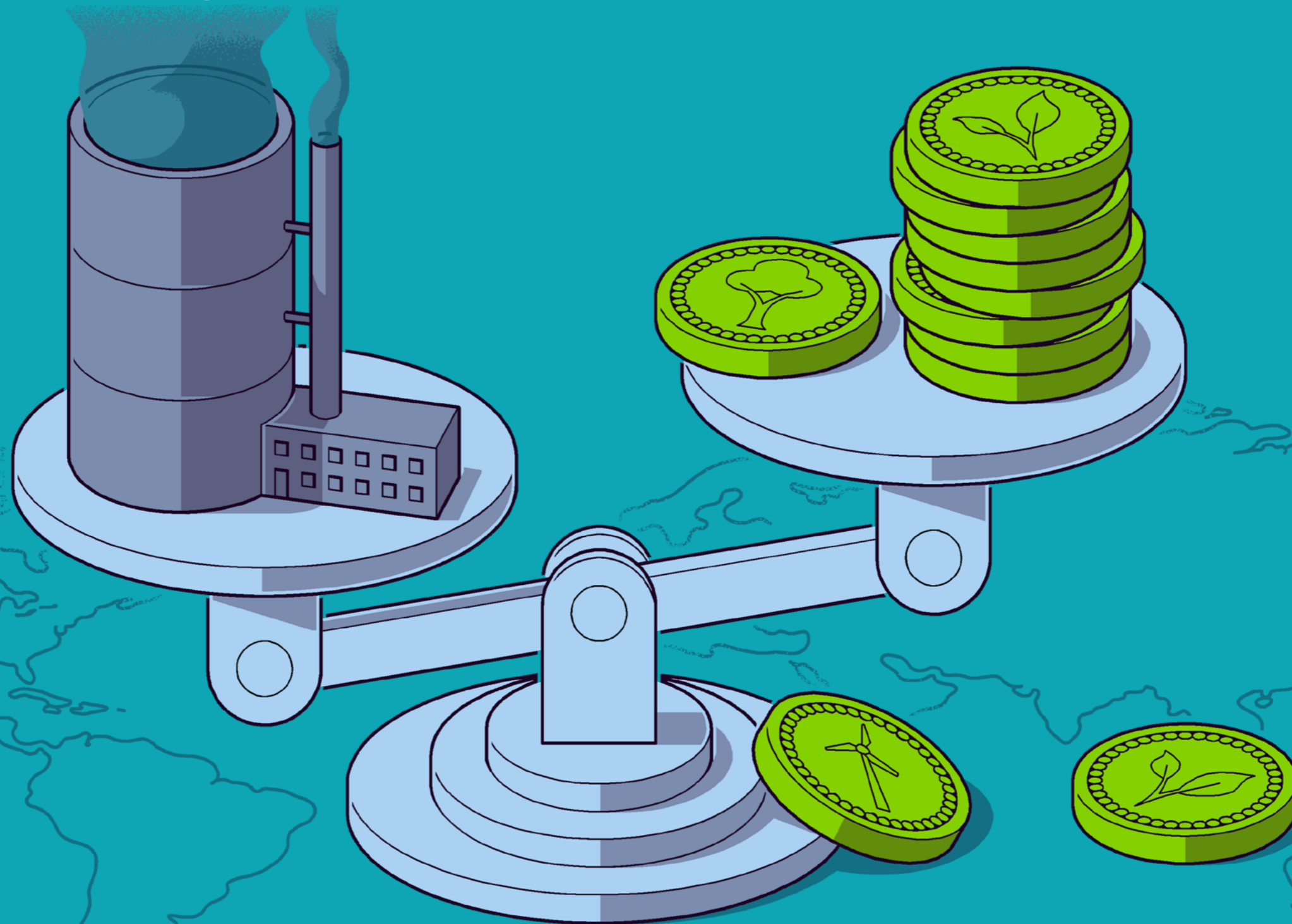


Can carbon markets accelerate progress towards net zero?



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DIAGEO

Questions around the credibility and scalability of carbon credits risks disengaging organisations from voluntary carbon markets altogether, slowing down global investment in nature-based solutions when we need them most



HIGH
MEADOWS
INSTITUTE

We need to allocate more carbon offset resources to carbon removal technologies and business model innovations that can dramatically reduce both current levels of carbon already in the atmosphere as well as future emissions

Vontobel

The current pricing of carbon credits is a fraction of what is needed if carbon markets are to seriously contribute towards limiting global warming to well below 2C. Yet increasing pricing will ultimately make consumer prices higher

WHITE & CASE

It is recommended that companies learn to distinguish high-quality from low-quality carbon credits. Older credits present higher integrity risks than newer vintage credits. And, generally speaking, the cheaper the carbon credit, the more likely it is to pose an integrity risk

Foreword



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FFor executives tasked with crafting a corporate climate strategy, nothing looks like more of a minefield than the carbon market. Companies using offsets to claim carbon neutrality – for their products, or even their entire business – risk being accused of “greenwashing” by critics who view that entire market as a swamp of unscrupulous profiteering. There are ample grounds for suspicion. The voluntary carbon market is currently almost entirely unregulated, with standards set by a handful of non-profit groups that have faced persistent questions about their rigour.

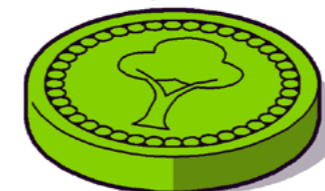
The vast bulk of offsets are linked to schemes that claim to avoid or reduce carbon emissions, by protecting forests, for example – rather than removing carbon from the atmosphere, through tree planting or technology.

And yet there is huge potential in this space. Many leading economists argue that at the heart of the climate crisis lies a fundamental market failure – the absence of an effective price on carbon. The EU’s Emissions Trading System has shown, in a few major industries, the impact that such a price can have. The challenge now is to apply that logic on a much larger scale, across all economic sectors.

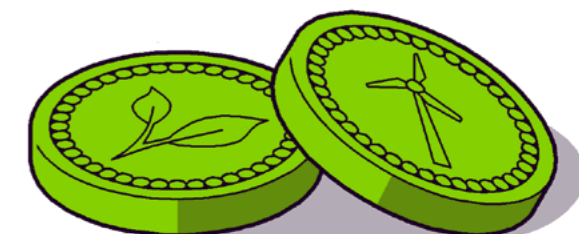
There’s no question that companies should be on a pathway to eliminating their carbon emissions. If they are able to dodge that task by turning to cheap, ineffective offset schemes, the consequences for people and the planet will be grave.

