides buyers to purchasing credits with verifiable and high-quality data



DATA PACKAGE

“How can I find quality credits?”



BUYERS

“How can credit data help me?”

A data package (per project) gives buyers credible, efficient, and trustworthy data about how credits are performing.

Why a data package?

A well-structured and tested data package helps buyers:

- **Mitigate publicity risks** or counter charges of greenwashing or other negative publicity
- **Align with the high-integrity** purchase and quality *principles* guiding the VCM
- **Derive a science-driven, data-backed storyline** to track and report on their credit purchases

What is it influenced by?

Four market dynamics influence the quality, specificity, and accessibility of data that will go into a data package.

- 1 Science and research
- 2 Public guidance
- 3 MRV processes*
- 4 Technology innovation

Who provides data inputs?

Four types of market actors provide the data inputs for a data package.

- 1 Registry-linked actors
- 2 Actors facilitating trade
- 3 Third-party service providers
- 4 Public guidance actors



IMPLEMENTATION STEPS

A photograph of several wind turbines in a field, silhouetted against a sunset sky with soft, colorful clouds. The turbines are arranged in a line across the landscape, with rolling hills visible in the background.

STEP 1:

BUILDING A DATA PACKAGE

How and why to building a carbon crediting data package

DATA PACKAGE



A high-quality data package contains all available data about the projects' expected and verified climate performance.

It gives buyers credible, efficient, and trustworthy data to assess a project's climate performance.

What data is linked to credit quality?



Carbon impact



Co-benefits impact

Credit quality arises from quantitative or qualitative data.*

Which performance indicators show high-quality data?



Data credibility



Data efficiency



Governing processes

High-quality carbon crediting data is:

- **credible** (i.e. the data reliably captures the credits' climate performance),
- **efficient** (i.e. can be efficiently shared with and analyzed by market actors),
- **independently governed** (i.e. the data can be independently verified and are securely managed by the project's operations).

Where can you get this information?

Buyers have three channels to source crediting data:

1. Public information in the registry system
2. Direct inquiries to project developers
3. From private third parties

See the full Buyer's Guide for specific examples and definitions

Who can help you build and test it?

Buyers build data packages either by setting up their internal teams or by purchasing services from the market.

In either scenario, the data comes from four types of market actors:

1. Registry-linked actors
2. Actors facilitating trade
3. Third-party service providers
4. Public guidance actors

See the full Buyer's Guide for specific examples and definitions

***Note:** Carbon crediting data can be quite complicated – and is intertwined with the VCM's complex processes. RMI and Climate Collective's [VCM Landscape Guide](#), published in August 2023, explores the drivers, complexities, and implications of process and performance data in the VCM. For additional context or research, see the Appendix (slide 49) for a few foundational frameworks or the [full VCM Landscape Guide](#).

How, when, and why to find information from the three options



OPTION 1: IN THE REGISTRY DATABASE

Buyer retrieves data and descriptions of the credit's activities, implementation, and performance. This covers all stages of the credit's lifecycle: validation, implementation, and verification. This information is stored in publicly available registry databases.

FOUNDATIONAL INFORMATION

The registry's information includes vital documents such as the Project Development Document (PDD), project business plan, methodology note, validation and verification reports, monitoring plan, and summary of stakeholder comments. This should always be the starting point for the data package.



OPTION 2: THROUGH AN RFI (REQUEST FOR INFORMATION)

Buyers can contact project developers and other project participants directly to clarify or augment gaps identified in the foundational documents.

CLARIFYING INFORMATION

Enables buyers to go beyond the information from the registry to cover a range of queries, such as the specific data inputs used to calculate carbon impact, the structure of land tenure ownership, the issues that emerged through public consultations, or clarifications requests about the projects' planned MRV processes or use of digital technologies.



OPTION 3: FROM PRIVATE THIRD-PARTIES

Buyer contracts third-party service providers or market intermediaries to obtain supplemental information about a credit's quality, risk, or market performance. This information is usually not available in the public domain and must be purchased.

