Patch

Rebalance
the planet

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August
2023

Trust and safety

A framework to reduce risk and increase transparency in carbon markets

"When used with integrity, voluntary carbon markets unlock much-needed financing that can accelerate climate action. Transparency and robust standards are fundamental to these markets delivering this goal, and it is great to see how Patch's approach to trust and safety can contribute to instilling confidence in the market."

Lydia Sheldrake
Director of Policy & Partnerships, VCMI

VCMI Voluntary Carbon Markets Integrity Initiative

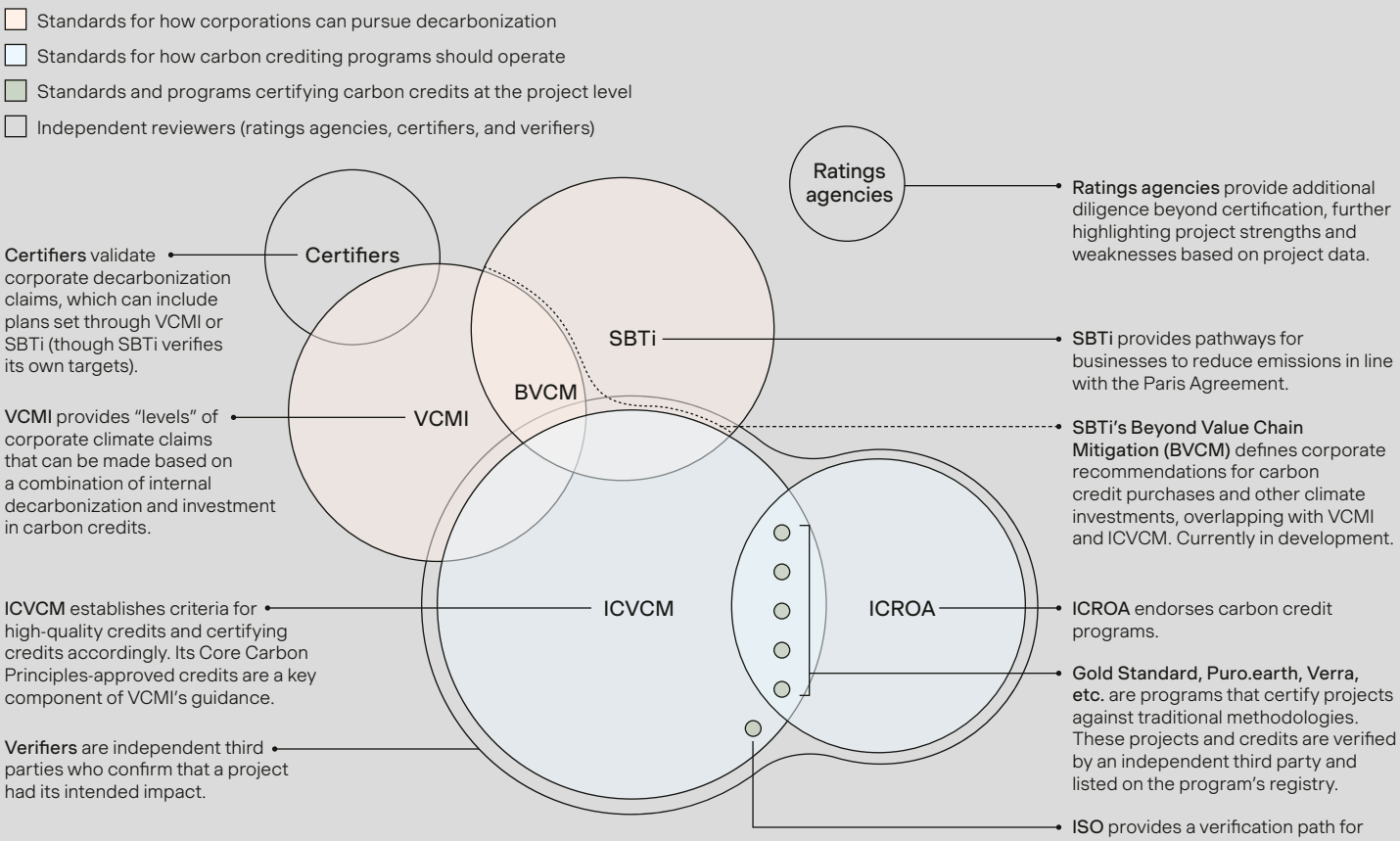
The current state of trust and safety in the VCM

What makes a carbon credit trustworthy and safe? At the most essential level, it simply means that the credit delivers on the climate impact promised.

Without the ability to see into the future, we base our level of confidence in credits' ability to live up to that promise on the best available science.

The problem is the voluntary carbon market (VCM) of today isn't guided by a single, universal scientific standard. And because the many standards that do exist are derived from scientific study, they're inherently iterative. The result is a standards landscape that's changing and improving quickly, but not uniformly.

Exhibit 1 | **Key roles and overlaps in the shifting VCM ecosystem**



For more definitions, see the glossary (p. 35)

There are VCM standards in place for traditional projects and methodologies (e.g. Verra, Gold Standard), standards for cutting-edge project types (e.g. Puro.earth), standards for specific project types (e.g. European Biochar Certificate), standards for standards (e.g. ICROA), standards for how corporations deploy carbon credits towards meeting long-term climate goals (e.g. VCMI, SBTi), and standards for the types of credits that corporations can use to meet those climate goals (e.g. Climate Neutral).

Because these standards have different areas of focus, they cover different criteria, from project design and carbon measurement to co-benefits, governance, and even a project's capacity to scale. Some of these leading standards have substantial overlap. Others do not.

And they're constantly — and rapidly — evolving.

For both new and long-time buyers, it can be arduous to distill what credit "quality" actually looks like in this space. In fact, there is no generally agreed-upon definition of quality.

And yet, taken as a whole, this standards ecosystem actually represents the best available science on credit integrity, project efficacy, and how organizations should engage with the VCM. Each one improves our baseline and understanding of project risk. Each adds value to the market.

Organizations that engage with the VCM do so on their own due diligence, or in consultation with bodies like SBTi, individual advisors, or companies like Patch. Yet even with due diligence and professional advice, it can still be difficult for a buyer to understand the entire standards landscape as a whole.

As a carbon credit buyer, this fragmentation makes it incredibly difficult to understand which criteria really matter in ensuring the efficacy of your carbon credit investment. Even sophisticated buyers experience confusion trying to process or synthesize all of the standards. That can create hesitancy in the market at a time when climate solutions are in urgent need of the financing carbon credits provide.

Risk: one problem, two parts

Carbon credit purchases, like any transaction, have some inherent risk. The type and level of risk varies by project. In our economy, it's impossible to completely de-risk any market, and carbon credits are no exception. That's why every mature market has guardrails put in place by governments, regulators, standards bodies, participants, and often built into their infrastructure.

Carbon markets are less mature compared to traditional markets. There's currently no common agreement among governments and regulators, and existing standards aren't universal or comprehensive.

As a result, potential buyers may feel hesitant to engage with the VCM, leaving huge amounts of capital on the sidelines — capital that could be helping to develop and scale the solutions that will ensure a livable planet for generations. Inaction is a major risk in and of itself.

That means, in the case of carbon markets, the problem of risk actually has two parts:

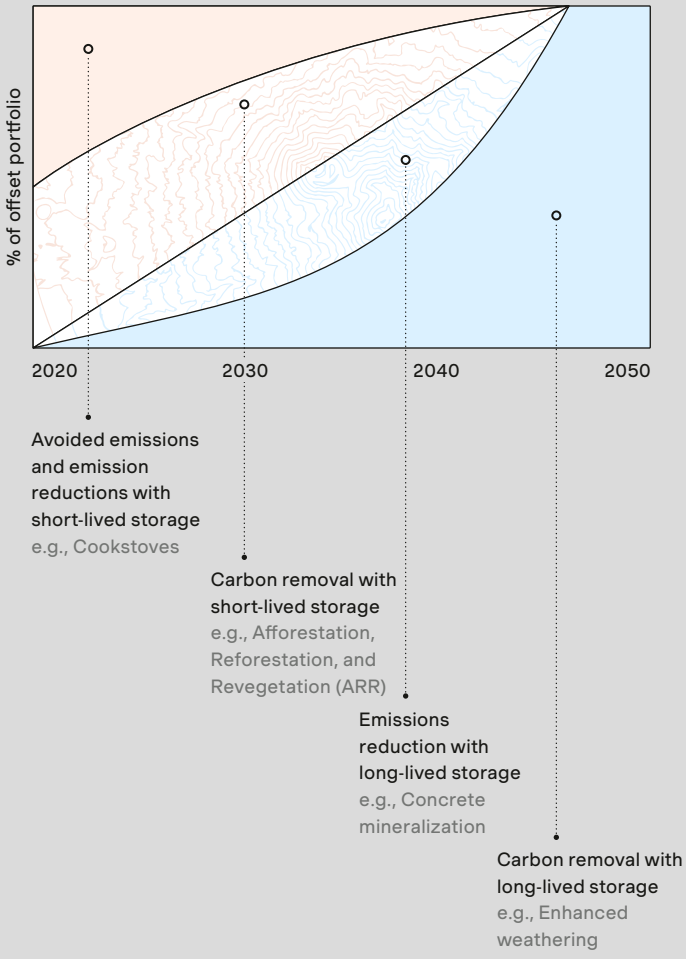
Exhibit 2 | Twin risk problems

At Patch, we designed our trust and safety strategy to optimize for reducing *both* types of risk.