Yet a well designed carbon market – with ruthlessly high standards, rigorously enforced – could play a vital role in helping the global economy as a whole to achieve net zero emissions. Such a system would transform the incentives for companies and other economic actors – rewarding the fastest movers, while imposing painful costs on laggards.

As this report makes plain, however, that prospect remains distant – and the path to net zero emissions is far from clear.



Simon Mundy
Moral Money Editor
Financial Times



Can carbon markets accelerate progress towards net zero?

Growth has come with scepticism and implementation challenges, but recognition of the trade-offs involved is unleashing a wave of innovation to increase supply and improve transparency, writes *Sarah Murray*

In 1987, faced with growing evidence of the links between fossil fuels and global warming, Dennis Bakke, then chief executive of Applied Energy Services, started thinking about how to minimise the environmental impact of the coal-fired plant his US power producer was about to build in Connecticut.

An AES executive named Sheryl Sturges proposed offsetting the plant's carbon dioxide emissions by paying for reforestation in a developing country. Bakke loved the idea. With support from the World Resources Institute, AES developed a plan to plant 52mn trees in Guatemala that, over four decades, would sequester 19mn tonnes of carbon through a mix of new tree growth, existing forest protection and the addition of carbon to the soil.

The project is estimated to have cost just pennies per tonne to offset the AES plant's emissions and Sturges is credited with inventing carbon offsets. Today, offsets (also known as credits) are linked to projects ranging from forestry management and wetland conservation to carbon capture and renewable energy technologies. They're seen as a crucial funding source for efforts to avoid or reduce emissions, or to remove carbon dioxide from the atmosphere. And they have become tradeable assets in a rapidly growing market.

Voluntary carbon markets are dwarfed by even bigger government-run schemes known as compliance markets. Initiatives such as the EU Emissions Trading System, California's cap-and-trade programme and similar schemes in other countries from China to New Zealand cover jurisdictions representing 55 per cent of global gross domestic product.

Both categories of market have grown rapidly. By 2021, compliance markets had an annual trading value of more than \$900bn, with the EU ETS by far the biggest, accounting for about 90 per cent of trading volume and value that year, according to Credit Suisse. Much smaller, voluntary carbon markets, for their part, have seen the value of transactions rise sharply from \$520mn in 2020 to \$2bn in 2021, according to US non-profit Ecosystem Marketplace.

However, growth has come with implementation challenges,

tricky trade-offs and questions over the extent to which these markets are reducing global emissions. Meanwhile, new market uncertainty emerged in May, when Zimbabwe – the world's 12th-biggest provider of carbon credits, according to BloombergNEF – declared all existing offset programmes “null and void”, and introduced dramatic rule changes including a requirement that offset producers give half of their revenues to the government.

For companies, a big risk is buying credits that then result in accusations of greenwashing. In a survey of FT Moral Money readers, most said voluntary carbon markets were not currently supplying enough credible, verifiable carbon offsets to meet their organisations' demands.

Yet scientists, policymakers and others agree on one thing: while companies should focus primarily on reducing their emissions, many are unlikely to eliminate them entirely for years to come – which leaves carbon markets with an essential role.

“The voluntary carbon markets are by no means the primary means of reducing or removing greenhouse gas emissions,” says former Securities and Exchange Commission commissioner Annette Nazareth, who chairs the Integrity Council for the Voluntary Carbon Market, which is developing standards for carbon credits. “But they can be a meaningful complementary tool in getting to our net zero goals.”

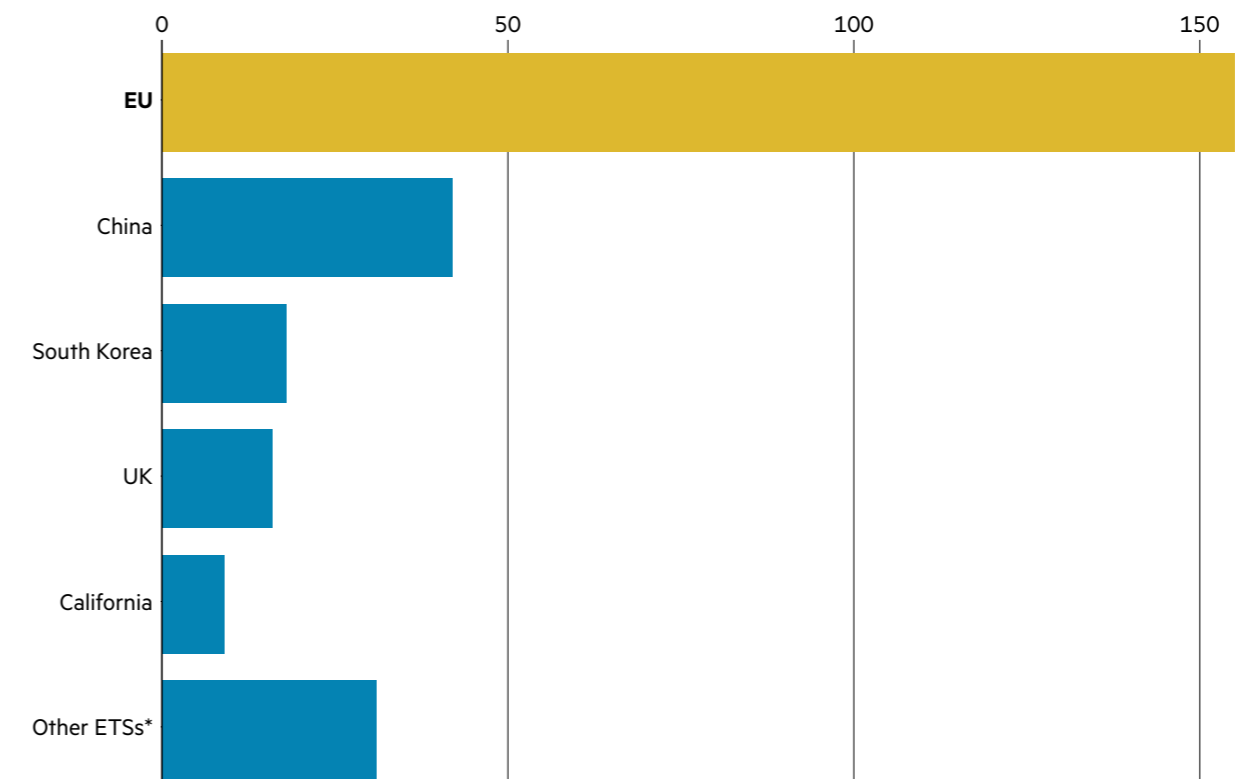
Growing recognition of this is prompting a wave of activity. Policymakers are tweaking regulatory frameworks, new standards bodies are working to bring integrity to unregulated voluntary markets, and innovators are using technology to do everything from facilitating trading to tracking the planting of trees.

