Sustainability Advisory Group

United Kingdom

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The topics will range across aspects of ESG, regulation, reporting and emerging stock market themes.

We provide a dedicated resource for corporates on sustainability and ESG issues.

Working with management, we can identify key strategic objectives, implement suitable frameworks, and help on stewardship activities – increasing engagement with all stakeholders.

Please get in touch.

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ESG Newsletter

Accessing voluntary carbon markets (VCMs)

Summary

The global market for carbon credits, also known as carbon offsets, is gaining momentum as companies voluntarily target stricter climate goals and recognise the role and value of carbon credits within a comprehensive climate strategy. The topic is increasingly important in climate engagement, and management teams are expected to outline the scale, scope and strategy of their goals and the use of tools such as carbon credits. Accessing the market for voluntary carbon credits requires careful consideration.

Introduction

To meet ambitious Net Zero targets, many companies plan to neutralise emissions by buying carbon credits. Last year, the market value of voluntary carbon credits doubled to over $1bn. It is estimated that the market will have to expand substantially – 15-fold by 2030 and 100-fold by 2050 to meet forecast demand. Offsetting is a strategic tool for companies committed to a long-term decarbonisation strategy. The basis for the environmental benefit of buying carbon credits is that they offer 'additionality', either by removing carbon from the atmosphere, such as by planting trees, or by preventing emissions from other sources, for example replacing coal burning with wind turbines, or protecting forests from deforestation. We explore the key corporate considerations before embarking on this climate strategy and the role they play in targets such as Net Zero.

Background to voluntary carbon credits

A carbon credit is broadly any activity that compensates for the emission of CO_2 or other greenhouse gases (measured in carbon dioxide equivalent, CO_2e) by providing for an emissions reduction elsewhere. We will use 'carbon credits' to describe the verified emissions reduction or removals generated, traded and retired, and 'offset' to describe the act of financing climate-mitigation actions. Carbon credits are generated by projects with clearly defined objectives and participants are not covered by legal obligations but their own climate goals.

There are two types of market for carbon credits: mandatory and voluntary. In mandatory markets such as the UK Emissions Trading Scheme (UK ETS) companies buy carbon credits or allowances to comply with mandatory and legally binding caps on the total amount of CO_2e they are allowed to emit per year. In the voluntary carbon market (VCM), demand for carbon credits is generated by companies and organisations, who purchase offsets to mitigate their greenhouse gas emissions in order to meet carbon neutral or Net Zero goals.

The market for voluntary carbon credits has existed for over three decades – a market without government structure and regulation but created by partnerships between NGOs and corporations. The market is gaining momentum as market participants increasingly recognise its important role in addressing climate change. In the past, it has faced criticism around transparency, structural imbalances and greenwashing claims, but there are initiatives underway to improve market transparency and achieve greater scalability.

Initiatives

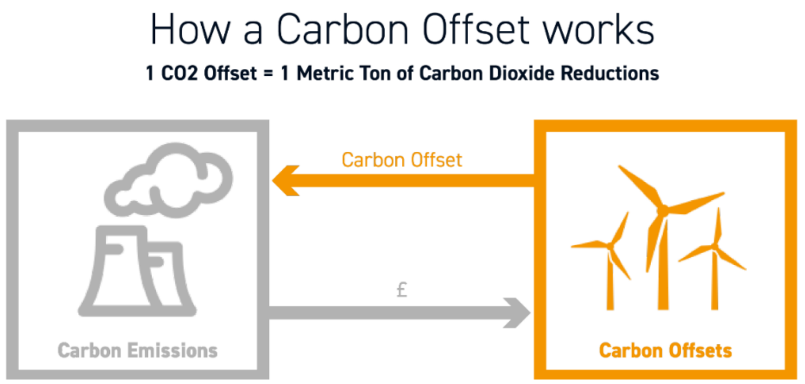
Taskforce on Scaling Voluntary Carbon Markets (TSVCM)