As a counterfactual, one way to mitigate buyer risk would be to create thresholds for projects that are so stringent, only the ones perceived to be the lowest-risk (based on current science) pass the bar. But this would mean some projects — such as early-stage novel technologies — won't get the funding they need to iterate and prove out their method at scale. Or, in the case of forestry projects, where monitoring techniques are still being improved, we'd risk losing thousands of hectares of indispensable forests in the meantime.

The global scientific community doesn't yet know which approaches will ultimately be the most effective in fighting climate change. Investing in a wide and diverse variety of methods will have the best chance of success. Moreover, as the Oxford Principles show, some project types will be critical early on, but will decrease in importance over time.[1] Others will ramp up in importance as they scale. As such, there's risk in creating a system that unduly restricts money from entering the market.

Exhibit 3 | Sample net-zero portfolio (per Oxford Principles)



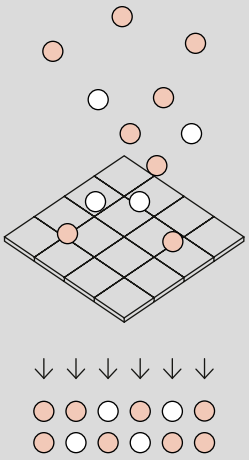
1 Mitchell, Eli. 2020. "The Oxford Principles for Net Zero Aligned Carbon Offsetting 2020." Smith School of Enterprise and the Environment.

Optimal trust and safety standards must minimize risk to the buyer while also maximizing the flow of funding toward as many climate solutions as possible.

Exhibit 4 | A balanced approach to risk management

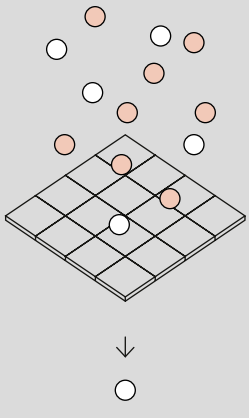
Lenient

To mitigate planetary risk, you could accept most or all projects — regardless of red flags.



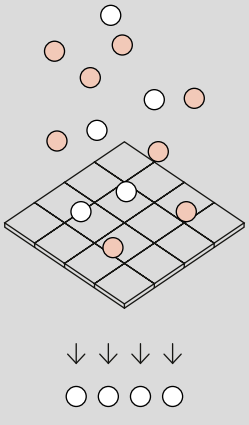
Strict

To mitigate buyer risk, you could raise the bar so high that only a precious few projects meet that standard.



Measured: the Patch approach

To balance both risks, Patch's framework optimizes for both risk reduction and access to projects.



How Patch mitigates risk to buyers and to the planet

Patch is the platform scaling unified climate action across companies of all sizes, their customers, and their networks by simplifying and democratizing access to the VCM. Patch pairs cutting-edge software with impartial, transparent project scrutiny to make climate action accessible and reliable for everyone, so we can rebalance the planet — together.

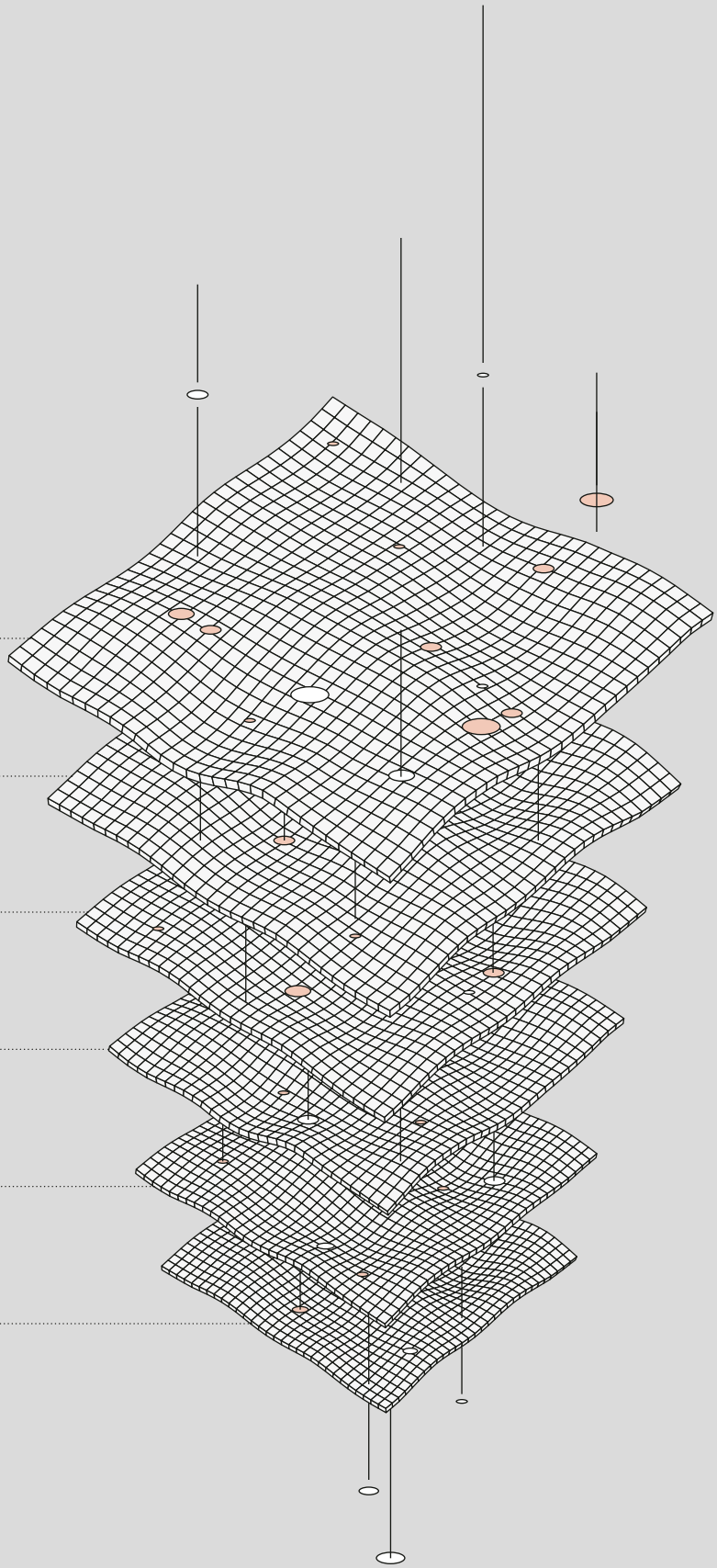
While existing standards can be difficult to navigate, they're built on a strong evidentiary foundation. As such, there's no need for Patch to "reinvent the wheel" with our approach to trust and safety — but there is an opportunity for us to make it much simpler for buyers to get a comprehensive view of the overall landscape. Patch conducted multiple rounds of internal and external review to refine our criteria. These project acceptance criteria represent synthesis and curation of many leading standards. We've gone above and beyond to make it easy to understand:

- Patch's process for evaluating projects
- How our process reflects the latest science
- How our process impacts overall buyer risk and benefit

While it's impossible to eliminate all risk, we can set a solid, scientific baseline for credit integrity that pushes the market toward higher caliber credits and broader transparency. Patch's trust and safety standards are optimized for reduced risk to the buyer *as well as* simpler and more consistent access to a wide range of vetted carbon credits.

Patch has six layers of protection

How do we balance risk reduction with access? By layering multiple types of protection, Patch can significantly reduce risk while also enabling more buyers and sellers to engage with the VCM.



01 Project acceptance criteria

Understanding our project acceptance criteria

Patch's project acceptance criteria serve as the foundation of our approach to trust. Our criteria pull from what we see as the strengths and areas of overlap among the leading international standards.

This criteria was developed through close research and analysis of all the major standards. Through many consultations with policy experts, scientists, suppliers, standards bodies, and market actors, our Climate Trust team created both a process and strict criteria for accepting projects onto our platform.

While we can't eliminate all project risk, our baseline for quality pulls from the preeminent scientific standards for projects, categories, and corporate decarbonization.

The Patch project acceptance criteria are split into three sets of requirements:

1. Verification and validation requirements
2. Additional eligibility requirements
3. Supplier requirements

1. Verification and validation requirements

These requirements ensure every project on the Patch marketplace has had its methodology, project design, and outcomes verified by a third party.

This process looks different for traditional projects going through a large certification body like Verra than it does for cutting-edge projects that don't qualify for traditional certification. Verra, for example, has established methodologies that can accommodate some projects, whereas new technologies may also require new methodologies.

The Patch process was built to accommodate all project types and ensure each has gone through a legitimate screening process.

If a project goes through what is considered a traditional certification process, it is certified against a methodology under an accepted standard. What exactly does this mean?

