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Carbon offsets: debate to define role in net zero

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Carbon offsets sparked fierce debate between policymakers and campaigners during COP26. Such discussion is vital to help fix some of the perceived flaws in a tool that will have a role to play in the net-zero drive.

What are carbon offsets?

Carbon offsets allow an entity to compensate for its own carbon emissions with eliminated or avoided emissions from other activities or dedicated "carbon (offset) projects". This compensation is made through carbon offset credits, with one credit relating to one metric tonne of carbon dioxide equivalent (CO_2e)[1] of emissions.

Carbon offsets should not be mistaken for carbon credits, which are centralised tools for regulating the decarbonisation of high-emitting sectors. Granted by authorities, a carbon credit gives companies in certain sectors the right to emit greenhouses gases (GHGs). These credits can be traded to comply with set quotas.

Today the best known and largest carbon market is the European Union Emissions Trading System (EU ETS), launched in 2005 and, which accounts for 90% of global carbon credits volumes and 40% of EU emissions (**Exhibit 1**). It is based on the "cap and trade" principle, a system for controlling carbon emissions.

That said, carbon offset credits linked to emission-reducing projects – known as Certified Emission Reductions (CERs) – can also be traded on these regulated carbon markets. These are backed by UN guidelines and can be purchased by companies needing to comply with imposed carbon emissions caps. When a company voluntarily purchases carbon offsets to lower its net emissions, rather than to comply with mandatory emissions targets, these are called voluntary carbon offsets (VCOs).

Key takeaways

- Carbon offsets allow governments and companies to offset their carbon emissions and can be mandatory or voluntary.
- Voluntary carbon offsets (VCOs) are booming as part of rising net zero commitments: the market is estimated to top USD 1 billion in 2021.
- Debate about how to strengthen offsetting ecosystems is vital amid criticism that offsets provide a licence to pollute by enabling entities to focus on cutting net – rather than gross – emissions.
- A rulebook for carbon markets was agreed at COP26, marking a significant step in the development of the burgeoning carbon credits industry.

1. Equivalent because it also includes other greenhouse gases such as carbon dioxide, methane, nitrous oxide.

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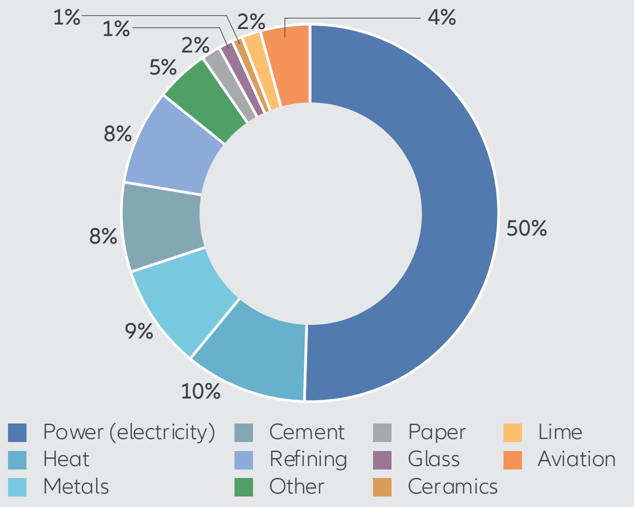
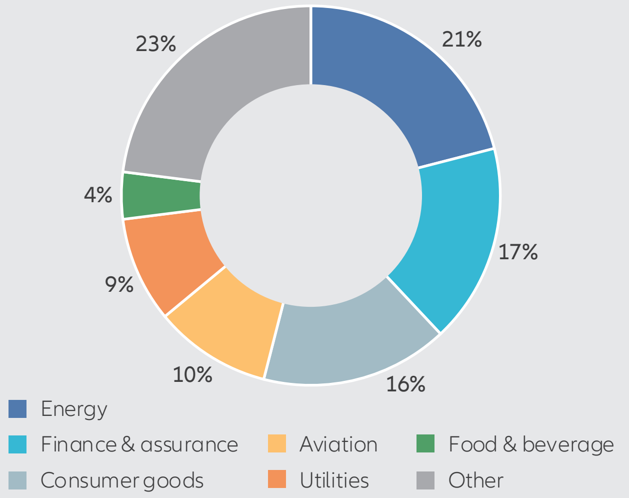
Exhibit 1: Breakdown of 2020 EU ETS emission volumes by sector



Source: European Union Transaction Log, Bloomberg.