The Voluntary Carbon Markets Integrity Initiative (VCMI

Integrity Council for the Voluntary Carbon Market (ICVCM)

The Taskforce on Scaling Voluntary Carbon Markets (TSVCM) is looking at how the market can be improved and expanded in order to achieve the greater scale required. The Voluntary Carbon Markets Integrity Initiative (VCMI), a multi-stakeholder platform, hopes to drive credible, Net Zero-aligned participation in VCMs, based on its high-integrity guidance for buyers of carbon credits and on what acceptable reduction/removal claims can be made by businesses. There is also the Integrity Council for the Voluntary Carbon Market (ICVCM) an independent governance body for the voluntary carbon market, to ensure the market accelerates and builds trust. These initiatives and recent surge in interest have prompted greater efforts to accelerate adoption, with strong governance and infrastructure to support the rapid growth of VCMs.

Figure 1: How a carbon offset works



Source: Shore Capital Markets

Following COP26 in Glasgow (2021), and agreement on Article 6 of the Paris Agreement (2015), the lines between mandatory and voluntary markets are set to become increasingly blurred.

Article 6 of the Paris Agreement establishes a framework

Article 6 of the Paris Agreement establishes a framework for the voluntary international cooperation between countries to reduce emissions and meet their pledges (this is often called nationally determined contributions or NDCs). Under this mechanism, countries with low emissions would be allowed to sell their excess allowance to larger emitters. Countries agreed to "corresponding adjustments" to avoid double-counting to bolster integrity.

The final deal agreed by governments aims to implement Article 6 as a rulebook for carbon markets, marking a significant step in the development of the burgeoning market for carbon credits by providing a consistent and transparent framework for high-integrity credits.

Demand

Over 5,000 global businesses have signed the Race to Zero

The value of the primary voluntary carbon market grew in 2021 to over $1bn and forecasts by Trove Research indicate the market growing by 50-80% in 2022 to reach $1.5-1.7bn and increasing to between $15-20bn by 2030. Forecasting future demand for voluntary carbon credits first needs to take account of how carbon credits are used in the context of corporate climate commitments. According to the UN, over 5,235 businesses and 441 of the biggest investors globally have signed up to the Race to Zero campaign. While these commitments are a positive first step, they must now be backed by concerted action, such as participation in VCMs.

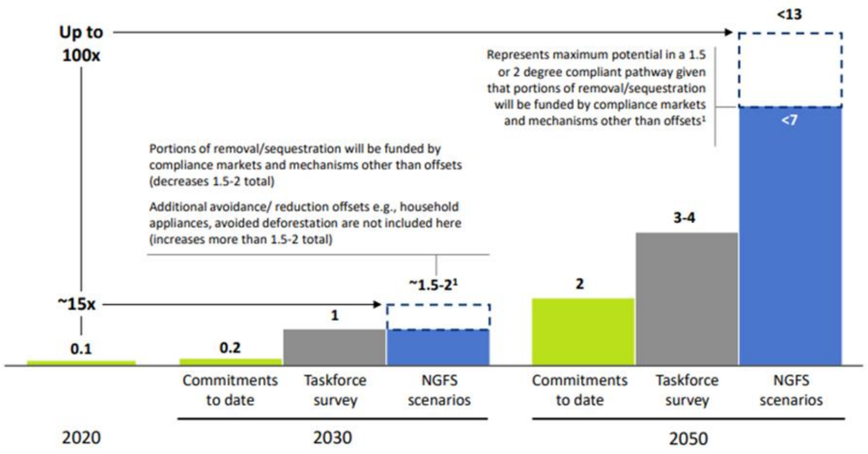
There are several VCM demand scenarios

There are several VCM demand scenarios. The Network for Greening the Financial System (NGFS), a network of 83 central banks and financial supervisors, is bullish – it estimates that an emissions scenario consistent with a 1.5°C pathway would see markets grow 15-fold to 1.5-2 $GtCO_2$ of carbon credits per year in 2030, and up to a maximum of 100-fold to 7-13 $GtCO_2$ of carbon credits per year by 2050.