- A methodology is a framework for how a project will measure and monitor carbon over time. It is a blueprint for the project's boundaries.
- Large certification standards like Verra and Gold Standard have a number of approved methodologies that any project developer can use. If a project fits within the blueprint of the methodology, a third party can verify the project against that standard.
- If a methodology does not exist for a project, its developers need to create one and get it verified by a scientific third party. They then need to get that project design approved by the certifier — all before issuing credits.

This process is expensive and time-intensive, especially for small start-up project developers. That's why many new developers consider alternative paths to third-party verification.

OVERVIEW OF REQUIREMENTS

General verification and validation

- **Methodology:** The project has a scientific methodology that has been verified by a qualified third-party reviewer.
- **Project design:** The project design document (PDD) for issuing carbon credits has been verified by a qualified third-party reviewer.
- **Outcomes:** The project's outcomes have or will be verified by a qualified third-party reviewer.
- **Retirement:** The project's credit issuances and retirements are or will be publicly tracked on a single registry.

Verification and validation under an ICROA-endorsed standard

If a project is certified under an ICROA-endorsed standard, the project will meet Patch's verification and validation requirements. If a project is not currently certified under an ICROA-endorsed standard, pursuing certification, or certified by a non ICROA-approved certifier, the project must be checked against the Patch acceptance criteria through responses to our project onboarding assessment.

The Clean Development Mechanism (CDM), however, is not eligible even though it's ICROA-approved. This is because the UNFCCC is currently phasing out CDM for the new Article 6 standard. We're actively following Article 6 and will integrate it into our process as soon as it's ready.

However, alternative paths present alternative obstacles. While traditional certification comes with challenges, the VCM at-large generally understands the process — as well as what a given certification represents. There are organizations that screen non-traditional projects, but Puro.earth is the only ICROA-endorsed certifier evaluating measurement, reporting, and verification (MRV) in cutting-edge projects.

At Patch, we believe all project types need a pathway that allows them to be screened — not only those certified through traditional processes.

For a project that's not eligible to be certified under an ICROA-endorsed standard or for a developer that elects not to be certified under a traditional methodology, it may or may not be possible to develop and verify all elements of a project with one third-party organization. These projects often come to the table with different verifiers for each step in the process.

In these cases, we'll look for third-party verification of each step in the process. However, it's acceptable if this comes from different organizations. In fact, some organizations recommend that suppliers verify a project's methodology as part of a fully separate process from their project verification, because this ensures the project is optimized for its science and not its potential to issue credits.

Our approach increases the number of paths to getting this third-party stamp of approval. This will help newer projects scale with integrity more quickly.

***Patch's goal:** to create verification and validation criteria that enable **all project types** to be accepted on our platform, whether they've gone through a traditional certification process or not.*

Patch's requirements intentionally differ for projects going through a traditional verification process versus cutting-edge projects that are verifying their methodology, project, and outcomes separately (as described above).

By separating out verification and validation requirements for each step in the process (methodology, project, outcomes, attribution), it's easier to quickly validate that each step has undergone third-party review.

This gives cutting-edge project developers a more flexible combination of paths to verify, because they can work with different verifiers for different steps in the process.

Let's take a closer look at the four verification and validation requirements:

Methodology requirements
The methodology is scientifically reviewed and endorsed by a qualified and independent third party.

- **Qualified third party:** An expert with an advanced degree in a relevant field, ICROA-endorsed verifier, or an ISO- or ANSI-certified verifier
- **Endorsement:** A certification of this methodology or a statement from a verifier attesting to this approach
- **Independent entity:** A party that has no investment or employment interests with the project developer that is able to provide an unbiased evaluation of the project
- **Iteration:** The methodology must be re-reviewed by a qualified and independent third party at least every 5 years

Project requirements
The project design document (PDD) for issuing carbon credits is verified by a qualified and independent third-party reviewer.

- **Qualified third party:** An ICROA-endorsed verifier or an ISO- or ANSI-certified verifier
- **Verification:** Certification against a specific methodology (e.g. VM0023) or verification against a specific standard (e.g. ISO 14064-2)
- **Independent entity:** A party that has no investment or employment interests with the project developer that is able to provide an unbiased evaluation of the project
- **Iteration:** The PDD will be re-reviewed 1) whenever the methodology is re-reviewed, 2) the project goes through an additional verification cycle, or 3) there are any updates to the PDD to reflect changes in project implementation

Outcome requirements
The outcomes included as part of a monitoring report are or will be verified by a qualified third-party reviewer.

- **Qualified third party:** An ICROA-endorsed verifier, or an ISO- or ANSI-certified verifier
- **Future vintage project flag:** A project that is issuing future credits at the time of listing must attest that a monitoring report will be developed, and its credits will be verified by a qualified third-party reviewer before the time the credits are sold and delivered

Attribution requirements
Project developers will provide assurance that no two parties are claiming credit for the same climate impact. This will take the form of a supplier attestation in its agreement with Patch.

All credits from a project will be tracked on a single registry. Patch defines a registry as any entity that publicly tracks issuances and retirements of credits. This does not have to be the same entity as the qualified third-party reviewer to validate your organization's methodology or PDD.

- **Registry:** A registry must facilitate publicly-tracked and serialized issuances and retirements of credits
- **Tracking:** There is or will be a mechanism in place to track issuing, selling, and retiring of credits

FOR CARBON CREDIT SUPPLIERS

ICVCM alignment

Each project must align with the ICVCM Core Carbon Principles (CCPs). PDDs will include an explanation of the following:

Project Summary
- Brief project summary, which includes: project goals, location, greenhouse gas (GHG) assessment boundary, methodology eligibility, project team/developer, etc.

Project benefits and relevant metrics
- The metrics you're using to track project impact

Governance
- The supplier is tracking credits on a single registry, sharing all project documents publicly, and has considered legal status and property rights
- Information on project governance and analysis of project financials

Emissions impact
- Information on the project's GHG impact and monitoring plan, including how it will address baselining, permanence, and leakage

Sustainable development
- Information on the community and ecosystem co-benefits of the project

Funding and revenue
- Information regarding the project funding model, barriers to scaling, and capacity of the project to scale

Note: *ICVCM began accepting program applications in July, 2023. In this case, a "program" represents a carbon crediting standard (like Verra) who may decide to submit any or all of their methodologies for approval. The first CCP-approved projects are likely to be announced in late 2023. Patch plans to give every supplier a reasonable window for getting their projects CCP approval based on the timing of program-level validation. We will update this document to reflect that timeline.*

2. Additional eligibility requirements

These additional eligibility requirements aim to fill in the gaps where, historically, certification has not been enough to reduce or eliminate risk. These criteria are the most responsive to changes in the market.

Below, we've designated some project types as ineligible that once represented an important first step in the market, but now are not presently seen to meet additionality or environmental performance claims. Additionally, we've ruled out some project types and measurement approaches that are too new to quantify with integrity. Patch will continue to adapt the following list of requirements over time to reflect *current* best available science as this market rapidly grows and evolves.

The project must attest that it complies with local laws and regulations
Project governance is a key tenet of the new ICVCM Core Carbon Principles. Projects that do not comply with local laws and regulations are more likely to be cut short, underperform with respect to long-term permanence, or have detrimental impacts to local communities where the projects are based.

The project must be in compliance with the U.S. Department of the Treasury Office of Foreign Assets Control (OFAC) Sanctions and Embargo Programs and other applicable international sanctions
Patch maintains and regularly reviews a list of sanctions related to countries where we have suppliers or clients to ensure that we are compliant with any applicable legislation or restrictions. We have a process for identifying and reviewing suppliers that are located in countries where either individuals — or the countries themselves — have been sanctioned by the United States and other countries where our buyers are located. This ensures projects are in compliance with applicable sanctions or embargoes.

The credits are of a vintage at most 5 years before the current calendar year
The scientific process is iterative. As researchers have studied ecosystems, they've refined the process for accurately measuring and monitoring carbon. At the same time, new technology has made carbon measurement and monitoring easier and more precise. As a result, newer credits tend to be less risky than older credits because they are more likely to come from projects with newer methodologies or better monitoring approaches.

Additionally, credits sold from newer vintages are more likely to come from ongoing projects that are actively contributing to new climate mitigation (vs. older projects that are phasing out). Investing in newer projects can increase the chance that credit revenues will support scaling these approaches, and ultimately additional carbon avoidance or removal.

Excluded project types
Each project type has different underlying risks and benefits. For traditional projects, many of the underlying risks are associated with a project's ability to meet additionality and carbon performance claims. This is because these project types were often working to advance new technologies or model ecosystem growth or future human behavior, which is impossible to fully predict.

Patch recognizes that certain project types may have more nuance than can be reflected using an overarching project type restriction. There can be a "gray area" around integrity for each of the project types listed below. Our goal is to draw a conservative line in the sand, explain why we drew the line where we did, and clearly describe what information we'd need to change our stance.

As a starting point, these project type restrictions are based on:

1. **Changes from leading standards:** Patch's standards will always take into account recent updates to major standards. For example, in 2018, Verra made the decision to stop certifying a set list of energy-based avoidance project types that no longer had strong additionality claims. These projects were excluded for future certification through Verra during their 2018 program revision.
2. **ICVCM recommendations:** Likewise, as ICVCM begins to approve certain programs under the CCPs, some categories will be ineligible for CCP approval, and others will require greater scrutiny and program revision to become eligible.

