

The Voluntary Carbon Market Explained

Chapter 8



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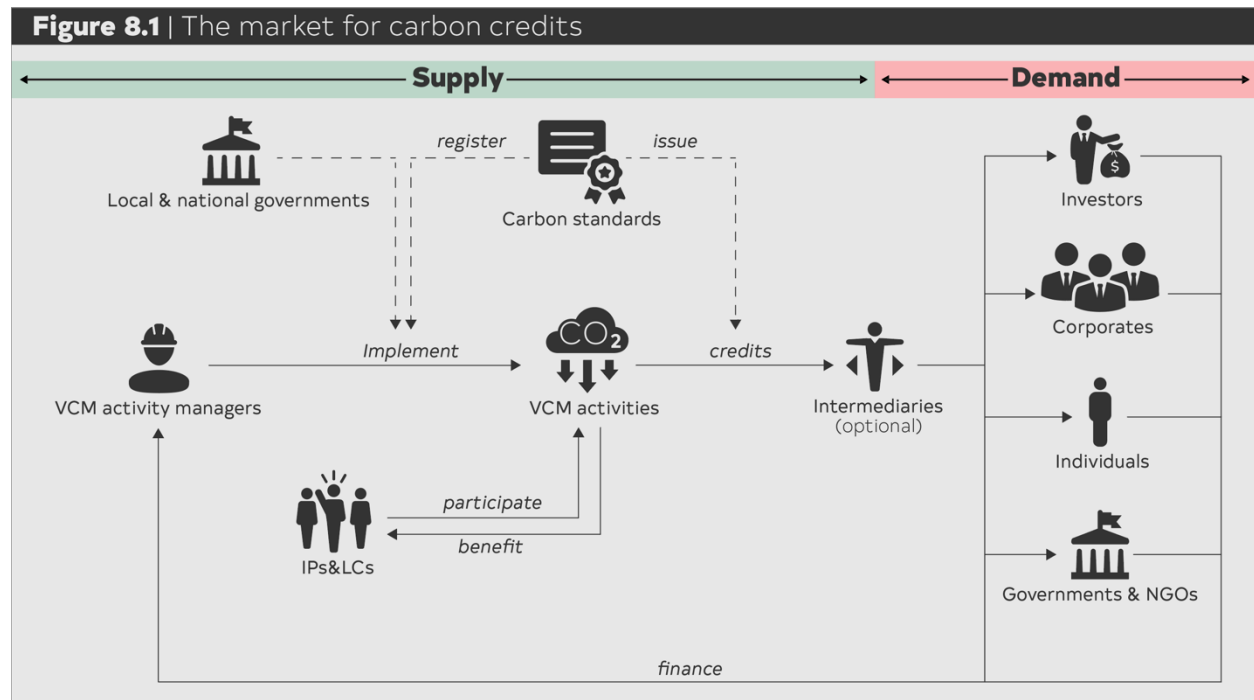
Chapter 8: How is the voluntary carbon market structured?

Many actors participate in the voluntary carbon market (VCM). On the supply side, VCM activity developers achieve the greenhouse gas (GHG) emission reductions and removals that lead to the issuance of **carbon credits**. The process through which VCM activities are developed, certified, and issued credits is determined by **carbon standards**. **Governments** and Indigenous Peoples and local communities (**IPs&LCs**) participate in the VCM as activity developers, consulted partners, or beneficiaries. Companies, investors, private individuals, governments, and non-governmental organizations (NGOs) **buy** carbon credits and finance VCM activity development.

The prices of carbon credits are determined by vintage, **quality**, certifications, negotiating power, and risk. Figure 8.1 depicts the roles of VCM actors.

Who are the main actors in the VCM?

To create a VCM activity, developers develop the design, consult with relevant government entities and **IPs&LCs**, comply with **carbon standard** requirements to receive certification, establish monitoring systems, and sell credits to buyers or to intermediaries. Activity developers may recruit investors to provide upfront financing, partner with local IPs&LCs or civil society



organizations, or engage other participants. **Governments** may mobilize advance finance for VCM activities from budgetary resources or donor-sponsored programs.

VCM activity developers are the main actors on the supply side of the VCM. Developers design and implement mitigation activities that are registered under **carbon standards** and generate **carbon credits**. Developers may be for-profit or non-for-profit private organizations, private landowners, **IP&LC groups**, municipalities, public agencies or—particularly in the case of public sector jurisdictional programs—subnational or national **governments**.