The question is whether these developments can overcome the hurdles fast enough to avoid catastrophic climate change. “There are really good reasons for having carbon markets,” says Bruce Usher, a Columbia University professor and author of *Investing in the Era of Climate Change*. “The problem is that implementing them is extraordinarily difficult to do in a way that actually reduces emissions.”

‘In terms of carbon reduction, compliance markets are currently doing the heavy lifting’

The EU compliance carbon market is by far the world's largest

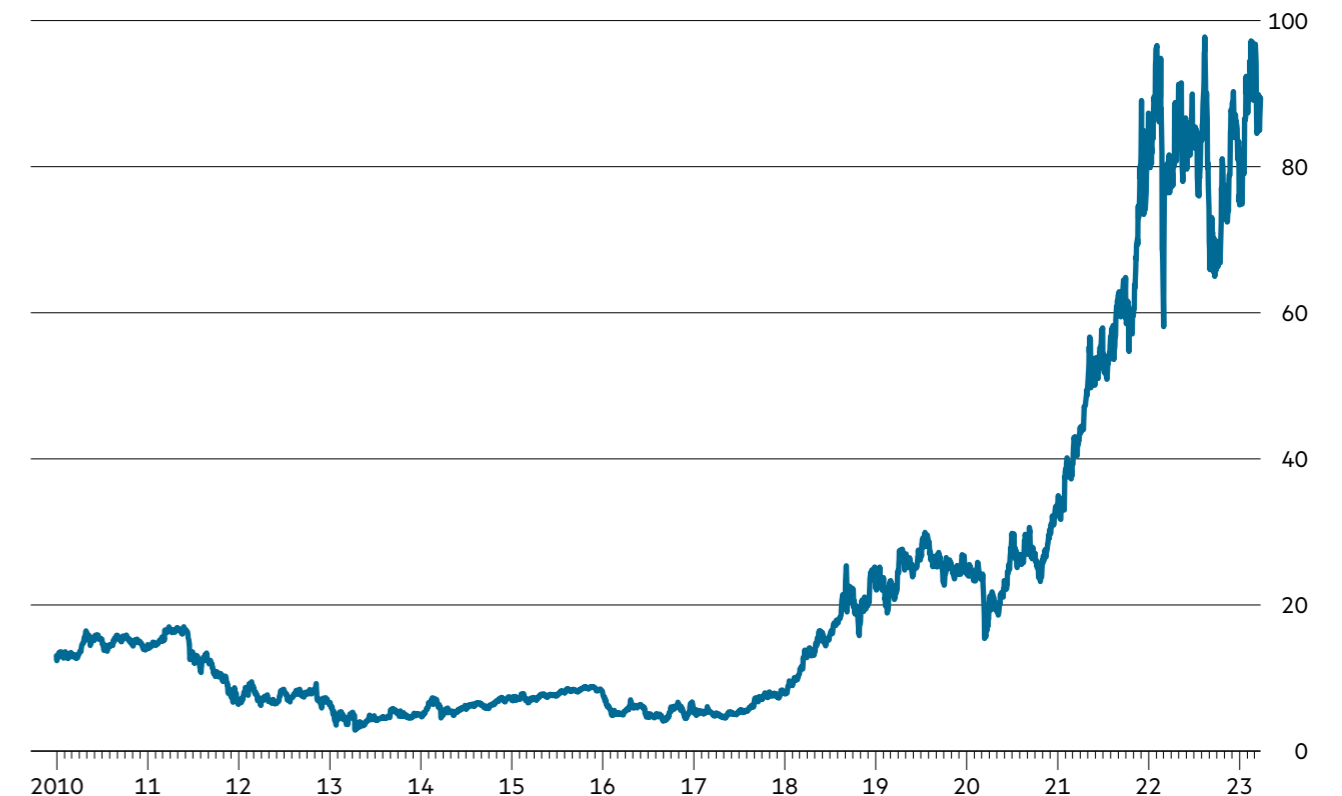
Market value of major compliance markets (\$bn)



* Emissions trading systems
Source: Credit Suisse, 2022

The price of EU compliance credits has surged

Price of carbon credits under EU ETS (€ per tonne of CO₂ equivalent)



Source: International Carbon Action Partnership

The implementation problem

The idea behind carbon trading is a simple one, based on a fundamental characteristic of carbon dioxide as a commodity: that it is fungible. Because reduction or removal in one place affects atmospheric levels globally, it can be sold in the form of offsets or allowances.

In government-run schemes, every tonne of carbon emitted requires an allowance — an asset that companies unable or unwilling to cut their emissions can purchase from those that have reduced their emissions to below mandated levels. Pricing carbon, so the logic goes, incentivises companies to become more efficient and encourages them to invest in clean technologies.

But putting a price on carbon globally is not easy, as policymakers discovered after signing the Kyoto protocol in 1997, which launched the Clean Development Mechanism. The CDM was born with high hopes for a market in which industrialised countries could offset their emissions by funding green projects in the developing world. But as prices for the credits plunged, partly because they were excluded from the EU ETS, the CDM collapsed.

Today's compliance markets must strike a balance. To reduce greenhouse gas levels, governments must tighten emissions caps and increase the number of industries covered by the rules. But they must also avoid “leakage” — companies shifting production (and its associated pollution) to places where emissions control is not mandated.

Moreover, bringing more industries into carbon trading schemes, as the EU has done, can prompt resistance from those who worry that the costs will be passed on to consumers, as seen in reactions to plans to expand the EU ETS to sectors such as buildings and road transport.