These principles inform our project exclusion requirements, which are described in detail below:

- **US-based renewable energy:** Renewable energy projects aimed to help the U.S. renewable energy industry scale — and it worked. While this market still has plenty of room to grow, it has reached a size where new projects often can't prove financial additionality, or show that the climate impact would not be possible without investment from carbon credits. While Patch currently still lists renewable energy projects from other countries, we will continue to track the additionality case for these projects as well, and will update these requirements as leading standards bodies indicate these markets have reached critical scale (such as through ICVCM's additional scrutiny process for renewable energy programs).
- **HFC destruction:** Increasingly, legislation is rendering hydrofluorocarbon (HFC) destruction projects non-additional from a policy perspective. The 2020 AIM act laid out a long-term plan "to phase down the production and consumption of listed HFCs, manage these HFCs and their substitutes, and facilitate the transition to next-generation technologies through sector-based restrictions." This policy is on track and has seen regular updates. As international policies focused on HFC destruction have matured, there have been an increasing number of conversations surrounding the additionality of HFC projects and whether or not they continue to require funding from carbon credits to fully phase out. Certain standards like the American Carbon Registry (ACR) have worked to ensure all HFC destruction projects meet or exceed the latest policy requirements. Other standards like Verra have moved away from certifying HFC projects because they feel policy action is enough to incentivize and support this work without the investment from carbon credits. This constant change has meant that HFC projects exist in a gray area from an additionality standpoint for many standards and buyers. Patch has decided to take a conservative approach and exclude HFC projects from our marketplace at this time.
- **Energy efficiency in non-LDCs:** As is the case with renewable energy, many countries are enacting a growing number of incentives, rebates, and policies in support of energy efficiency. It's becoming harder to make the case that these projects require financing from carbon credits to scale. Because of this, outside of the UN's Least Developed Countries (LDCs), energy efficiency projects are not seen as additional. In some developing communities, funding from carbon credit projects is still required to help these incentives succeed, so these projects are still eligible. Additionally, there are some small-scale projects focused on sustainable development, which integrate carbon mitigating activities like energy efficiency and waste management into specialized projects. Because of this variation in projects, for now, Patch has decided to specifically limit listing energy efficiency projects from non-LDCs.
- **Large-scale hydro:** This analysis of CDM projects found that most medium and large-scale (greater than 15 megawatts) hydro projects (verified under two CDM methodologies) are unlikely to meet additionality claims. This is both because hydropower technology has been in place for a long time (suggesting that the technology and use of hydropower is common practice, and doesn't need a carbon credit project to change behavior), and because many of the studied projects were developed and launched without subsidies (suggesting they don't need financing from carbon credit revenues to sustain and scale). Because small hydro plants can experience greater barriers to launching, these projects are more reliant on financing from carbon credit revenues.

DAC projects cannot use EOR as a storage mechanism
Enhanced Oil Recovery (EOR) is a storage mechanism for Direct Air Capture (DAC) in which CO2 is pumped into oil wells, enhancing the efficiency of oil extraction. In addition to reducing the carbon intensity of oil extraction, this process could increase incentives for future oil extraction by making the process more efficient.

Right now, proponents of EOR advocate that it's one of the most accessible storage options for DAC, and one that brings oil and gas companies into the climate conversation. Opponents of this storage method claim that this method incentivizes more oil extraction, where the market should be focused on establishing more deep geological storage options. Additionally, projects using enhanced oil recovery are not eligible for CCP approval under ICVCM. As a result, Patch is in favor of alternative storage techniques and does not accept DAC projects using EOR onto our marketplace.

Projects measuring permanence using tonne-year accounting are ineligible
Tonne-year accounting is a new approach to quantifying permanence that allows a carbon credit's impact to be measured in single year increments, rather than comparing projects with different degrees of permanence. After evaluating the approach and conducting a public review process in 2022, Verra made the decision not to adopt tonne-year accounting as a valid approach for Verra certification at this time. More recently, the supervisory body for Article 6 decided not to accept projects using tonne-year accounting until these processes are more established. We see tonne-year accounting as a process to watch, and will re-examine its integration into our framework when more standard guidance exists to support its climate impact.

Ex-ante credit acceptance requirements
Most credits are issued ex-post, meaning the climate impact has occurred and project outcomes have been verified. However, in some cases, a credit may be issued ex-ante to reflect climate impact that is expected to take place over decades in the future.

Ex-ante credits may be sold on the Patch platform as long as the mitigation activity has occurred at the point of credit issuance. Developers are otherwise responsible for the same verification and validation requirements: 1) verifying both their project and methodology, and 2) demonstrating a reasonable timeline for verifying outcomes.

This is one area where Patch's requirements differ from recommendations from the ICVCM. In line with our measured approach to risk, Patch believes we have a responsibility to help new developers scale with integrity. Ex-ante credits are one way to make capital more accessible to startup projects. For many new project developers, lack of early stage funding can be a huge barrier to scaling. That's common to start-ups of any kind. Because of this, we think it's important to integrate ex-ante crediting into our process in order to meet these new suppliers where they are and help them more easily overcome these early hurdles.

Tokenized credits are ineligible for listing
Tokenized credits are a digital representation of a credit that can be bought or sold via blockchain on a cryptocurrency platform. The market for tokenized credits via blockchain rose dramatically in 2022 and evolved so quickly that standards like Verra and ACR have temporarily prohibited their credits to be used on crypto platforms for double counting and environmental integrity concerns. We see tokenized credits as another place to watch for changes in the market. As soon as there are more standardized processes in place for evaluating these crediting processes, we'll revisit whether and how tokenized credits fit into our framework.

3.
Supplier requirements

We know that many buyers don't work directly with carbon credit developers, and that building trust with an anonymous developer can be hard. We've built this set of requirements to hold carbon credit suppliers accountable — from small start-ups to international aggregators.

- Suppliers are required to disclose which of the following they participate in:
  - Project development
  - Project financing
  - Project sales & marketing
  - Project management
  - Project data analysis and tracking
  - Other (must describe)
- If the supplier is not also the project developer, they must disclose the name of the project developer.
- Every project must adhere to the ICVCM Core Carbon Principles (this will be validated as part of a supplier's project design requirements). Among other things, this requires suppliers to disclose information on their organizations revenues, expenses, and net assets over the past year, as well as provide an overview of major programs, activities, and governance.

02

Transparent project data

Transparent project data

At Patch, we're committed to providing buyers all available information plus the guidance they need to navigate the VCM and confidently purchase carbon credits from vetted projects.

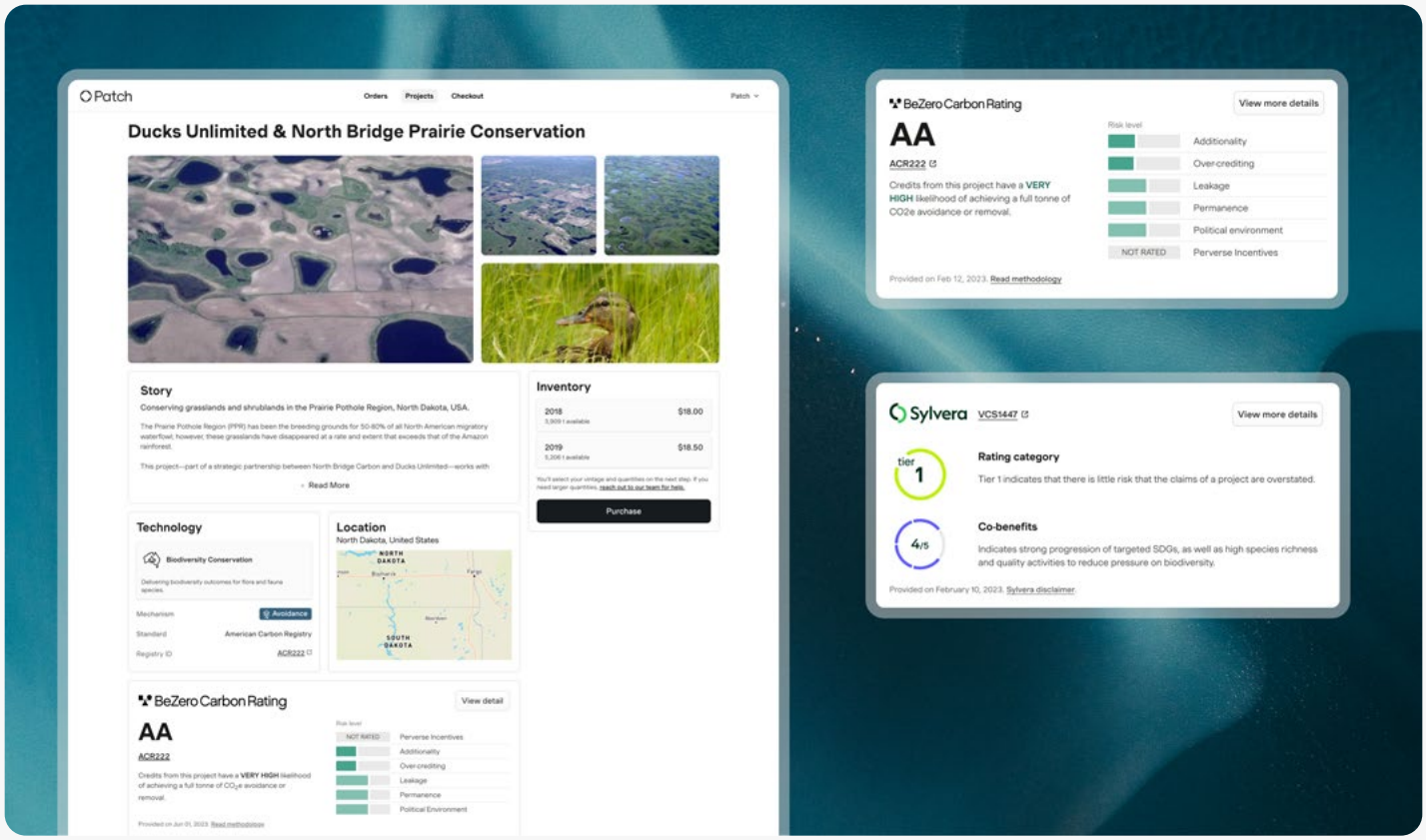
Transparency empowers decision makers to move faster without sacrificing due diligence. It fosters trust throughout the market — among regulators, buyers, and end consumers. Because of the complexity and the rapid rate of change in the VCM, the level of transparency needed is only achievable through technology — purpose-built software that can keep up with the pace of the VCM's evolution.