Private companies create most of the demand for VCM carbon credits. Private companies **use** VCM carbon credits to voluntarily offset their GHG emissions or support climate change mitigation goals beyond emissions produced in their value chain. Governments, NGOs, and individuals also buy VCM carbon credits to offset emissions from flights, events or the production of goods and services. Activities, products, or services that offset GHG emissions are often marketed as “carbon neutral.”

Investors and intermediaries operate on both the supply and demand sides by investing in VCM activities and purchasing carbon credits. Market intermediaries generally are for-profit companies that act as traders or fund managers that manage carbon

credit portfolios. They ensure the availability of risk capital and help market stability. Investors are private companies, foundations or individuals who work with intermediaries or activity developers to finance carbon credit-generating activities, often in exchange for a guaranteed quantity of or price for credits generated by the activities.

Carbon standards set the requirements that VCM activities must fulfill to generate tradable carbon credits. **Carbon standards** provide the methodologies to generate carbon credits, certify compliance with methodologies and safeguards, issue carbon credits, and maintain registries that track the transfer of credits. Carbon standard organizations are, in most cases, international NGOs.

Governments may impose **regulatory influence** on the VCM by formulating social or environmental standards and safeguards, defining **carbon rights** and **benefit sharing** requirements, or linking the VCM to **Paris Agreement** commitments, compliance carbon markets or other carbon pricing schemes. Governments also actively participate in VCM activities.

IPs&LCs may hold land, forest, or **carbon rights**, or have customary or traditional access to land where emission reduction activities take place. **IPs&LCs engage** on the supply side of the VCM as activity developers, consulted partners, and beneficiaries of VCM activities and

proceeds. In some cases, IPs&LCs are involuntarily involved in the VCM because activities are developed on land that they manage without appropriate consultation or recognition of rights. IPs&LCs should be consulted about VCM activities that could impact them so that they can participate in activity development and [benefit sharing](#) agreements, as appropriate.

What does the VCM activity cycle look like?

The process through which VCM activities are designed, climate benefits are generated, and carbon credits are issued and traded is the VCM activity cycle. This activity cycle generally consists of the steps shown in Figure 8.2 and described in more detail below. The cycle for standards that certify projects (e.g., Verified Carbon Standard – [VCS](#) – and Gold Standard for the Global Goals – [GS4GG](#)) and the cycle for those that certify jurisdictional programs (e.g., Jurisdictional and Nested REDD+ – [JNR](#) – and Architecture for REDD+ Transactions/The REDD+ Environmental Excellence Standard – [ART/TREES](#)) follow comparable steps. A distinct feature of ART/TREES is that program developers – called participants – must be a national government or subnational entity with jurisdiction. JNR also requires jurisdictional-level developers and has specific

requirements for [nested](#) projects or jurisdictional programs.

Planning: Private or public activity developers choose a VCM [carbon standard](#) and an approved methodology with which to develop the activities. Stakeholders are identified. Feasibility studies and stakeholder consultations may be conducted or initiated during this step.

Design: Developers prepare the activity documentation according to the guidelines of the carbon standard under which they wish for the climate benefits from an activity to be certified. The documentation must demonstrate that the VCM activity developer has applied the chosen methodologies correctly and met the associated requirements.

Validation: To be registered, an activity must be validated by an independent third-party auditor, often known as a Validation/Verification Body (VVB). Validation reports are submitted following an audit of the activity design documents, which typically includes a site visit and consultation with stakeholders.

Registration: Prior to registration, validation reports are reviewed by the standard. An activity is registered if it meets the rules and requirements of the standard under which it is certified. VCM activities can begin implementation after registration.

Implementation: An activity is implemented as laid out in the

documents submitted for registration and validation.

Monitoring: Activities are monitored to ensure that emission reductions are generated as described in project or program documents. Activity developers prepare and follow a monitoring plan and record emissions reductions in periodic monitoring reports.

Verification: Project or program periodic monitoring reports are verified by a VVB and by the carbon standard under which the activity is certified. Verification is required for the issuance of carbon credits.