“This has triggered some criticism for exposing households to carbon pricing, putting public support at risk,” says Roberta Pierfederici, a policy analyst at the Grantham Research Institute on Climate Change and the Environment.

She notes that the EU is trying to balance this by establishing a social climate fund, which will use revenues from auctioning emissions allowances to provide financial support to vulnerable households.

Meanwhile, the EU ETS's policy of giving free allowances to heavy industries, along with what until recently were low and volatile prices, has been blamed for making carbon pollution too cheap to incentivise large-scale investments in clean technology.

However, since participants in compliance markets tend to be utilities, energy producers and industrial groups, rather than brand-name companies, they have not come under intense public and media scrutiny.

By contrast, the voluntary markets have been described as a “wild west”. For one Moral Money reader, “carbon markets basically create an excuse for companies for not trying to cut their emissions”. Meanwhile, a growing number of questions have arisen about whether the nature-based projects being claimed as offsets actually have any climate benefits.

“There are some issues with the existing market,” says ICVCM's Nazareth. “There are some very good projects but

there are certainly circumstances we know are not serving people or the planet.”

Greenwashing aside, it is tough to guarantee that the trees in a nature-based project such as forest management will be permanent, with no risk that they will later be felled or destroyed in wildfires, ending their carbon-absorbing impact.

Projects also need to have “additionality” — proof that the emissions reductions or removals they promise would not have occurred without the sale of offsets. “If someone buys a carbon credit, that gives them the right to pollute, so we'd better make sure it actually makes a reduction in emissions that wasn't going to happen anyway,” says Usher. “That turns out to be really hard to confirm.”

For buyers, it is a tough market to navigate. “We would welcome external guidance and scientific guidelines,” says Adele Cheli, sustainability partnerships and strategy director at health and pharmaceuticals company GSK. “That would enable higher-quality credits...that would also create a level playing field from the corporate side in understanding where to invest.”

Meanwhile, the effect of voluntary offsetting on global emissions has yet to be confirmed. “It's highly debatable whether [the voluntary market] is leading to any additional reductions,” says Misato Sato, assistant professorial research fellow at the Grantham Research Institute.

Organisations from offsets developer South Pole to The Nature Conservancy have been accused in media reports and by advocacy groups of exaggerated claims over the climate effect of offset projects.

While gaming the system or greenwashing may be part of the problem, the voluntary markets are fraught with technical complexities, as seen in some of the questions raised over the validity of certain offsets.

In January, for example, an investigation by The Guardian concluded that more than 90 per cent of the rainforest offset credits of Verra, which provides carbon offset accreditations, did not represent genuine carbon reductions.

In a detailed technical analysis, Verra questioned the studies on which the Guardian investigation was based, and how those studies were analysed. “We came out pretty strongly to dispute the findings,” said David Antonioli, Verra's CEO, shortly before announcing his resignation in late May. “We thought that they were wholly incorrect and that they led to numbers that just didn't make sense.”

In March, Verra announced a major overhaul of its carbon credit methodology — but Antonioli denied that this was prompted by the recent controversy. “This is not in response to any of the Guardian reporting,” he said. “We've been on this long before they started looking into this.”

Even so, Antonioli argued that scrutiny was helpful as the voluntary markets continue to develop and buyers push for greater transparency. “This whole debate has highlighted the fact that standards change, and these rules evolve,” he said, adding that he would welcome more regulatory certainty. “You can't invest today and fear that someone's going to call you out tomorrow and say it's all useless.”

Why we need the carbon markets

Despite their problems, carbon markets are increasingly seen as an essential part of efforts to reach net zero emissions by around 2050, which the Intergovernmental Panel on Climate Change says is necessary to limit global warming to 1.5C above pre-industrial levels.

In terms of carbon reduction, compliance markets are currently doing the heavy lifting and most Moral Money readers agree that they will do more to accelerate carbon reduction than voluntary markets.

There is a consensus that the effect of the EU ETS is significant, says Grantham Research Institute's Sato. “There are detailed analyses comparing regulated versus non-regulated firms, and all studies say it's led to emissions reductions,” she says.

Moreover, in February, allowances rose to above €100 a tonne for the first time in response to new rules that will make it harder for EU polluters to buy allowances. This could increase the scheme's ability to tackle greenhouse gas emissions.

It is of course hard to disentangle the mitigation contribution of compliance markets from other factors. But Usher at Columbia University points out that in Europe, where the EU ETS has been operating since 2005, many countries have successfully decoupled their greenhouse gas emissions from their economic growth.

Both compliance and voluntary markets have plenty of room for growth — particularly voluntary markets, which are a fraction of the size of their government-run counterparts. Yet even if voluntary markets grow rapidly and dramatically, offsetting alone cannot be used to meet global net zero goals.

Steve Malkin, CEO of Planet Mark, which offers sustainability certifications, stresses the need for companies to first implement a robust strategy for carbon reduction.

“Then, and only then, should conversations about purchasing additional offsets emerge,” he says.

Given the scale of the climate challenge, that still leaves an important role for carbon markets, particularly for so-called hard-to-abate industries, such as cement production, that lack effective decarbonisation technologies.

“Scaling the voluntary carbon markets — particularly nature-based solutions — will enable more businesses to compensate for any residual, unavoidable emissions,” says Ana Haurie, co-founder and CEO of Respira International, a carbon finance group.

Voluntary markets also give options to companies with ambitious carbon reduction goals that are in sectors or regions not covered by compliance markets, says Eron Bloomgarden, founder and CEO of Emergent, a non-profit that buys tropical forest credits from governments and sells them to private-sector buyers.