Patch has built a project network that reflects the future trajectory of the VCM, and our acceptance criteria ensures a solid, scientific baseline for credit integrity. Additionally, Patch's platform surfaces project-level ratings and analysis, and provides neutral, scientific reviews that can help buyers better understand the attributes and expected outcomes of a given project.

Robust acceptance criteria (as seen above) should be table stakes for any trust and safety framework. To build deeper trust with buyers and the broader market, Patch goes beyond that by incorporating the global conversation on project integrity and credit quality into the product itself.

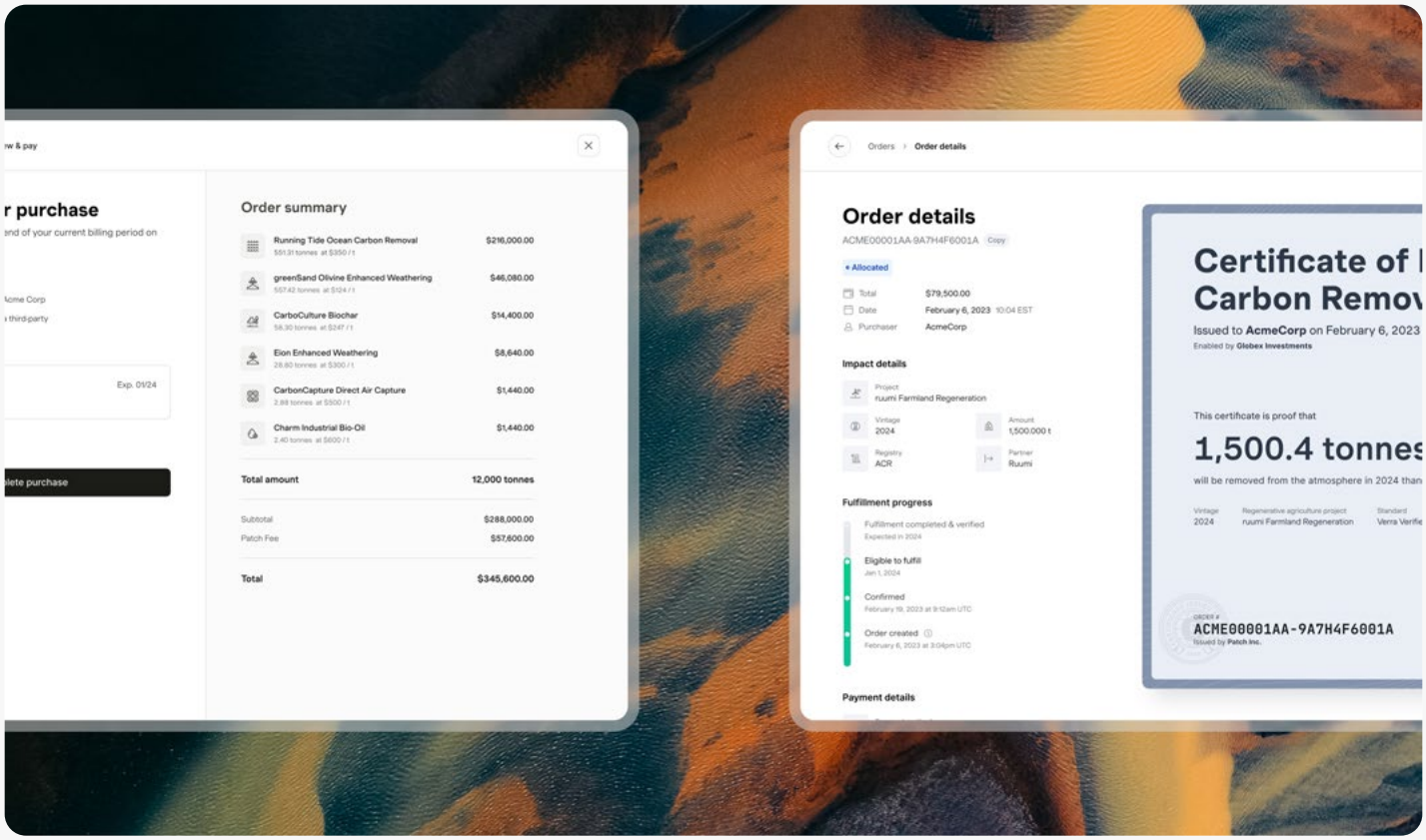
Our platform is designed to:

- Help suppliers collect and track project data efficiently
- Share the best and most relevant project data with buyers to help them understand project nuance and make informed decisions
- Help larger organizations track carbon purchases throughout their organization as a way to stay on top of how they are meeting climate goals



Patch's platform exposes a wide range of context and information to help buyers both navigate the VCM and make the best risk-adjusted decision for their organizations. Currently, that means:

- Quantifying and making visible project details, such as available volume, price, durability, etc.
- Providing access to project MRV details, including project methodologies, verification reports, lifecycle assessments, and other documentation when available
- Providing third-party ratings and analyses that evaluate projects beyond the binary yes/no of certification (e.g., BeZero, Sylvera)
- Flagging when a project, vintage, protocol, or standard is under scrutiny or being re-evaluated
- Publishing content deep dives on the wide range of climate action solutions in or coming to the market



Credit prices and fees

Due to Patch's unique listing model, the prices you see are the prices that the supplier is charging, and the full value that will go to the project developer. Patch's fees are always shown separately, and not baked into the cost of a credit.

Delivery status

Once you have placed an order, you will receive a link to a purchase certificate and project status page, which will update as your order progresses toward fulfillment. This is especially important when purchasing future vintages, which are to be delivered in the coming years.

DEEP DIVE

Attributes affecting carbon credit performance and integrity

Patch's platform surfaces project information and third-party insight into critical project attributes, including:

- **Real and verifiable:** The project is using a scientifically rigorous methodology for monitoring and verification that has been reviewed by a group of experts in an appropriate field related to the project. There is a plan in place to re-review the methodology on a regular cadence at a minimum of every 5 years.
- **Additional:** Climate mitigation would not have occurred without this project, whether due to lack of funding, lack of policy, or lack of efficacy of traditional methods.
- **Permanent and durable:** The project's methodology addresses permanence and durability (i.e., how long the carbon will be mitigated through avoidance, reduction, or removal).
- **Leakage:** The project confirms it is not knowingly contributing to an unintended increase in emissions or shift of emissions from one place to another. The project also has a plan in place to account for any potential leakage. The aforementioned methodology provides assurances around leakage management.
- **Enforceability:** The project is not double-counted, when multiple parties claim the same carbon mitigation.
- **Negativity:** The project results in a net negative reduction in atmospheric CO_2 (i.e. it does not generate more emissions to create the credit than the credit itself).


03
Expert guidance

Expert guidance

Transparent data is important, but only if buyers know how to evaluate it against their organizations' climate goals and claims. Even for the most sophisticated buyer, it can be helpful to discuss your climate strategy and the projects under your consideration with a neutral, third-party expert.