SUPPLEMENTAL INFORMATION

This is collected, analyzed, and packaged by private third-party entities. It can include:

- Data on risk factors or assessments of different projects
- Ratings or data analysis to evaluate credit quality, project governance or MRV approaches
- Forecasts on price, volume, or demand for credits
- Market or transaction history about the same (or similar) project or crediting type

A photograph of several wind turbines in a field, silhouetted against a sunset sky with soft, colorful clouds. The turbines are arranged in a line across the frame, with the largest one on the left and smaller ones receding into the distance. The sky transitions from a pale blue at the top to a warm orange and yellow near the horizon.

STEP 2:

**TESTING A DATA
PACKAGE**

Step 2 involves three tools – each one evaluates a different indicator of carbon crediting data quality



TOOL 1 DATA CREDIBILITY

Data credibility measures the ability of data to reliably capture the climate performance of a credit



TOOL 2 DATA EFFICIENCY

Data efficiency refers to how quickly data can be shared with, and analyzed by, market actors



TOOL 3 PROJECT GOVERNANCE

Governing processes examine whether the data are independently verified and securely managed

Note: In the following slides, we present specific performance indicators under each benchmark. These indicators were selected and defined after a robust literature review of the current academic research on data quality. We applied this research to carbon credits. The list of indicators are intended to guide and empower buyers to conduct their own scrutiny of carbon crediting data. Every buyer will need to assess the results of these tests against their unique purchasing strategy, resourcing options, and risk tolerance.

Tool 1: Data credibility test



DATA CREDIBILITY

The Data Credibility Test helps buyers understand whether the collected *data are accurately capturing the climate impact of the credits* being considered, whether there are gaps in the precision or reliability of that data, and whether corrective actions are needed to close these gaps.

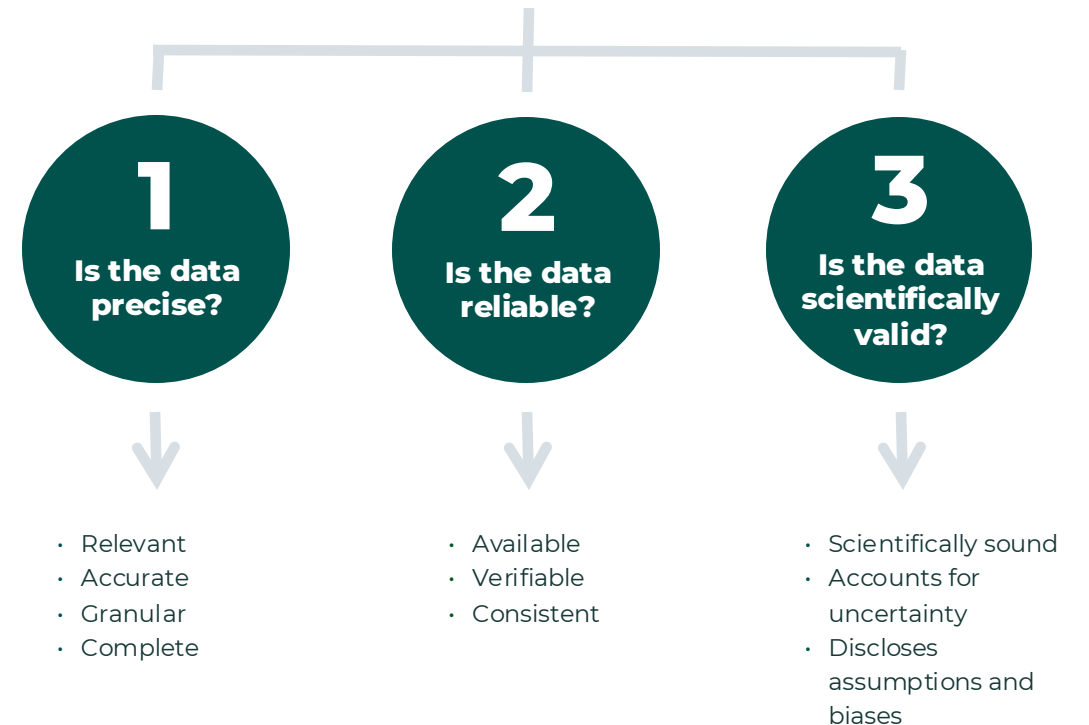
Three Credibility Performance Indicators