Markets grow 15-fold by 2030

Markets grow 100-fold by 2050

Figure 2: Voluntary demand scenarios by NGFS and TSVCM in 2030 and 2050, $GtCO_2$ per year

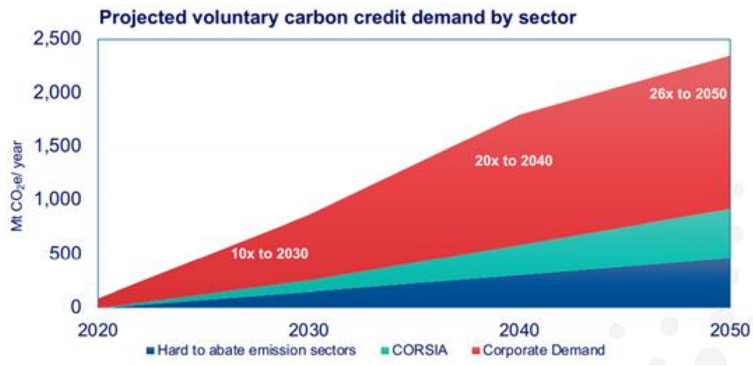


Source: Network for Greening the Financial System (NGFS); TSVCM

More conservative analysis carried out by Trove Research is shown in Figure 3. It estimates that demand for the voluntary carbon market will have to expand substantially to achieve Net Zero – ***10-fold by 2030 and 26-fold by 2050*** (even once all other emissions are avoided, reduced and substituted). Trove Research forecasts that 60-70% of demand would come from the corporate sector in order to reduce Scope 1 and 2 emissions, with the remaining demand coming from sectors that are hard to abate, such as oil & gas, and global aviation.

Voluntary carbon market to expand substantially

Figure 3: Demand for voluntarily carbon credits from Trove Research



*Only EU data was used as, to date, oil companies based outside Europe have shown little appetite to set long-term climate goals. **CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation).

Source: Trove Research 2021

Private funding for high-quality projects is urgently needed to achieve Net Zero. Going by one estimate, the world must close a $4.5trn financing gap by 2050 to meet climate change, biodiversity and land-restoration targets. VCMs are critical to raise and channel this flow of funding.

Supply

650m credits in active circulation

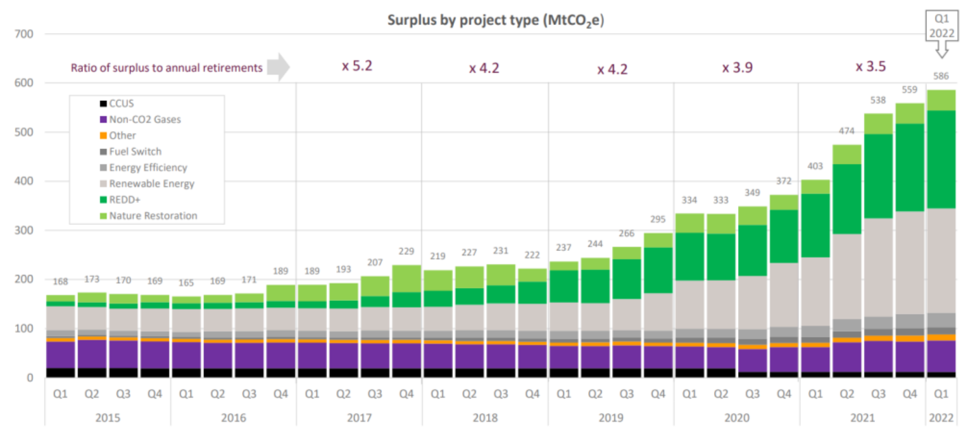
In the past 25 years, cumulative issuance has been 3,000 Mt, while cumulative retirements have been 1,700 Mt. There are currently 650m credits in active circulation today from 5,500 projects with a wide range of price points.