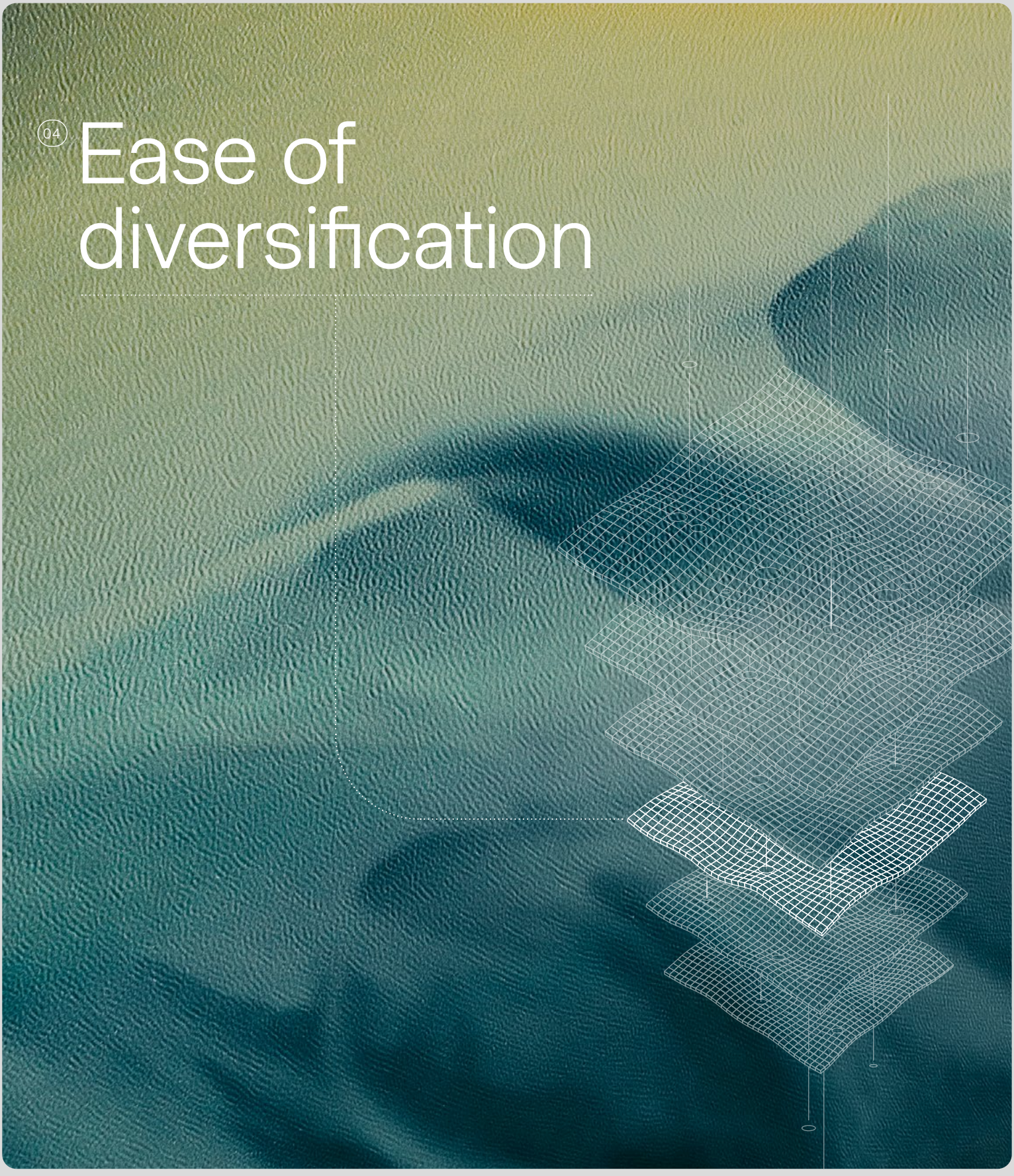
The Patch Climate Solutions team offers personalized, hands-on guidance, from general market insights to custom carbon credit portfolio construction to insights from suppliers themselves — ensuring your credits map to your climate strategy.

Our team is made up of experts with deep climate knowledge and expansive connections throughout the policy, academic, and private sectors. Patch not only can help you better understand the VCM as it is now, we play a part in shaping it proactively as well.

"Patch is an ideal partner when it comes to understanding the ins and outs of carbon removal and all the potential ways it can help advance a sustainability strategy. They're a knowledgeable resource we know we can trust in a fast-changing space."

Toni Coulson,
Director of Asset Portfolios and Sustainability, Starling Bank

STARLING BANK


04
Ease of diversification

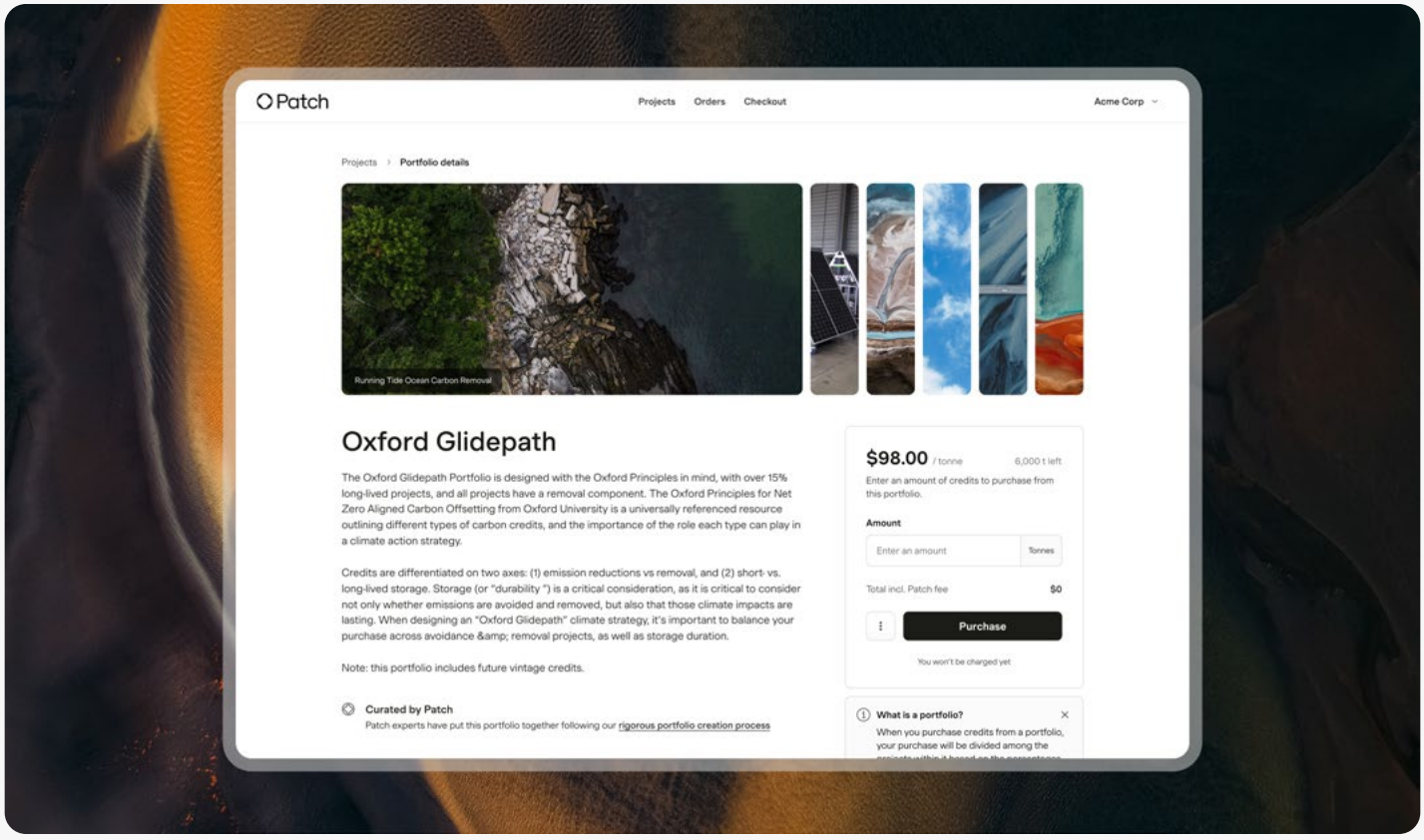
Ease of diversification

As with investing in the stock market, diversification is one of the best ways to protect against risk when purchasing carbon credits. But in this case, it also has the added benefit of spreading funding to a wider variety of projects. It will likely take a wide variety of different approaches to mitigate the climate crisis — scaling as many of them as possible will give us the best chance to avoid catastrophe.

A portfolio approach also makes a wider variety of projects available to buyers with strict limitations on the average price-per-tonne they've budgeted to pay.

Diversification, however, puts a lot of responsibility on the buyer to multiply their purchasing process across the number of projects in their portfolio. Patch simplifies the process of building a diversified carbon credit portfolio by streamlining access to projects across a wide range of technology types and attributes, and eliminating the need for individual contracting and procurement processes.

Patch has pre-built several portfolios to choose from, but it's also possible to create your own based on your organization's goals and budget.