Exhibit 2: Breakdown of main European corporate buyers of VCOs by sector



Source: Forest Trends' Ecosystem Marketplace Global Carbon Markets Data Intelligence & Analytics Dashboard, 2021. Washington, DC: Forest Trends Association. Based on purchased carbon offsets' volumes.

The booming market in voluntary carbon offsets

Although the VCO market is still a fraction of the mandatory market in terms of traded carbon credit volumes, it is growing quickly. Many businesses that struggle to reduce emissions as quickly as they might wish or that find it tricky to outline a pathway to fully eliminate emissions are turning to VCOs to help. In 2020, the VCO and mandatory markets were worth approximately USD 500 million and USD 270 billion respectively.[2] But the VCO market is expected to top USD 1 billion this year (representing approximately 300 million tonnes CO_2e). This market would need to grow by at least 15 times by 2030 in order to be aligned with the 2015 Paris Agreement goal of limiting global warming to a 1.5°C rise by 2050.[3]

The pace of development in the whole ecosystem for VCOs is being driven by stakeholders across the value chain – from offset project developers to certifiers, brokers and final buyers. In many cases, VCOs direct private financing to climate-action projects that would otherwise struggle to gain financing.

Unlike the mandatory market, VCO markets are not subject to regulation or international agreements and are accessible to all participants. The purchasers are mostly companies that wish to report lower net emissions (**Exhibit 2**).

What projects are used to generate voluntary carbon offsets?

Carbon projects can be broadly classified in two ways. The first is "purpose", which includes projects that remove CO_2 emissions directly from the atmosphere, as well as those that avoid emissions altogether. The second is "origin", which includes nature or technology-based solutions. An example of a project that removes emissions through a nature-based solution is the Athna project in Alaska,[4] which focuses on carbon capture through fighting deforestation. The project helps local communities to switch their source of income from selling trees to selling carbon credits from carbon-capture projects. Projects that tackle non-CO_2 ozone-depleting substances such as refrigerant or aerosol gases are another example. These projects are qualified as an avoidance and technology-based solution.

The level of investment for each project depends on its qualifications, with basic renewable energy projects at the lower cost end and the most technologically advanced carbon capture and storage (CCS) projects at the expensive end (**Exhibit 3**).

Why are carbon offsets so divisive?

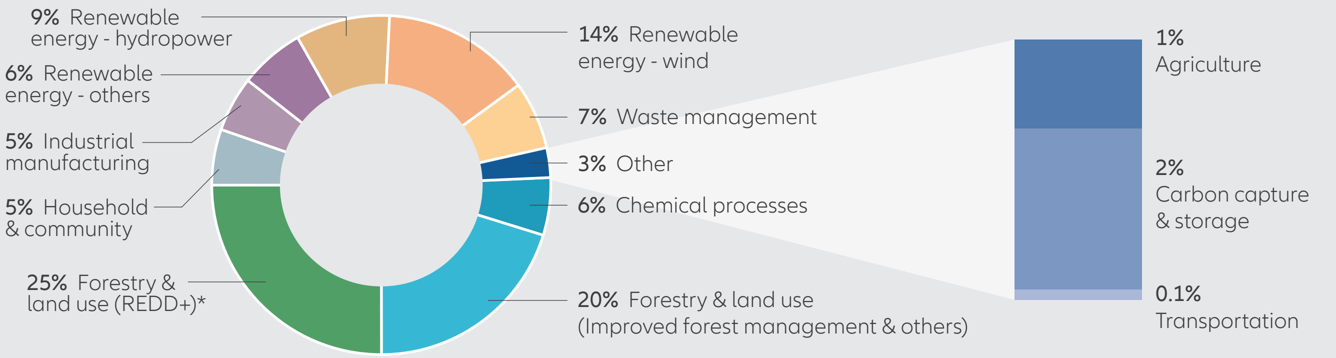
During COP26, carbon offsets were a focus of debate and revived the fear from climate campaigners of interpreting Article 6 of the Paris Agreement as a mandate to develop carbon offsets further, rather than applying pressure on entities to cut back their gross emissions. The final deal agreed by governments 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.