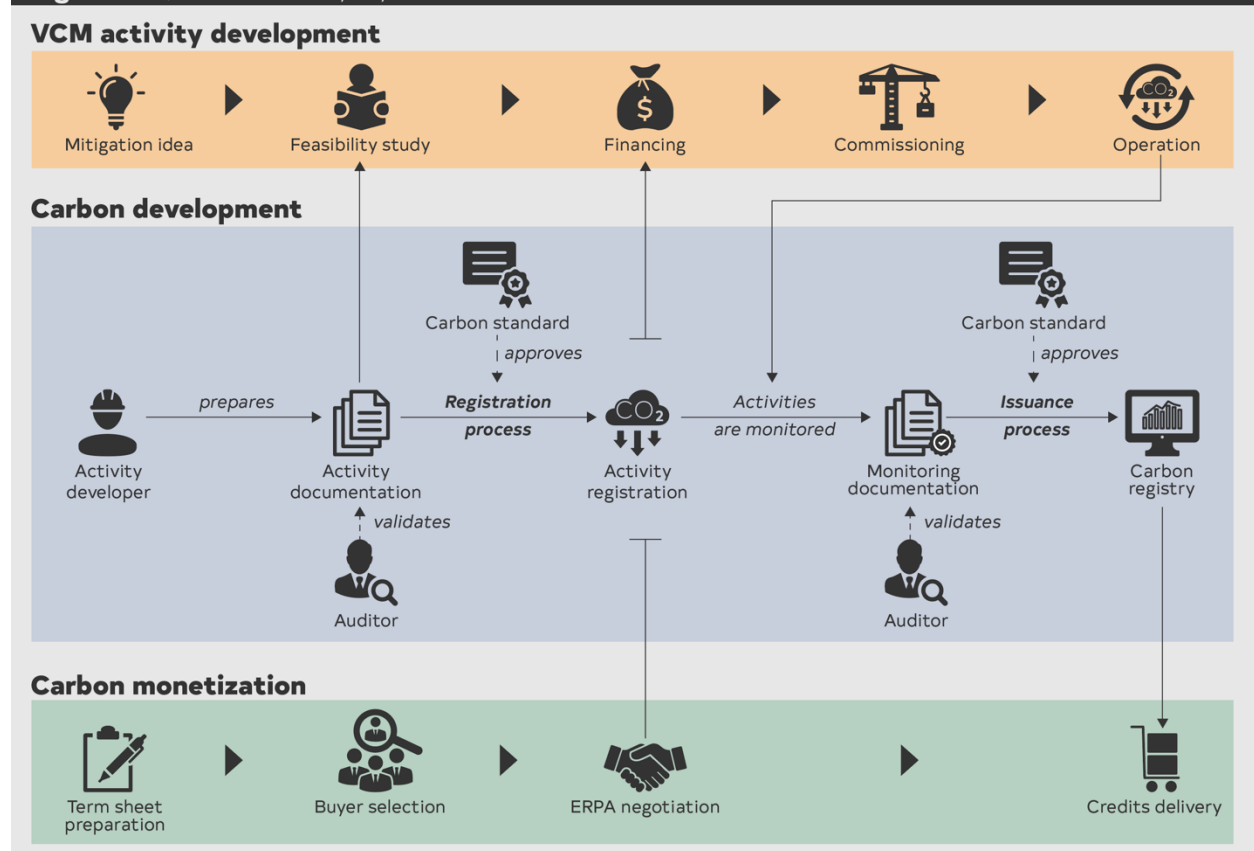
Issuance: After the regulatory body of the carbon standard approves credit issuances, carbon credits are

deposited into the activity developer's account on the registry of the carbon standard. Carbon credits can be transferred, retired, and canceled after they have been issued. The transfer of carbon credits is recorded in the registry of the carbon standard, which enables the transfer of credits between accounts and the tracing of transactions.

How are carbon credit prices determined?

The commercial terms of carbon transactions are often established in an Emission Reductions Purchase Agreement (ERPA) between seller and buyer. The

Figure 8.2 | VCM Activity Cycle



ERPA records the relevant price per carbon credit for the relevant VCM activity.

The price for a carbon credit is an essential piece of information for both the supply and demand side of the market. On the demand side, buyers benchmark the costs of meeting corporate climate targets against the carbon price to determine what role the VCM can play in achieving those targets. On the supply side, clear price signals are important for developers to decide whether it is worth developing VCM activities and how much carbon finance can contribute to development and implementation costs.

At present, the prices in the VCM are not transparent. There is no common mechanism to set prices and enhance market transparency. However, it seems evident that carbon credits of different origin and quality have different prices. From August 2022 to August 2023, the [prices of VCM carbon credits](#) varied from a few cents to USD 13.30, with nature-based solutions (NbS) credits consistently valued most highly.