No expiry date for credits

There is no expiry date for credits so excess supply remains even though recent issuance has slowed considerably. A mismatch between issuance and retirement of credits has resulted in more supply than demand of credits for nearly every year on record. As a result, there is unlikely to be a shortage of supply in the immediate term (approximately the next three to five years) as demand commitments ramp up. However, an expected acceleration in demand towards 2030 for up to approximately 1.5 to 2 Gt will make it **difficult for supply to keep up**.

The rate of increase in surplus has slowed

Figure 4: Carbon credit surplus by quarter

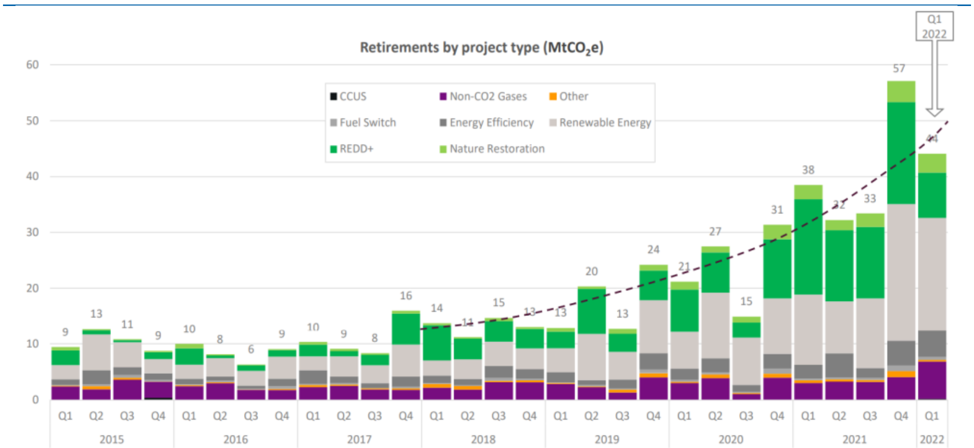


Source: Trove Research

High level of retirements in 2021

It is critical that the carbon credits obtained are retired once purchased. Only then can carbon offsets be claimed. Once retired, carbon credits cannot be traded or (re)sold. Carbon credits saw high retirements in 2021, reflecting buyer preference in offsetting emissions using credits. With increased corporate commitments to Net Zero we expect retirements to increase and good quality supply to remain constrained resulting in the ratio of surplus to annual retirements to decrease over coming years.

Figure 5: 1Q22 retirements were the second highest on record at 44Mt, continuing an upwards trend



Source: Trove Research

Legacy supply issues will remain

Legacy supply issues will remain, in principle, historical credits have some legitimacy, but in practice there is a risk of little or no additionality, and so little or no climate benefit, therefore resulting in a lower market price. There are calls for new rules to exclude older credits from the market. The real challenge will be to supply high volumes of high-quality credits, with a requirement that will only increase as demand continues to grow towards 2050 and beyond.

Shift towards removal credits

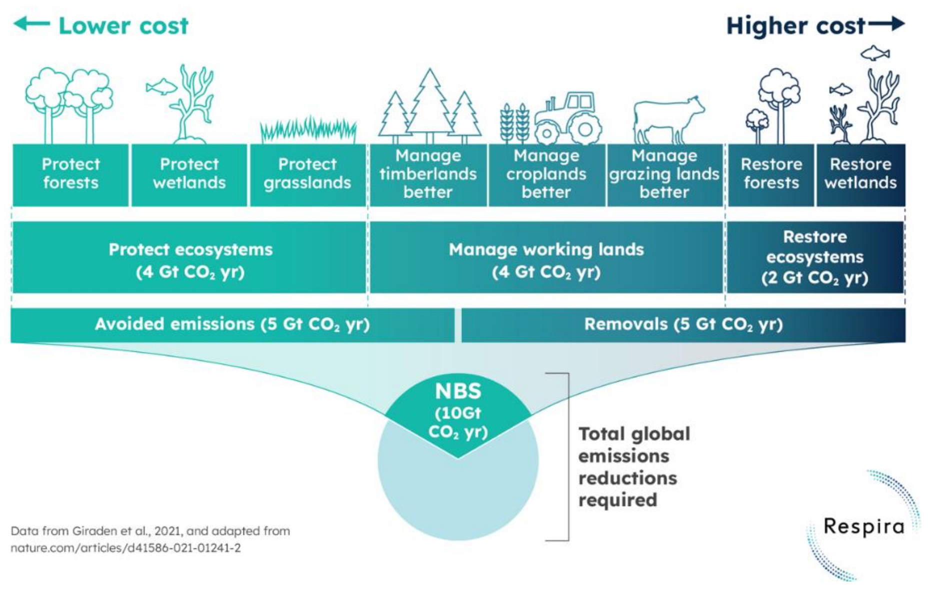
By 2050, we will need a shift towards removal credits, including technology-based removal with highly permanent storage, while a significant amount of avoided nature loss projects will still be required.