- 1 Precise data
- 2 Reliable data
- 3 Scientifically valid data

Where to find this information

Buyers should first compile relevant data from the credits' reports with the registries (i.e. the project development documents and validation and verification reports). Buyers can then use direct outreach to project developers or purchased packages from service providers to close any gaps.

THREE CREDIBILITY PERFORMANCE INDICATORS



Tool 2: Data efficiency test



DATA EFFICIENCY

The Data Efficiency Test helps buyers identify whether project data are collected, updated, and managed in a manner that allow it to be shared relatively quickly with, and analyzed by, other market stakeholders.

Highly efficient data *helps lower transaction costs and reduces uncertainty around the credits'* climate performance over time.

Four Efficiency Performance Indicators

- 1 Investments in efficiently managed data
- 2 Usable data
- 3 Timely data
- 4 Shareable data

Where to find this information

Buyers should start with the guidance and explanations provided in the credits' documentation with the registries (i.e. the project development documents and validation and verification reports). Buyers can directly contact project developers or purchased packages from service providers to close any gaps.

FOUR PERFORMANCE INDICATORS FOR DATA EFFICIENCY

- 1 Is the project investing in tools or processes to boost data management?**
 - Digital, satellite, and web-3 technologies integrated into project design and operation
 - Methods of direct measurements and on-the-ground verification
 - Reinforces data useability, timeliness, and shareability
- 2 Is the data useable?**
 - Adaptable and manageable file structure
 - Contains search functions or navigation tools
 - Decipherable and applicable for different stakeholders
- 3 Is the data timely?**
 - Performance data are collected and updated as required
 - Have transparent processes that disclose history and timing of data updates
- 4 Is the data shareable?**
 - Securely stored
 - Digital, interoperable, and integrated formats

Tool 3: Screening criteria to assess governing processes



PROJECT GOVERNANCE

The Screening Criteria focus on the organizational processes used to collect, manage, and disclose project data. Well-governed data have rules, processes, and systems in place to review, monitor, and control the actions of data participants.

This ensures that the data have not been altered and can be trusted.

Four Data Performance Indicators

- 1 Governing processes
- 2 Dispute resolution processes
- 3 Processes to ensure independence
- 4 Processes that are transparent

Where to find this information

Buyers should review the governing requirements laid out in the project methodology and how such processes are discussed in the project development documents and validation and verification reports. Buyers might need to follow up directly with project developers to clarify any outstanding questions or to get full insight into the project’s governing processes.

FOUR PROJECT GOVERNANCE PERFORMANCE INDICATORS

<p>1 Governing processes</p> <p>Examines the project’s processes, technologies, models, or tools, and their ability to uphold data credibility and efficiency over the lifetime of the project</p>	<p>2 Dispute resolution processes</p> <p>Ensures the project has trusted processes to identify, resolve, and report on data-related grievances or disputes that could occur within the project</p>
<p>3 Processes to ensure independence</p> <p>Helps reduce conflicts of interest, minimize potential biases, and create a system of checks and balances to ensure data can be trusted</p>	<p>4 Processes that are transparent</p> <p>Minimizes information asymmetry around the underlying credit data and enables independent interpretation by stakeholders</p>

If a credit scores well on each test, buyers will find high-integrity projects with a strong data package that confirms the credits are likely to perform as expected

Each test – for data credibility, data efficiency, and project governance – focuses on a specific, but critical, aspect of a high-quality data package. Buyers should conduct each test separately and then look at the results collectively.