05

Protection against delivery risk

Protection against delivery risk

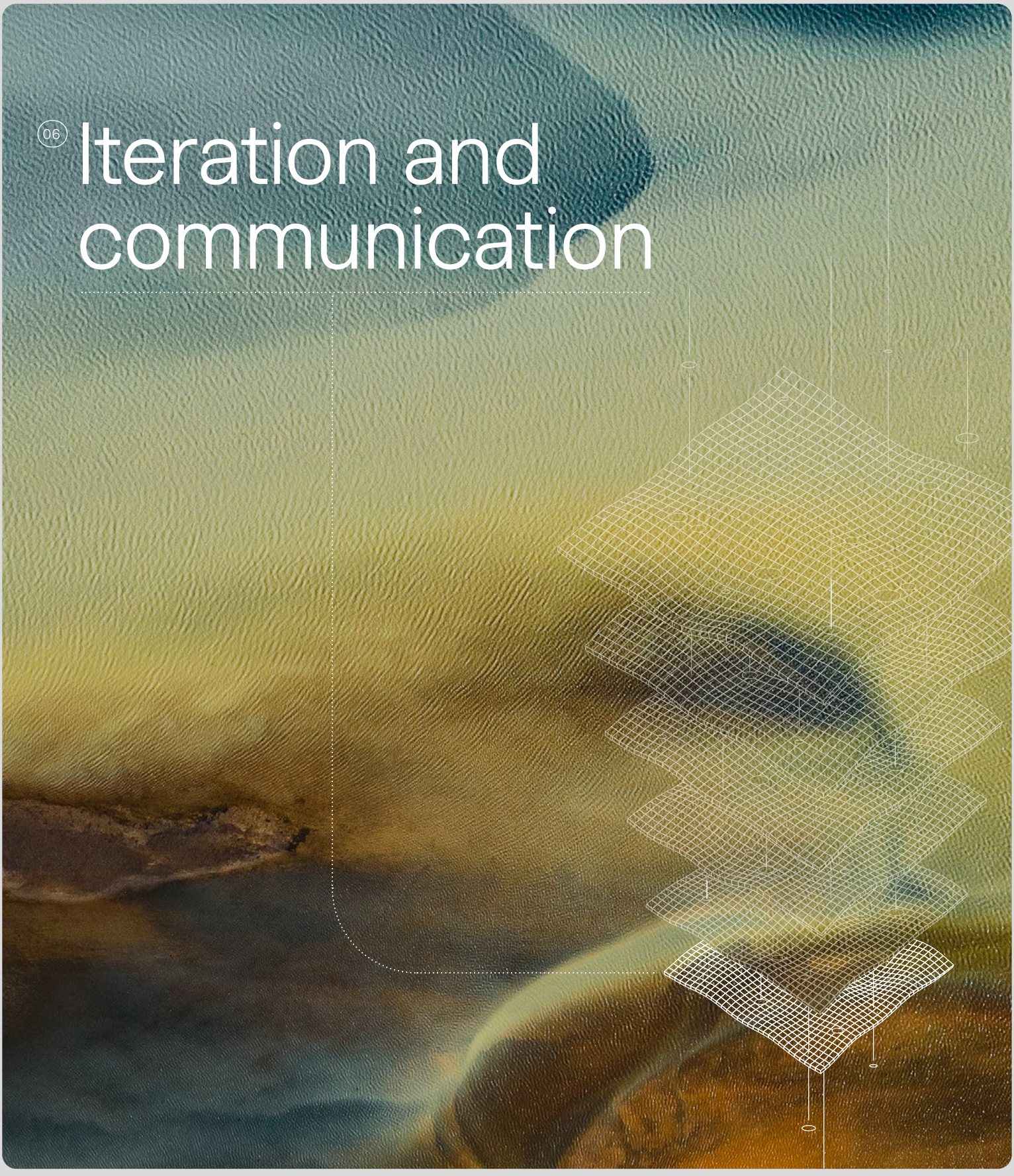
Layered together, the Patch project acceptance criteria, transparent project data enhanced by third-party analysis and expert guidance, and a diversified approach provide buyers with significant risk mitigation. But whether you're buying future vintages from new, innovative entrants with emerging technologies or established approaches where standards bodies may make updates, there is always a potential risk that those projects will be unable to deliver the credits promised.

So, why take the risk? It's too early in the innovation curve to know for sure which emerging methods will work best and scale fastest. We need to invest in a range of viable solutions to determine what will be most effective.

Carbon credits are a powerful, market-based tool that provide projects with sustaining forward revenue to fuel research, development, and scale their approach. They create incentives for protection and stewardship of our forests and oceans, and reward sustainable land management practices.

At Patch, we want to make investing in climate innovation as risk-free as possible. **If a project fails to deliver the credits promised, we work with the customer to provide the same volume of a comparable credit type, at no cost.**

06 Iteration and communication



Iteration and communication

These layers of protection provide a foundation for reducing risk to buyers while also accounting for the risk of inaction, slow action, or action at too small a scale. But the nature of the climate crisis also defines the nature of its solutions — time is of the essence, so we can't wait for perfection.

An iterative approach to trust and safety is Patch's last layer of protection. We'll continue to modify and update our approach based on the best-available science. As cutting-edge solutions scale, we'll learn more about their risks and benefits and adapt our approach to reflect the best risk mitigation options for the market.

Our Climate Trust team is plugged in to the latest developments at the policy and standards level. As soon as (and often before) new guidelines and policies are publicly released, Patch is able to digest and incorporate them into our process.

Our project acceptance criteria will be reviewed and updated on a yearly basis at minimum, with ad hoc updates made when necessary based on new developments in the market. Patch is constantly working on innovative ways to use technology to increase transparency and reduce risk. As more and more credits are managed or transacted on the Patch platform, the data generated will also become increasingly valuable for trust and safety.

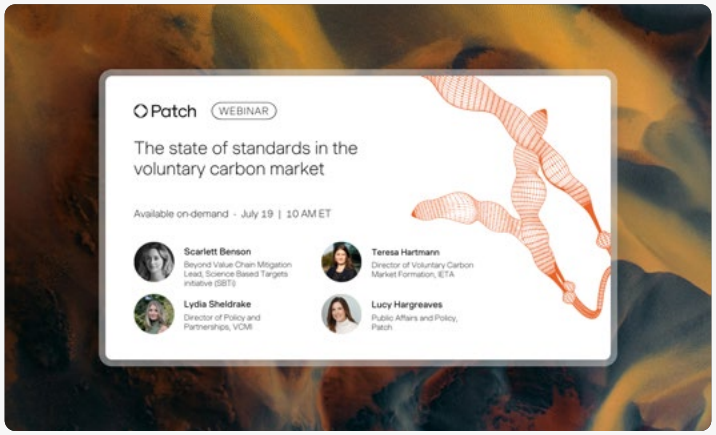
As we make improvements both to our requirements and our technology, closing the loop on changes and learnings with suppliers, buyers, and partners will be equally important.

Patch releases regular updates in the form of:

- In-product education and enablement
- Forward-thinking perspectives on the VCM on our website and social channels
- Expert analysis of important events and advancements in the VCM
- Educational webinars, ebooks, and whitepapers

This whitepaper itself will be updated, and each iteration will be clearly labeled to maintain version currency.

We know navigating this market can be confusing. We're here to help you distill it. Investing in carbon credits should be an exciting and rewarding part of your organization's climate journey, not intimidating and stressful.



Above: *Patch regularly hosts webinars with VCM leaders like SBTi, VCMI, IETA, ICVCM, IPCC, XPrize Carbon Removal, and many more.*

Clockwise starting from top left: *Various events at COP27 (Sharm el-Sheikh, 2022): Patch-hosted panel discussion on corporate net-zero strategies, Brennan Spellacy (Patch CEO) participating in a panel discussion on integrity in carbon markets; Patch-hosted roundtable discussion at Goals House.*

QUICK-REFERENCE

Project acceptance criteria

1: Verification and validation requirements:

- ☐ The project has a scientific methodology that has been verified by a qualified third-party reviewer.
- ☐ The project design document (PDD) for issuing carbon credits has been verified by a qualified third-party reviewer.
- ☐ The project's outcomes have or will be verified by a qualified third-party reviewer.
- ☐ The project's credit issuances and retirements are or will be publicly tracked on a single registry.