Near-term supply will come from nature-based solutions (NBSs)

Near-term supply will come from nature-based solutions (NBSs), comprising forest restoration and avoided deforestation, while medium- and long-term supply will be needed from negative emissions technologies (including carbon capture & storage (CCS), and bioenergy with CCS), and greater renewable energy in least developed countries.

At present, new projects in NBSs are tilted towards REDD+ (reducing emissions from deforestation and forest degradation; the '+' signifies the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries). Nature-based solutions to the climate crisis can provide up to one third of the emissions reductions required by 2030.

Figure 6: Nature-based solutions cost and potential



Source: Respira International

Price

Limited liquidity and price transparency

Most credits are traded over the counter (OTC), resulting in limited liquidity and price transparency. There is a need for improved pricing data and qualitative research and analytical tools to ascertain a fair value for the many different types of projects on offer – an assessment that brings price transparency without stripping the individuality of projects. The perpetual nature of the credits weighs on prices as buyers can source from a large pool of existing projects. Older vintages attract lower prices and are generally seen as less desirable; buyers are willing to pay a premium for recent vintage years.

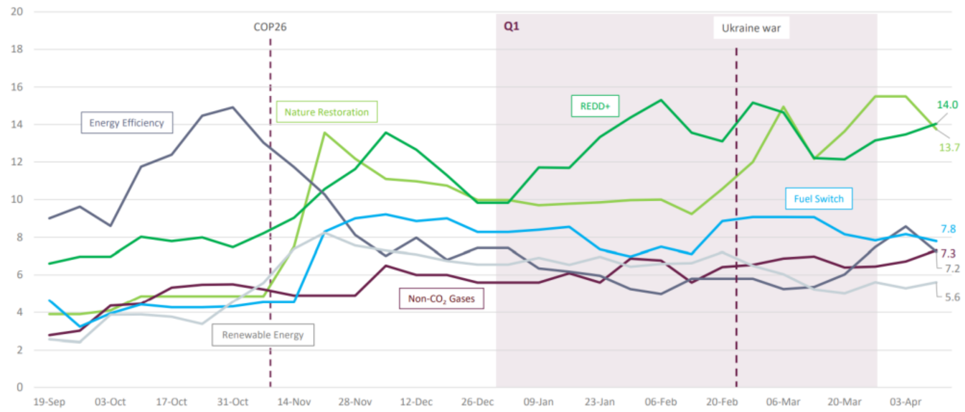
Futures contracts bring standardisation

Exchanges are emerging but most function as peer-to-peer platforms and match buyers and sellers. Last year, Chicago Mercantile Exchange (CME) launched a series of futures contracts, known as the Global Emissions Offset (GEO) futures, bringing a degree of standardisation and transparency.

Tightening supply has driven up prices

Recently, tightening supply has driven up prices for many types of credits. The weighted average price per ton for credits from forestry and land-use projects that reduce emissions or remove carbon from the atmosphere has been on a steady upwards path.