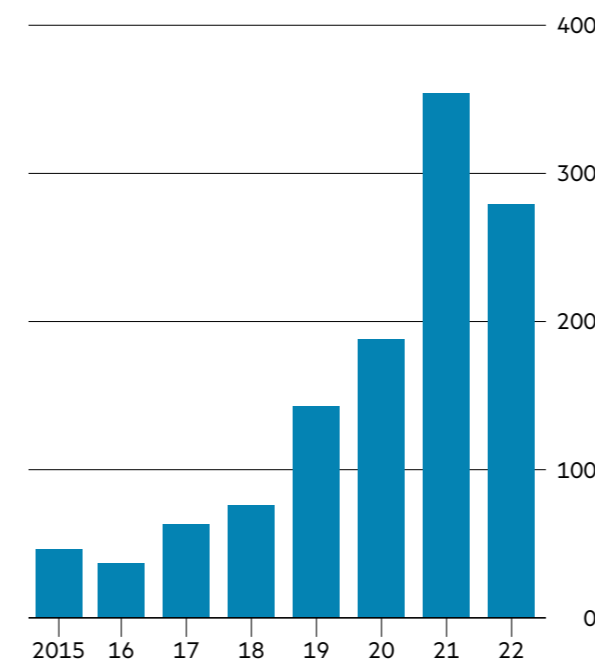
In addition, he says, offsets generate funding for experimentation in clean technologies and business models. “And voluntary carbon markets can be the best, and in some instances the only, source of income to preserve and protect intact ecosystems.”

The most important of these are forests, as tropical deforestation is responsible for about 20 per cent of annual global greenhouse gas emissions, according to US advocacy group Environmental Defense Fund.

“We won't get to net zero if we don't stop tropical deforestation,” says Lorenzo Bernasconi, head of climate and environmental solutions at Lombard Odier Investment Managers. “And there are very few ways to create incentives on the ground for people to keep a tree standing rather than cutting it down if not through carbon and biodiversity benefits,” he says. “That's what the carbon markets capture.”

Voluntary carbon market growth has slowed

Volume of voluntary carbon credits issued (mn tonnes of CO₂ equivalent)



Sources: Climate Focus; Sustainable Fitch

Voluntary carbon credit prices have drifted lower

NYMEX voluntary carbon credit price (\$ per tonne of CO₂ equivalent)



Sources: Sustainable Fitch; CME

‘I bet you never thought you'd hear a banker say that we need more regulation’

In search of scale and integrity

When economist and University of Chicago professor Michael Greenstone was thinking about the problem of the uncertain quality of many carbon credits, he found an answer staring him in the face: to source them from the compliance markets. “Government is doing the hard work in ensuring a tonne equals a tonne and you can ride on that capability,” he says.

In 2021, Greenstone and his co-founders turned this idea into a non-profit organisation, Climate Vault, which buys and locks away regulated pollution permits on behalf of companies, universities and others looking to meet their net zero goals.

Since developing the idea, Greenstone has been surprised at how quickly demand for high-quality offsets has risen. “All these net zero pledges from companies and other organisations didn’t exist three years ago,” he says. “And the supply side is very, very immature. What you need is disruption on the supply side, so there should be 10 Climate Vaults.”

While replicas of Climate Vault have yet to materialise, plenty of other disruptive ideas are emerging as part of efforts to increase scale and improve transparency of the voluntary markets. Innovations can be seen in everything from standard setting and improved quality assurance to market access and collective corporate action, and Climate Vault is not alone in seeing the potential of regulated carbon credits.

A group of rainforest nations — including Gabon, Papua New Guinea, Belize, Honduras and Ghana — has created a framework through which sovereign governments can issue carbon credits when they exceed their nationally determined contributions (the Paris Agreement climate targets known as NDCs) and sell them to other countries or companies.

The credits, which can be generated by forest protection programmes known as Redd+, are verified by the UN Framework Convention on Climate Change, giving buyers confidence in their credibility. “Issues of permanence, inflated claims and additionality can be robustly addressed through this type of approach,” says Gabriel Labbate, head of the climate mitigation unit at the UN Environment Programme.

For the sale of these credits to take off, national carbon registries, trading platforms and settlement systems need to be in place, says Kevin Conrad, founder and executive director of the Coalition for Rainforest Nations, which works with the governments of these nations to develop policies and financial infrastructure that will enable them to track, verify and sell carbon credits. “You need all the classic instruments the private sector uses to move assets from one place to another,” says Conrad. “Those are the kinds of things a lot of countries are now thinking about.”

Banks have also recognised the need for better carbon-market financial infrastructure. Using blockchain technology, NatWest, Standard Chartered, BNP Paribas and other large financial institutions have developed Carbonplace, a settlement platform for the purchase of offsets that some have compared to Swift, the messaging system banks use to secure financial transactions.

“It effectively creates a big network effect,” says Carbonplace CEO Scott Eaton. “It’s bringing a classic financial markets infrastructure to an asset that’s typically traded by appointment and bilaterally.”

Carbonplace also aims to enable the wisdom of crowds to contribute to better-quality offsets. “Our goal is not to be the gatekeepers of the market,” says Eaton. “Our goal is to provide transparency and let the market decide what it wants.”

The principle of strength in numbers is driving other initiatives designed to scale up the voluntary markets. In 2022, for example, the carbon credit purchasing commitments of members of the LEAF Coalition — a public-private forest finance

initiative administered by Emergent — amounted to more than \$1.5bn. The coalition says this is double the value of all such commitments made by the private sector at the COP26 climate summit in 2021.

For some companies, the solution is to work closely with suppliers. This is something GSK is doing as a way of buying high-quality carbon credits while also ensuring that they contribute to another goal: improving global health.

The company asks project developers for proposals and invests at a very early stage, explains Cheli. “It’s a more structured way of checking the progress and potentially having input into the design,” she says, “especially in community projects with co-benefits.”

Meanwhile, multi-sector groups are working to bring greater transparency and integrity to offsetting. On the demand side, for example, the Voluntary Carbon Markets Integrity Initiative is developing a code of practice that sets out when and how companies should use offsets to make claims about their emissions reductions.

On the supply side, the ICVCM has published its Core Carbon Principles, which create benchmarks for the governance of carbon crediting programmes, their impact on emissions and their support for sustainable development.

Nazareth compares the principles to a listing standard. “I’m looking at it from the perspective of someone who spent seven years as the senior regulator for the US securities market,” she says. “And what makes capital markets successful? They have to be transparent. They have to be overseen.”

The principles will also remove the need for the extensive due diligence of carbon credits, which Nazareth says are opaque bilateral contracts. “You have to get climate scientists to vet this stuff. That’s not how successful markets operate,” she says. “We’re trying to create credits that are more standardised, so you know what’s behind them.”

Verra’s Antonioli welcomes the council’s work. “The reality is that to bring the market to the level it needs to be, someone else needs to look under the hood and make sure we’re doing what we say we’re doing,” he says. “That’s the role of the ICVCM.”