As the market gains volume and becomes more liquid, more standardized price setting methods may emerge. Exchanges, credit ratings, and price indices are expected to lead to more transparent carbon pricing. In addition, initiatives such as the [Taskforce on Scaling Voluntary Carbon Markets](#) and [Voluntary Carbon Markets Integrity Initiative](#)

(VCMi) are looking to increase harmonization, efficiency, and transparency of the VCM.

Carbon prices in the VCM are influenced by vintage, quality, certifications, negotiating power, and risk.

Newer credits are [valued more highly](#) than older credits. The year in which a carbon credit was issued is its vintage. Buyers may prefer credits with newer vintages because they are issued according to the more recently updated methodologies and standard requirements and may be available in sectors — like technological carbon removals — that previously were not credited in the VCM. It is also easier to determine that newer credits are financially additional, as credits from older vintages may represent GHG emission reductions or removals from activities that no longer need finance incentives from the VCM. GHG emission reductions or removals generated from 2021 on are also potentially eligible for Internationally Transferred Mitigation Outcomes (ITMOs) under [Article 6](#) of the Paris Agreement.

The distribution of risk is reflected in carbon prices. Carbon prices depend on the allocation of activity development, investment, and performance risk. In general, the lower the perceived risks, and the more robust the measures put towards the [quality](#) of GHG emission reductions or removals, the higher the price of the carbon credit. Where buyers act as

investors in VCM activities, they often retain the right to receive carbon credits at a discount from market prices. Similarly, buyers that agree to make upfront payments and share the risk of project or program failure pay less per carbon credit than buyers that pay for credits after implementation and certification. Prices under long-term forward sales are often lower than prices for carbon credits traded “over the counter” that no longer carry any production or delivery risks. Buyers that enter into forward contracts benefit from fixing prices for future carbon credits, which may or may not be beneficial for buyers and sellers depending on market developments.

High-quality credits are more costly. Often, VCM activities that generate [high-quality credits](#) have relatively higher costs for designing and implementing activities, monitoring, and verifying impacts, and building relationships with local stakeholders. High-quality credits represent real, measurable, and additional GHG emission reductions or removals that come with additional social and environmental benefits. The verification of sustainable development, biodiversity conservation, and other social or ecological benefits in addition to emission reductions and removals require significant upfront investment. Verifying these impacts necessitates increased

monitoring reliability, which comes with increased costs.

While buyers wish to support high-quality VCM activities, they do not always demonstrate a willingness to pay prices that reflect the true financial needs of those activities. Increased investment in high-quality VCM activities can be encouraged by clear and transparent [benefit sharing](#) requirements in the jurisdictions where VCM activities take place, the use of [carbon standards](#) that certify contributions to Sustainable Development Goals (SDGs), and monitoring and quantification of sustainable development benefits to demonstrate that high prices are fair.

Additional certifications can drive higher prices. VCM activities that achieve additional certifications of broader sustainability benefits demand higher prices. For example, the Climate, Community, and Biodiversity (CCB) Standard confirms environmental and social benefits of forest carbon projects. Under Verra’s Sustainable Development Verified Impact Standard (SD VISTa) or the GS4GG, project developers can certify SDGs. Certified sustainable development contributions give buyers the assurance that such benefits are real and likely to generate positive environmental and social impacts in addition to GHG emission reductions and removals. GS4GG and SDVISTa certify positive environmental or social attributes of VCM activities. For activity

developers that wish to go a step further, GS4GG and SD VISTa certify independently tradable sustainable development assets, which can be priced independently of carbon credits from the underlying mitigation activity.

Prices are determined by power asymmetries and the ability of parties to negotiate. If certain buyers or groups of buyers dominate shares of the VCM, they are often able to determine the price. This is particularly true for jurisdictional programs under Reducing Emissions from Deforestation and Degradation Plus (REDD+), where a few coordinated multilateral and bilateral buyers have dominated transactions in the past. Reference prices are set by results-based payment programs such as the Forest Carbon Partnership Facility (FCPF) or the REDD Early Movers (REM) Programme, bilateral buyers such as Norway's International Climate and Forests Initiative (NICFI), or jurisdictional-focused standards like the Lowering Emissions by Accelerating Forest finance (LEAF) Coalition. The prices set by these program-level initiatives influence project-level carbon prices in comparable project classes.

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