The core principle of VCOs is so-called additionality, whereby GHG reductions must come over and above those realised by business-as-usual mitigation activities and policies for climate transition.This would be done through projects that would be uneconomic without the funding derived from carbon offset credits. Other criteria for VCOs include:

- Accountability – measurable and verifiable.
- Irrevocability – permanent impact over time.

2. Source: Ecosystem Marketplace, Refinitiv.
3. Source: Taskforce on Scaling Voluntary Carbon Markets.
4. Source: Ahtna kanas: How-trees-can-pay-off-when-you-leave-them-standing.

Exhibit 3: Voluntary carbon credits by type of projects



*REDD+: "Reducing Emissions from Deforestation and forest Degradation, plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks" www.fao.org/redd/en/

Source: Berkeley Carbon Trading Project's Voluntary Registry Offsets Database. Based on purchased carbon offsets' volumes.

– Assurance of no harm – no incremental CO_2e emissions over the entire value chain and no harm caused in other sustainability domains (biodiversity, social).

The verification of these factors is complex and subject to interpretation, especially on additionality. Organisations verifying the criteria include Gold Standard, Climate Action Reserve, Verified Carbon Standards, and the American Carbon Registry, who all label the credits as Verified Emission Reductions (VERs). But the respective standards vary and, whereas CERs are eligible for both mandatory and voluntary markets, VERs can be used only in the voluntary market.

The quality of the underlying project is a key driver of the VER credit price, but given the smaller scale of the voluntary market, pricing can be unduly influenced by speculative buyers or old and often poor-quality credits. This creates a significant pricing divergence between the voluntary and the mandatory markets, the latter largely controlled by regulators. As a result, voluntary market pricing appears to have decoupled from the real cost of the underlying projects.

Recognising the problem, the Intergovernmental Panel on Climate Change (IPCC) has stated it is essential to have an ambitious carbon price to influence changes in practice. The Institutional Investors Group on Climate Change (IIGCC) has urged caution, while the SBTi (Science Based Targets initiative) does not take voluntary offsets into account in company science-based targets for emission reductions. Lastly, there can be double-counting issues where a government wants to claim recognition for offsets that it then sells onto to another sovereign.

There are benefits from appropriately priced, good quality VCOs and the role these can play in financing climate transition. But the current debate is healthy to avoid the unintended consequences of the existing structure.

How to consider carbon offsets in investment

Decarbonisation within an entity's own value chain is the absolute priority and starts at the level of gross emissions. As such, not only should the scale and scope of the use of carbon offsets in an entity's decarbonisation pathway be considered, but also how they impact strategic decisions. For example, is the cost of buying carbon offsets at the expense of funds that would otherwise be spent on decarbonisation, climate mitigation or adaptation?

While the current data capture on the specifics around carbon offsets remains weak, we note that the topic is increasingly highlighted in climate engagement, and company management teams are under pressure to outline the scale, scope and strategy of offsets.

What is the future of carbon offsets?

We expect the debate around carbon offsets to persist after COP26. Collective intelligence is evolving around the climate impact from verified carbon offsets, criticism is shaping standards, and companies are being forced to formally articulate, measure and report their gross and net decarbonisation strategies.

The Task Force on Scaling Voluntary Carbon Markets and the Voluntary Carbon Markets Integrity Initiative are two major initiatives to shape this market. The first will focus on the standardisation of the market, while the second will address the issue of integrity; both will touch on disclosure. COP26 is likely to further accelerate an already fast-evolving segment, especially as we approach the inclusion of Scope 3 emissions in targets.

While we at Allianz Global Investors continue to consider the best avenues to capture the data around offsets, we use engagement as the primary method for understanding the scale and scope of their use by invested companies. This engagement is done either bilaterally with invested companies or through collective initiatives, including the IIGCC.

Direct and gross decarbonisation remains our priority, but a refined and evolving carbon offset market has a role to play in assisting the pathway. Ultimately, for carbon offsets to have an impact by 2050, there needs to be a robust mechanism for making sure decarbonisation targets are more than just accounting adjustments.

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Data as at 30 September 2021

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