Some, however, believe that the voluntary carbon market needs a radical transformation to focus on funding carbon removal — as opposed to the avoidance or reduction of emissions. Carbon removal projects range from large-scale tree planting to the use of crushed rocks to absorb carbon, in a process known as enhanced weathering. Others are pursuing high-tech engineered approaches. Climeworks, a Zurich-based start-up, has developed a system that sucks carbon dioxide from the air, dissolves it in water, and pumps it into the Icelandic bedrock where it reacts to form solid limestone. Buyers of Climeworks’ credits include JPMorgan, Microsoft, Stripe and Audi.

But removals credits make up just 3 per cent of the voluntary carbon market and are expensive. Climeworks has sold its carbon credits for several hundred dollars per tonne of carbon removed — while emissions avoidance-based offsets can sell for less than \$5.

To scale up the sector and bring down costs, long-term offtake agreements will be needed to enable producers to invest, says Michelle You, co-founder and CEO of tech start-up Supercritical, a carbon removal marketplace.

This, she believes, will be essential. “Not cutting down a tree or switching from coal to solar — that doesn’t help you get to net zero emissions,” she says. “Carbon removal literally removes the tonne you’ve emitted from the atmosphere. It’s measurable and the additionality is very clear.”

Microsoft: The search for high-quality removals credits

As part of an ambitious goal to be carbon negative by 2030 — removing more carbon than it emits — Microsoft has a big challenge: finding enough high-quality carbon credits to meet this commitment.

“We’re trying to purchase more than 5mn tonnes per year,” says Phillip Goodman, director of Microsoft’s carbon removal portfolio. “And the market today is about half that size.”

While the company’s main focus is reducing emissions in its operations, many of its activities are hard to decarbonise. “Green steel isn’t available right now. Green concrete isn’t available right now. Technology for low-carbon semiconductors is developing but isn’t quite there yet,” says Goodman. “That’s where carbon removal comes in.”

Following a set of criteria to ensure it purchases only high-quality credits, Microsoft is using a number of different approaches to identify suitable projects.

Many are sourced through its online, open-enrolment request-for-proposals process, which lets suppliers submit projects for review. The company also works directly with suppliers to help them develop projects that meet its criteria.

But to meet its annual 5mn-tonne requirement, Microsoft knows it needs to help the market expand. “There’s not a lot of quality supply out there and that’s one of our biggest challenges,” says Goodman.

Part of the solution involves joining forces with other companies through groups such as the Business Alliance to Scale Climate Solutions, a knowledge-sharing and co-investing coalition, and the First Movers Coalition, which is using collective purchasing power to foster clean-tech innovation.

But a crucial element in Microsoft’s strategy is a contracting structure that commits it to multiyear carbon credit purchases. “A supplier can take this high-credit offtake agreement and use it to raise financing to build that site,” Goodman explains. “It’s a powerful way to show suppliers there will be a buyer out there.”

Even so, he says, the supply of high-quality credits needs to expand more rapidly if companies such as Microsoft are to meet their emissions goals. “The scale of what we need from a carbon removal standpoint is many times larger than what we have today.”

Cogs in the emissions reduction wheel

Carbon markets are evolving rapidly. In addition to new standards and expanding financial infrastructure, technology is supporting market transparency. For example, satellite imaging and remote sensing technologies can collect on-the-ground data that enables verification of the carbon sequestration claims being made about wetlands, forests and other ecosystems.

Investors are starting to take note. Lombard Odier Investment Managers, for example, recently launched a fund that invests in compliance markets. “These are markets that have achieved a certain level of maturity,” says Bernasconi. “So they are now investable by institutional investors.”

Jason Scott of Boston-based Spring Lane Capital, which makes sustainable infrastructure investments, is similarly positive about the voluntary markets. He argues that concern about the quality of offsets is an overreaction, but also a sign of a maturing market. “It’s impossible to eliminate human error, cheating and outliers,” he says. “But I’m very bullish on the market. It’s in way better shape than people think.”

Some, including most of the Moral Money readers we surveyed, believe voluntary markets need more regulation, however. One put it bluntly: “Voluntary morality rarely has good outcomes in business.”

Regulation is supported by some unexpected voices. “I would suggest taking the word ‘voluntary’ out of the term

voluntary carbon markets,” says Bill Gilbert, head of carbon markets at NatWest. “And I bet you never thought you’d hear a banker say that we need more regulation.”

Nazareth thinks carbon credits may eventually be regulated. In fact, she says, her strategy has been to closely align the ICVCM and the Core Carbon Principles with regulated market models. “So if at any point in time legislatures give the authority, it will be modular, and we can move it over with the least possible amount of disruption to the market.”

What remains to be seen is whether a policy focus on carbon markets will deliver the best environmental bang for public-sector bucks — or whether favouring carrots over sticks will prove more effective.

With this in mind, scientists, policymakers, environmental groups and others are tracking the impact of the \$369bn in green subsidies in the Biden administration’s Inflation Reduction Act. The question is whether this incentive-focused approach will be more effective in driving emission cuts than the approach used by regions with compliance markets, which essentially tax companies for polluting. “There’s an active debate there,” says Grantham Research Institute’s Sato.

UNEP’s Labbate sees the best solution as all of the above — with carbon markets remaining an important part of global climate strategies. “Given the crisis we are facing,” he says, “it is about everything, everywhere and all at once.”

Advisory Partners

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The reports are written by a Financial Times journalist and are editorially independent.

Our partners feature in the following pages. Each profiles their business and offers a view on carbon markets.

Partners' views stand alone. They are separate from each other, the FT and the *FT Moral Money Forum*.

Supporting a holistic approach to carbon offsets

Andy Griffiths, head of sustainable procurement, Diageo

A dual crisis of climate and nature

The discourse around carbon credits is often linked to the planting of trees. While forest management is one way to approach carbon management, it's just one of many. We need to think about carbon credits from a holistic perspective, through the lens of natural ecosystems and at a landscape level.

Protecting and enhancing nature is vital to reducing our exposure to the impact of climate change. Nature is our most precious asset, and it sits at the heart of the world's food and drinks industry. We need to fundamentally change how we value nature and fund its regeneration if we're to reverse biodiversity loss, mitigate climate change and continue producing the drinks that our customers love.