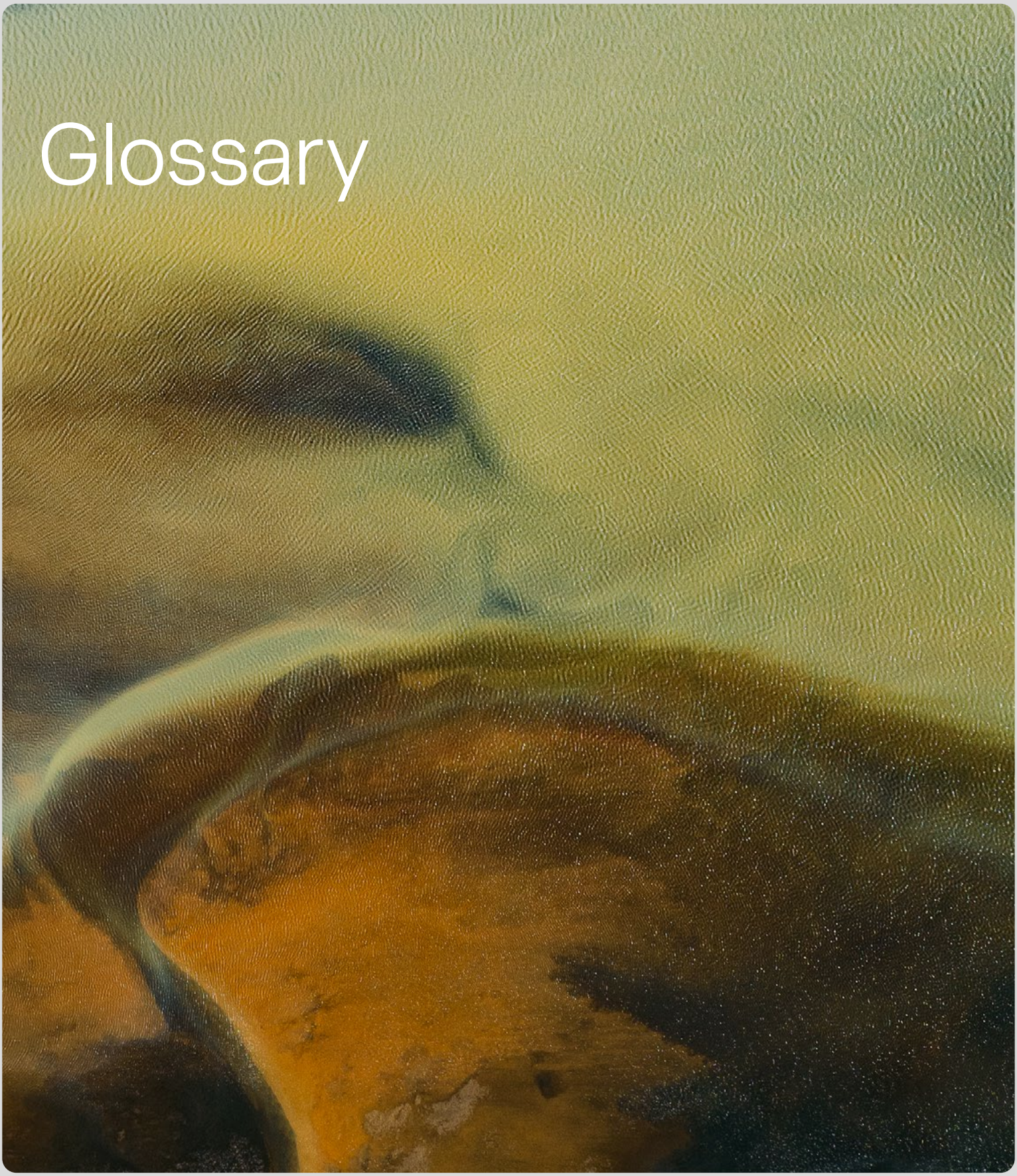
Note: these requirements can be met if a project is certified by an ICROA-endorsed standard.

2: Additional eligibility requirements:

- ☐ The supplier must attest that the project complies with local laws and regulations.
- ☐ The project must be in compliance with U.S. Office of Foreign Assets Control (OFAC) Sanctions regulations.
- ☐ The credits are of a vintage at most 5 years before the current calendar year.
- ☐ The following project types will be ineligible for acceptance on Patch's marketplace: U.S.-based renewable energy and energy efficiency in non-LDCs; HFC destruction; large-scale hydro.
- ☐ Direct air capture (DAC) projects cannot use enhanced oil recovery (EOR) as a storage mechanism.
- ☐ Projects measuring permanence using tonne-year accounting are ineligible for acceptance
- ☐ Ex-ante credits may be sold on the Patch platform as long as the mitigation activity has occurred at the point when the credit is issued. These credits will be specially designated as ex-ante on our platform.
- ☐ Tokenized credits are ineligible for acceptance.
- ☐ The credits adhere to the Integrity Council for the Voluntary Carbon Market (ICVCM)'s Core Carbon Principles.

3: Supplier requirements:

- ☐ Suppliers are required to disclose which of the following they participate in:
  - » Project development
  - » Project financing
  - » Project sales and marketing
  - » Project management
  - » Project data analysis and tracking
  - » Other (must describe)
- ☐ If the supplier is not also the project developer, they must disclose the name of the project developer.
- ☐ Every project must adhere to the ICVCM governance requirements (this will be validated as part of a supplier's project requirements). Among other things, this requires suppliers to disclose information on their organization's revenues, expenses, and net assets over the past year, as well as provide an overview of major programs, activities, and governance.



Glossary

Terms

Article 6	Article 6 of the Paris Agreement established an accounting framework for international transfer of carbon credits and a central UN mechanism to trade credits. Essentially, it amounts to rules for international carbon markets.
BVCM	Beyond Value Chain Mitigation refers to SBTi's guidance for deploying climate finance above and beyond making emissions reductions within their value chain, including purchasing carbon credits. These guidelines have been released for public consultation, but have not been finalized.
Carbon credit	An economic unit representing one metric tonne of carbon dioxide that has been avoided or removed from the atmosphere.
CDM	The Clean Development Mechanism is a United Nations program that allows a country with an emissions reduction or limitation commitment under the Kyoto Protocol to invest in emissions reductions in a developing country and count those reductions toward their own targets.
Co-benefit	An additional positive outcome associated with a carbon credit, such as ecological benefits, biodiversity, energy security, improved air quality, and many more.
DAC	Direct Air Capture refers to any technology that chemically removes CO_2 from the atmosphere.
EOR	Enhanced Oil Recovery is a technology that involves injecting CO_2 into oil wells to allow for the extraction of fossil fuels.
Ex-ante	Ex-ante credits constitute an emissions reduction that is expected to take place in the future.
Ex-post	Ex-post credits constitute an emissions reduction that has verified to have already happened.
GHG	Greenhouse Gasses including CO_2, methane, HFCs, and others.
HFCs	Hydrofluorocarbons are greenhouse gasses that are used in refrigeration and insulation and can be thousands of times more harmful than CO_2.
LDCs	Least Developed Countries are defined by the United Nations as low-income countries with structural impediments to sustainable development.

Terms continued

MRV	Measurement, reporting, and verification refers to the scientific process of monitoring the climate impact of a carbon credit project, reporting on that impact, and verifying the impact.
The Oxford Principles	A set of four principles developed by climate scientists at University of Oxford to guide the use of carbon offsetting.
Patch project acceptance criteria	The process and standards by which a carbon credit process may be accepted onto the Patch platform.
PDD	A project design document is detailed documentation for a project's methodology, implementation, expected climate outcomes, calculated emissions reductions or removal, baseline conditions, personnel, data management and reporting, and much more.
Tokenized credit	A digital representation of a credit that can be bought or soldvia blockchain on a cryptocurrency platform.
VCM	The Voluntary Carbon Market is an economic ecosystem in which carbon credits are produced, sold, and ultimately retired. Not to be confused with compliance markets, participants in the VCM are not required to engage due to governmental policy or regulation.

Organizations

ANSI	The American National Standards Institute is a nonprofit organization that oversees voluntary standards for various technologies and activities in the U.S.
BeZero	A private company based in the U.K. that provides publicly available risk assessments and ratings for carbon credits.
Climate Neutral	A nonprofit organization that manages the Climate Neutral Certified Label, a standard for corporate carbon accountability.
European Biochar Certificate	A voluntary industry standard developed by the Ithaka Institute to guide the use of biochar technology in Europe.
Gold Standard	A certification standard for carbon credit projects focused on energy efficiency and renewable energy run by The Gold Standard Foundation, a nonprofit based in Switzerland.
ICROA	The International Carbon Reduction and Offset Alliance is a nonprofit organization that manages an accreditation program for certifying best practices in the use of carbon credits.

Organizations continued

ICVCM	The Integrity Council for the Voluntary Carbon Market is an independent governance body setting and enforcing a global standard for carbon credits known as the Core Carbon Principles (CCPs).
ISO	A standard development organization headquartered in Switzerland that creates international standards for technology and manufacturing.
OFAC	The Office of Foreign Assets Control of the U.S. Treasury Department that administers and enforces international trade sanctions.
Patch	A software company founded in 2020 to create modern infrastructure and market acceleration to scale the VCM.
Puro.earth	A global standard and registry headquartered in Finland for engineered carbon removal projects and their carbon credits.
SBTi	The Science Based Targets Initiative is a partnership between CDP, United Nations Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) that developed the first net-zero standard, as well as science-based guidelines for meeting it.
Sylvera	A private company based in the U.K. that analyzes and rates the integrity of carbon credit projects.
UNFCCC	The United Nations Framework Convention on Climate Change is a United Nations treaty first adopted in 1992 with the aim of preventing dangerous human interference with the Earth's climate.
VCMI	The Voluntary Carbon Markets Integrity Initiative is a non-profit standards organization. Its Claims Code of Practice provides rules for how companies may engage with the carbon credits in line with net-zero pathways.
Verra	A nonprofit organization headquartered in Washington, D.C. that manages the Verified Carbon Standard (VCS) program, a standard for certifying carbon credits focused on forestry, agriculture, and plastic waste.

A rebalanced planet depends on the climate solutions the VCM is accelerating. Patch's trust and safety approach is designed to give carbon credit buyers the confidence they need to help create a livable future.

Patch trust and safety framework version 2.0
Published August 10, 2023

Patch

Get in touch with our climate team
Whether you have an established climate strategy or are just getting started, let's talk.

patch.io info@patch.io