Figure 7: Weekly average prices all project types (USD/tCO2e)



Source: Trove Research

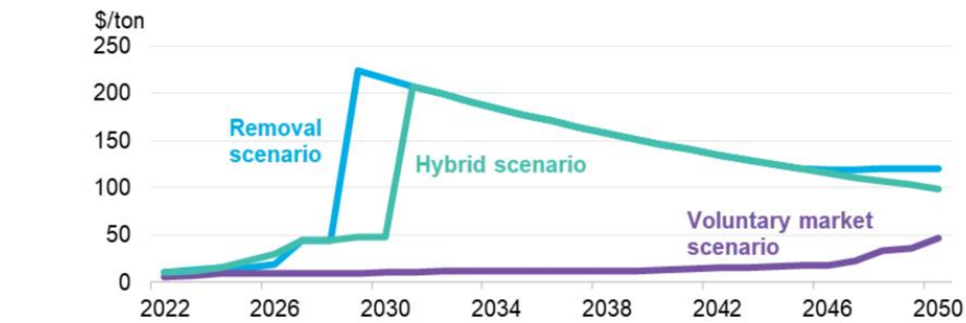
Outcome will depend on what types of supply are eligible

According to research company Bloomberg, in the future, prices for carbon offsets could be as high as $120/ton or as low as $47/ton in 2050 against an average of $8 today. The outcome will mostly depend on what types of supply are eligible to meet the rapidly expanding universe of sustainability goals, as well as who the primary customers are in the market. Should all types of offsets continue to be permitted (voluntary market scenario – see Figure 8 below), including those which avoid emissions that would otherwise occur, the market could be oversupplied.

Offset prices are forecast by to increase

If the market is restricted to just offsets that remove (removal scenario), store or sequester carbon, there will be insufficient supply to keep up with demand. The hybrid scenario looks at a gradual evolution of the offset market, from the voluntary market today, to a removal-only market for corporations and finally to a removal-only market primarily for countries, rather than companies, by mid-century. Overall, offset prices are forecast by Bloomberg to increase and range from $11-215/ton in 2030, up from just $4.5 on average in 2020, before narrowing to $47-120/ton in 2050.

Figure 8: Carbon offset prices by scenario



Source: Bloomberg

What we need to consider

1. Reduce or offset?

Introduce offsets immediately as part of an ongoing pathway

One should follow the recommended mitigation hierarchy of avoid, reduce and offset but companies can introduce offsets immediately as part of an ongoing pathway to decarbonisation. This addresses today's emissions while working to displace offsets through internal decarbonisation. Another option is to phase-in offsets while initiating significant operational changes. Best practice is to have in place a certified science-based target for reducing operational emissions and then 'offset' unavoidable emissions with high-quality carbon credits. We note the criticism that offsets provide a licence to pollute by enabling entities to focus on cutting net – rather than gross – emissions and that they can also be seen as a quick fix.

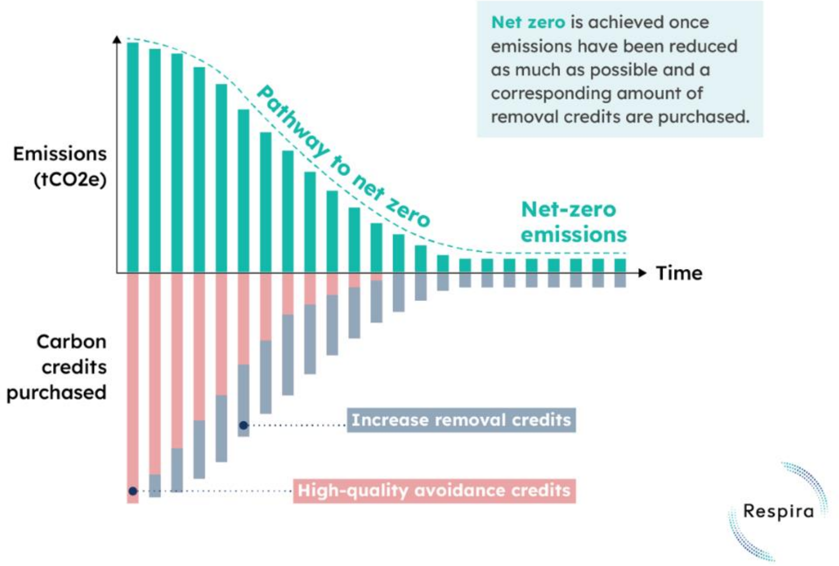
Proceeds enable the development of carbon-reduction projects