The role of carbon credits in achieving net zero

To avoid global temperatures rising above 1.5C, we need to urgently transition to net zero and companies play a critical role in supporting this. All organisations, regardless of their sector, location or size, need to make a comprehensive assessment of their value chain emissions, including Scope 3, and set out a clear road map to reducing them. Carbon insets (implementing nature-based solutions within your own supply chain to reduce or remove GHG emissions) are a crucial component in reducing an organisation's footprint. High-quality carbon offsets can credibly address the challenge of residual carbon emissions.

We cannot risk companies being overly reliant on carbon credits, or using them as a substitute for short-term absolute emissions reductions. High-quality carbon offsets can play a role in reaching net zero, as attested to by world leading climate scientists, such as Johan Rockström. At Diageo, we're on track to reaching net zero across our own operations by 2030. In terms of our entire value chain, we've committed to achieving net zero by 2050. To reach that, we may need to use a small amount of carbon offsets for residual emissions, which we anticipate being no more than 5-10 per cent of our direct operation baseline emissions.

Questions around the credibility and scalability of carbon credits risks disengaging organisations from voluntary carbon markets altogether, slowing down global investment in nature-based solutions when we need them most.

Our call to action

Instead of disengaging, we need the private and public sector to collaborate. We need to create robust frameworks and systems to help develop high-quality carbon insets and offsets, so companies have the confidence to invest.

An example of this is the Landscape Enterprise Networks, a partnership-based system for organising the buying and selling of nature-based solutions. It focuses on supporting biodiversity and addressing emissions in the landscapes where companies like ours have the greatest impact. This includes delivering tangible value on issues such as security of supply, flood and drought risk, through transactions that are profitable for farmers and landowners. Each LENs is place-based and tailored to the specific challenges and opportunities within any landscape. It brings together organisations and stakeholders that have an interest in making that landscape more resilient.

We can only future-proof the voluntary markets if we establish frameworks that build trust in the credibility of the system. LENs is one example of how to do that. Voluntary carbon markets, like anything in this space, can and will only succeed if they are created in partnership with communities on the ground and for society as a whole.

**Diageo's views are separate from other advisory partners, the FT and the FT Moral Money Forum*

Advisory Partner



The important role for voluntary carbon markets

Chris Pinney, president, High Meadows Institute

At the core of the demand for carbon offsets is the reality that many industries are not transitioning their business models fast enough to reduce their carbon emissions to meet either regulatory demands or the voluntary climate-related commitments they have made in response to stakeholder pressure.

Carbon offset markets allow businesses, governments and individuals to reduce their carbon emissions either directly, through investing in carbon sequestration (eg forestry) and carbon removal initiatives, or through cap-and-trade models like the EU Emissions Trading System, where they can purchase carbon emission credits from industries that have not used their allocated credits.

As this report shows, both government-mandated compliance-based carbon credit offset markets under cap-and-trade, as well as voluntary markets, are still in the initial stages of development. Of the two, government-backed compliance markets are currently the most developed and credible when it comes to establishing a price for carbon offsets. At the same time, there is no question that voluntary markets will continue to have a significant role to play as the pressure to reduce carbon emissions grows, creating by some estimates a \$1tn carbon offset market by 2050. As several leaders in this report note, voluntary markets give options to companies with ambitious carbon reduction goals that are in sectors or regions not covered by compliance markets. They can generate funding for experimentation in clean technologies and business models while providing, in some instances, the only source of income to preserve and protect intact ecosystems.

The role of voluntary markets in funding this type of innovation will be particularly important. It is increasingly clear that using only conservation measures such as forest sequestration is insufficient to meet the carbon reduction challenge we face. A 2017 study, led by Bronson Griscom, now at Conservation International, estimated that natural climate solutions, including forest and agricultural sequestration, could lock up about 11bn-15bn tons of CO₂ per year or 30 per cent of the CO₂ emissions that need to be reduced or offset yearly. In this context, we need to allocate more carbon offset resources to carbon removal technologies and business model innovations that can dramatically reduce both current levels of carbon already in the atmosphere as well as future emissions. It is of note that less than 3 per cent of carbon offsets are currently allocated to this component of the offset market.

Private sector financial institutions will have a critical role to play in building the infrastructure to support voluntary markets. As the Taskforce on Scaling Voluntary Carbon Markets notes, “given that the largest buyers of voluntary carbon credits are corporates, banks and asset managers have far greater access to and knowledge of potential buyers than project developers. Experienced asset managers, brokers, or trading desks at large banks can help facilitate price discovery and reduce the need for companies to develop specialist ‘in house’ expertise.” In addition, pooling resources from multiple buyers or multiple sellers can create economies of scale and reduce transaction costs on both sides. Asset managers, banks and investment banks can source and originate deals, providing the much-needed capital to scale the market through sophisticated financial instruments, which buyers may not be able to structure themselves.

We also need more financial infrastructure innovations such as Climate Vault, which creates a useful bridge between compliance and voluntary markets. CV buys certified carbon emission permits from regulated markets and locks them away, reducing the amount of CO₂ that can be emitted into the market. It then uses the aggregated monetary value of its vaulted permits to fund the purchase of carbon dioxide removal from CDR enterprises on the voluntary markets, allowing these enterprises to innovate and permanently remove atmospheric carbon.

** High Meadows Institute's views are separate from other advisory partners, the FT and the FT Moral Money Forum*

Advisory Partner

Fighting the good fight: the role of carbon markets

Christel Rendu de Lint, head of investments at Vontobel

At Vontobel, we focus on actively shaping the future of investing. We exist to enable investors to build better futures and, fittingly, future-proofing investing is one of our strategic priorities right now. In the context of the climate challenge, this means standing with the wider investment community to take action on this globally urgent issue. As a global investment firm and a corporate citizen, we are committed to helping actively shape this transition to the best of our capabilities and reach. We want to contribute to the realisation of the UN Sustainable Development Goals and we are committed to supporting the Paris Agreement and its goal of limiting the rise in global temperatures to well below 2C, with a target of 1.5C.