If a project struggles across all three tests, then that should raise serious questions about the quality of the data package and it is likely to indicate higher risks to the buyer. If a project shows gaps on one of the tests, buyers can either try to work with project developers to close those gaps or make a judgement call about how significant those shortcomings are. Ideally, the desired project has performed well on each test – indicating a very strong data package.

TEST 1 CREDIBILITY TEST

- Is the data precise?
- Is the data reliable?
- Is the data scientifically valid?

TEST 2 EFFICIENCY TEST

- Is the project investing in efficient data management?
- Is the data usable?
- Is the data timely?
- Is the data sharable?



TEST 3 SCREENING CRITERIA FOR GOVERNANCE

- What processes does the project have to govern large, complex data sets?
- What processes does the project have to identify and resolve data-related grievances and discrepancies?
- What processes are used to independently vet the data or crediting approach?
- What processes are in place to advance data transparency?

STEP 3:

UPDATING A CARBON CREDITING DATA PACKAGE

Innovation and technologies in the VCM are rapidly shaping the quality, strength, and availability of carbon crediting data

1

SCIENCE AND RESEARCH

Emerging developments in climate science are consistently reshaping how carbon crediting methodologies are designed, how climate-related goals and decarbonization targets are set, and how carbon credits can be used to achieve these targets.

2

PUBLIC GUIDANCE

Several non-governmental organizations (i.e. ICVCM & VCMI) have emerged as informal governance bodies to provide guidance and accountability on data and credit quality for project developers, buyers, and other market actors. Increasingly, sub-national and national governments are beginning to propose or enact policies and regulations that affect VCM activity.

3

TECHNOLOGY INNOVATION

Technological advancements are improving the data landscape for existing carbon pathways and laying the foundation for new credit types and for higher quality (i.e. more accurate and more efficient) MRV processes.

4

MRV* PROCESSES

Ongoing advancements in the monitoring, reporting, and verification (MRV) processes can produce more accurate, timely, and granular data that measures the carbon and socio-environmental impacts of carbon credits.

Buyers are encouraged to actively interact with the data actors who are vital to supplying, analyzing, or interacting with carbon crediting data in this evolving market dynamic



PUTTING IT
ALL TOGETHER

Market actors who interact with buyers can also apply the data package framework

MARKET ACTOR	VALIDATORS OR VERIFIERS	CLIMATE TECH ENTREPRENEURS	RATINGS AGENCY	BROKERS	FINANCIAL ADVISORS	LAWYERS	POLICYMAKERS
APPLICABILITY OF THE DATA PACKAGE Assess strength of data package as a complementary effort to regular job operations. VVBs often have direct touchpoints with project developers and can recommend how to improve the existing data package.	Use data performance benchmarks to enhance services provided or give explicit, data-driven explanations about the quality of their carbon crediting projects or technologies.	Independently run crediting data through testing tools to assess performance and assign specialized data performance rating.	Use testing tools to more quickly identify and source high-quality crediting projects.	Use data package to evaluate price premiums and offer counsel to buyers and investors on the best value for credits, based on their overall climate impact.	Use standardized data performance language to provide buyers with a comprehensive description of potential risks – and mitigation strategies – when transacting high-quality carbon credits.	Use concepts, frameworks, and standardized language in the guide as inputs or components of carbon market policy or regulatory regimes.	
CORE RISK							
CLIMATE PERFORMANCE	✓	✓	✓	✓	✓		✓
PROJECT DEVELOPER			✓	✓		✓	
IMPLEMENTATION	✓	✓			✓	✓	✓
PRICE				✓	✓	✓	

BUYERS GUIDE TO CARBON CREDIT DATA QUALITY

Webinar Q&A



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Use the Q&A box on Zoom to post your questions.

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