By following the approach below it ensures that direct own emissions reductions are prioritised first, but that both high-quality avoidance and removal credits are used in addition to (not instead of) direct emissions reductions along the pathway. It is also important to highlight how the proceeds from the sale of voluntary carbon credits enable the development of carbon-reduction projects across a wide array of project types globally, mostly in developing economies, with significant co-benefits.

Significant co-benefits

Some organisations are also extending purchasing carbon credits to compensate for their historical emissions.

Figure 9: The role of carbon credits



Source: Respira International

2. Avoidance or removal?

Use both avoidance and removal

Avoidance credits are defined as reductions from projects that reduce emissions compared with the most likely course of action – the baseline scenario; for example, projects that reduce forestry loss and preserve the existing biomass and embedded carbon beyond historical trends. Other avoidance projects include renewable energy and carbon capture from flue gases. In each, current emissions are reduced by improved alternatives, but existing CO_2e is left untouched.

While it is very important that companies purchase quality credits, companies can use both avoidance and removal credits. Avoidance credits are simpler and less expensive than more costly carbon-removal credits and recommended as a shorter-term measure.

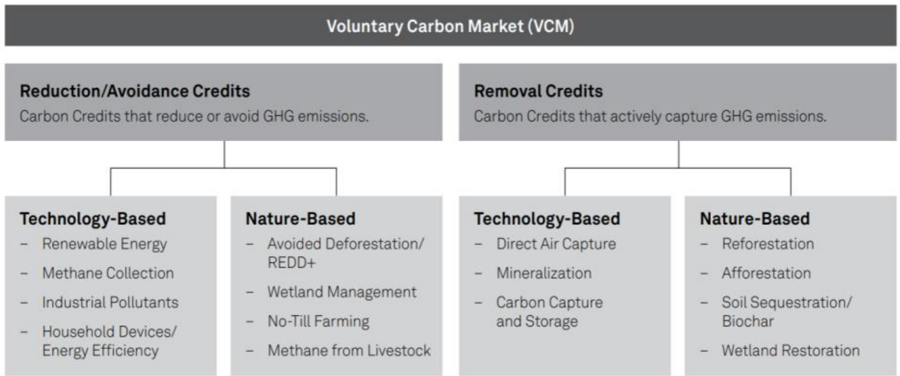
Limited supply of reliable, carbon-removal credits

Organisations with big budgets such as Microsoft and Swiss RE have helped seed the market for removal credits, for example by helping scale technology in areas such as direct carbon air capture (DAC) to make it more accessible and cost effective over time, as longer-term removals are critical.

There is an extremely limited supply of reliable, permanent carbon-removal credits available, and therefore what exists is extremely expensive. At the top-end of the market for removals based on technology for DAC the implied cost is between $600-900/ton and could one day be between $100-200/ton at commercial scale.

Avoidance or removal

Figure 10: Avoidance vs. removal credits



Source: S&P Global Platts

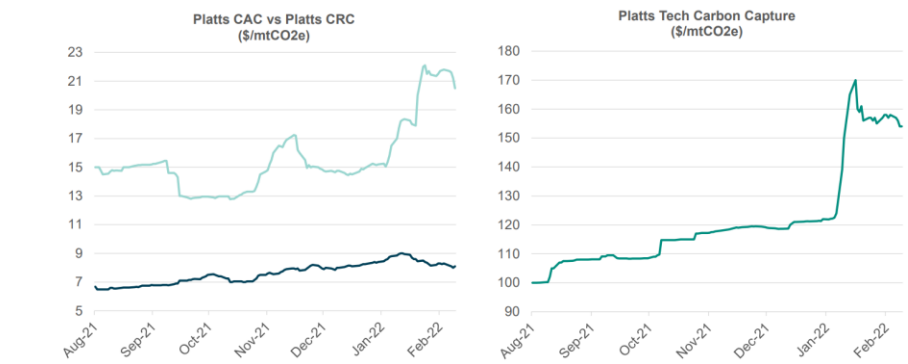
NBS could provide one third of reductions by 2030