It is not a fight that one sector — let alone one company — can win alone. Indeed, collaboration leads to the actions that are so desperately needed. With few companies on track to deliver the agreed upon 7 per cent per annum reduction on an absolute emissions basis, there is no time to waste. To say addressing carbon emissions is urgent errs on the side of understatement. One way the financial sector is participating in the climate change fight is by enabling market participants to access carbon markets, which have emerged as a helpful mechanism to support companies in meeting ambitious goals for the reduction of greenhouse gas emissions. The growth of this marketplace has brought the benefit of increased regulatory scrutiny, increased reporting transparency and wider ESG disclosures — factors that, in turn, help to garner further support for, and an acceptance of, carbon markets. Today, 44 per cent of listed companies have set a decarbonisation target. Currently compliance markets are doing the heavy lifting, but voluntary markets will pick up speed as corporate decarbonisation targets edge into the spotlight — and this is where we think a real difference can be made.

From our perspective as an investment manager, we see carbon markets as an efficient tool: they are agnostic, in the sense that they do not dictate the investment instruments required, and they support the transition towards both a green economy and decarbonisation. However, there are also challenges to be acknowledged. Despite offering a solution, carbon markets are only one tool in the net zero toolbox and one geared towards the management of emissions as opposed to their elimination. And this is where we see some challenges in carbon markets.

Firstly, the current pricing of carbon credits is a fraction of what is needed if carbon markets are to seriously contribute towards limiting global warming to well below 2C. Yet increasing pricing will ultimately make consumer prices higher, raising the question of how to accurately price a negative externality? Secondly, the risk of greenwashing exists as carbon markets do not represent real emissions reductions. Remember the 2010 reports of chemical plants manipulating their emissions of “super” greenhouse gas HFC-23 (a byproduct of HFC-22 production) to gain carbon credits through their elimination? And, additionally, urgency should be factored into the environmental return on investment. For example, while tree planting schemes are required for replenishment, does the time required for a tree's growth allow a real decarbonisation benefit to occur within the Paris Agreement's deadline?

Ultimately, the shaping of carbon markets rests largely in the hands of governments and policymakers. Such decision makers set the framework for the use of carbon markets, including their ease of implementation, co-ordination across countries, price levels and the relationship between carbon markets and other carbon-offset mechanics such as carbon tax. Actions such as standardisation measures and auditing would help market efficiency. But, like I said above, it is a fight we need to urgently tackle as a collective. And capital allocators have the opportunity — and I would argue duty as corporate citizens — to play a crucial role in supporting this transition towards decarbonisation.

As an investment manager, we incorporate risks, including ESG and carbon risks, into our active investment decisions to identify opportunities for quality and sustainable investments. Our six Sustainability Commitments were defined last year and form a strategic foundation, setting out how we want to achieve our own transition as a company towards net zero, and how we want to empower our clients with the knowhow, advice and investment solutions they need to realise their sustainability ambitions. We also have the possibility to bring about change within the companies we invest in, by advocating for and motivating them to improve carbon management practices, increase transparency and adopt sustainable business strategies. These are some of the steps we are taking at Vontobel as we focus on future-proofing investing while navigating both the challenges and opportunities inherent in this journey.

** Vontobel's views are separate from other advisory partners, the FT and the FT Moral Money Forum*

Advisory Partner

WHITE & CASE

VCM will play an essential role in unlocking corporates' increased climate ambitions, but not without risk

White & Case ESG Team

There has been an exponential increase in climate finance flowing into the voluntary carbon market, with transacted value estimated to have reached more than \$1.2bn in 2022, according to Trove Research. McKinsey estimates that demand for carbon credits in the VCM could increase by a factor of 15 or more by 2030, and by a factor of up to 100 by 2050.

Companies are not required to participate in the VCM by law, but do so on a voluntary basis, often in furtherance of their net zero or other form of climate change mitigation targets.

The VCM has been met with controversy in recent years, for two main reasons. Firstly, the environmental integrity of certain types of carbon credits has been called into question. This is due in particular to concerns around permanence, additionality, over-issuance, double-counting and leakage. Issues of this nature cast doubt on whether carbon credits represent the greenhouse gas mitigation benefits that they purport to do. Secondly, certain stakeholders have raised concerns regarding the end-use of carbon credits: they argue that companies may be relying on carbon credits in place of direct GHG reductions within their value chain. Concerns around integrity and end-use increase legal and reputational risk for companies, in particular the risk of greenwashing allegations.

To mitigate some of these identified risks, companies may wish to consider only purchasing carbon credits that are issued in accordance with reputable, up-to-date methodologies, and that any statements made by companies in their corporate disclosures or marketing materials in reliance on carbon credits are clear, transparent, well-substantiated and supported by the best available scientific evidence.

It is recommended that companies learn to distinguish high-quality from low-quality carbon credits. The level of integrity risk associated with credits traded on the VCM will depend on certain factors, including the jurisdiction, project phase (ie, pilot phase, more mature lifecycle) and type of the underlying carbon offsetting project. Older vintage credits generally present higher integrity risks than newer vintage credits. And, generally speaking, the cheaper the carbon credit, the more likely it is to pose an integrity risk.

As for end-use of carbon credits, companies may wish to consult guidance published by various organisations, which stress that companies should address direct GHG emissions in their value chain as a first order priority and use carbon credits as a secondary means to mitigate GHG emissions.

Finally, companies purchasing carbon credits could exercise caution as to the impact that the underlying projects may have on the environment and human rights. Companies may consider conducting due diligence to ensure that such adverse impacts do not, and have not, taken place, and contractual safeguards may be built into sale and purchase agreements to offer further protections.

The regulation and governance of the VCM is evolving rapidly. The Integrity Council for the Voluntary Carbon Market has published a set of core carbon principles and assessment framework for ensuring the environmental integrity of carbon credits that seeks to bring greater uniformity to standards within the VCM. Several exchanges globally, including the London Stock Exchange, now offer the ability to list and trade carbon credit-related products. And national regulators are considering ways of bringing the VCM within the scope of regulatory frameworks.

Companies purchasing carbon credits are advised to monitor these developments closely to ensure that their approach is in line with international best practice and regulation.

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About the FT Moral Money Forum

The FT Moral Money Forum takes key issues from the ESG debate and explores them for FT Moral Money subscribers.

The forum highlights macro and philosophical questions and explores the experiences and solutions being proposed. We apply an editorial filter to these and present the most interesting ideas and experiences. We also engage our data visual team to find the best form of presentation.

The forum produces regular reports to highlight the ideas, policies and practices that are making a difference.

Find out how to take part in the FT Moral Money Forum by emailing moralmoneyforum@ft.com

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