Nature-based solutions are a category that includes project types such as reforestation, avoided deforestation, improved forest management and agroforestry. This project category is the fastest growing and projected to contribute significantly to the VCMs' growth trajectory.

In order to introduce benchmark pricing for the market, S&P Global Platts has grouped the voluntary carbon credit market into two broad categories: avoidance and removal – Platts CAC reflects avoidance-based credits, and Platts CRC reflects removals-based credits. Removal credits generally trade at a significant premium to avoidance credits.

Removal credits trade at a premium to avoidance credits

Figure 11: Removal credits trade at a premium to avoidance credits



Source: S&P Global Platts

3. What should a carbon offset represent?

Credits should represent emissions reductions or carbon dioxide removal that are:

Additional	Would not have otherwise happened; the reductions in emissions achieved by the project must be 'above business as usual'. An essential mechanism to understand relative value.
Real and measurable	Realised and not projected or planned, and quantified through a recognised methodology, using conservative assumptions and robust project design.
Permanent	Not reversed; relating to projects with a reversibility risk such as forestry projects, which could suffer from fire, logging or disease.
Independently verified	Verified by an accredited, independent third party and not double-counted and/or over-credited due to unrealistic baseline assumptions.
Unique and traceable	Transparently tracked in a public registry such as the American Carbon Registry, Verra, the Gold Standard or Climate Action Reserve.

4. How to source the highest-quality credits?

The way in which you acquire offset credits may influence your strategy for ensuring that they are of a high quality and transparent. The markets remain heavily fragmented with a wide range of prices affected by idiosyncratic factors such as the specific registry's standards, the vintage and the size of the transaction itself, the geography and the category of the projects, as well as the additionality of co-benefits.

Research	Understand, compare and value accredited projects across different types. Ability to select individual projects by standard, vintage and geographic origin.
Access	Inventory from a variety of projects and types; source adequate supply and lock in future prices where possible.
Acquire	Buy or generate offsets by choosing from four options: Trade, Purchase, Develop and Fund. Offsets can be bought in the secondary market or from a project owner. Funding own projects is likely to maximise economic, social and environmental value long term.
Resource	Time, effort and cost in engaging directly with projects – if you choose this acquisition route, the greater the resource required.
Establish	Connections to registries and exchanges, for seamless settlement of units and execution. There are four major independent registries each has its own protocols to certify a project, thus resulting in a highly fragmented market for credits.

Set an internal price	Credits create an internal price on the carbon footprint, which becomes a decision-making tool. The higher the price, the greater the business focus.
Duration	Adopt a long-term strategic approach against a volume-based, price-driven 'spot' purchasing, and don't ignore the additionality of co-benefits.

Conclusion

The global market for carbon credits is gaining momentum as companies voluntarily target stricter climate goals and the topic is increasingly important in climate engagement, and management teams are expected to outline the scale, scope and strategy of their goals and the use of tools such as carbon credits. Carbon offsetting is not a solution to climate change – there is no single path to Net Zero and the journey will be different across industries. That said, most companies could accelerate their pathway by utilising high-quality offsets. In the past ten years, 836mt of CO_2e have been reduced, removed and avoided thanks to the VCM.

The market is complicated and there are a number of key corporate considerations before embarking on this climate strategy and the road to Net Zero. Therefore, accessing the market for voluntary carbon credits requires careful consideration.

If you require any assistance or advice on VCM and carbon credits, please get in touch with the team!

Sources

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