

# Carbon Offset Credits

What are they and should pension schemes invest in them?

**December 2021**

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# Executive summary

A significant development that resulted from COP26 in Glasgow was a set of rules known as Article 6, which set out a clear framework for the standardisation of international trading of carbon credits. This development will help reduce greenhouse-gas emissions but the reasons for this are often not well understood. Further, the carbon price has increased by 116% in the last 12 months drawing interest from investors seeking new return streams.

In this note Simeon Willis, our Chief Investment Officer, explores the role that carbon credits can play in emission reduction and the opportunities this might create for pension scheme investors.

## Key findings:

1

Carbon offsets will serve an important role alongside emission reduction in achieving the necessary decarbonising of the world economy, and carbon credits are an important financial instrument in this process.

2

The carbon credit markets have grown in stature in recent years and the increase in net zero emissions pledges, not only from nations but also from companies, means this is an area that is expected to grow further in prominence.

3

There are a number of ways that investors might participate in the growth in this market, but having a clear understanding of the nature of the different financial instruments and how they might be used appropriately is crucial.

4

The markets are also themselves developing to address shortcomings and this development will be essential to any investment case. Article 6 of the Paris Agreement will have a key role to play in this.

5

Above all, investors need to ensure that their focus remains on investing, rather than speculating, when participating in this exciting and fast evolving market.



**Simeon Willis**  
Chief Investment  
Officer



The role of carbon offset credits is grounded in sound economic theory and the continued development of these markets will play a pivotal role in our carbon transition. This brings welcome opportunities for investors along with society and our planet.

# 1 What are carbon offsets and are they the same thing as carbon credits?

Carbon offsets are activities that take place to reduce greenhouse-gas (GHG) emissions.

These involve an ever-growing range of activities. One of the most frequently talked about of these is planting trees (known as 'afforestation'), but a whole range of other activities also count. These range from activities such as preventing destruction of natural habitats or building renewable energy generation facilities, through to carbon capture and storage (known as 'carbon sequestration'), for instance through new technologies that remove carbon dioxide from the air and store it permanently underground.

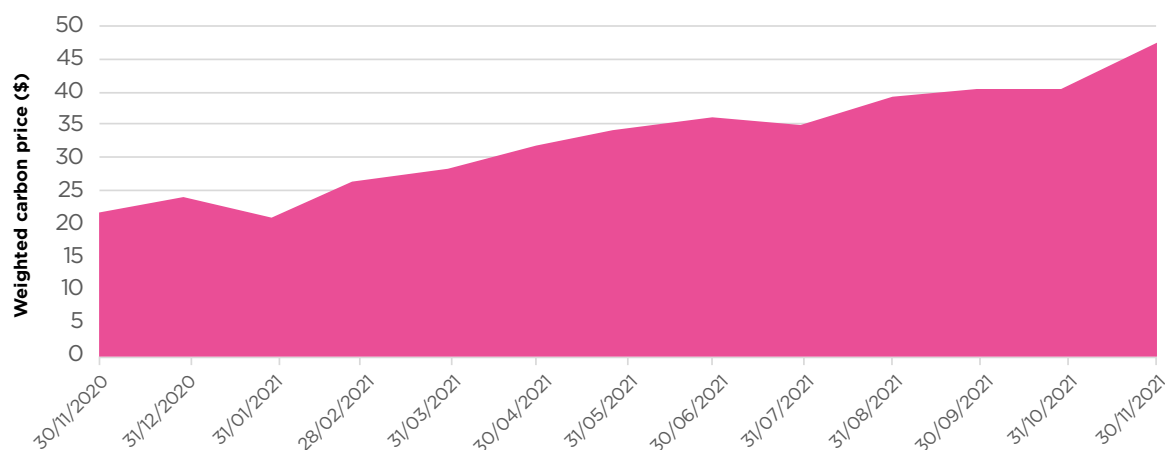
Carbon offsets will play an important role in our overall reduction of GHG emissions as they provide a means for us to manage the harmful effect of residual GHG emissions that will be very expensive or impossible to avoid. For example concrete manufacture, which implicitly releases carbon dioxide as a fundamental by-product of the chemical reaction to make cement.

Ultimately, to achieve our net zero aims, the world economy will need to invest in more carbon offsetting activity alongside the most important job of reducing direct gross emissions. This is where carbon credits come in. Carbon credits are a financial instrument that allows the carbon offset to be traded and ultimately 'surrendered' to count against an emission somewhere else in the economy. Carbon offset credits can also provide a means to fund more activities to reduce carbon in the air.

## 2 Performance of carbon credits

The chart below shows the change in the weighted carbon price over the last 12 months according to the IHS Markit Global Carbon index (\$), which combines the pricing of a number of compliance-based credits from the US and Europe. The price has increased by 116% in the last 12 months.

**IHS Markit Global Carbon Index – Weighted Carbon price (\$)**



Source: IHS Markit

# 3 Compliance and voluntary carbon credits

There are two broad types of carbon credit:

1

**Compliance-based credits** are a means for heavy polluters, whose emissions are restricted by regulation, to buy credits if they wish to exceed their limits or otherwise pay fines. Credits are issued on a “cap and trade” basis by governments where the number of credits are capped at the target level of emissions such that any trading does not affect the total amount of emissions that are permitted. Over time, the amount of carbon credits issued can be reduced, forcing companies to reduce their emissions.

An example of this regulatory arrangement is the European Union Emissions Trading System (EU ETS), established in 2005, which covers over 10,000 industrial facilities across Europe and some surrounding countries. These credits are called EU Allowances, or EUAs, and are heavily regulated and standardised. The EU ETS system is the world’s second largest carbon market. Other long-standing programmes include the Californian Carbon Allowance, initiated in 2012, and the Regional Greenhouse Gas Initiative in the northeast states of the US, since 2009.

2021 has seen significant activity with UK initiating its own ETS programme to replace its previous involvement in the EU ETS. China also started their programme, the world’s largest, although the format is slightly different to other markets where the credits focus on intensity of carbon emissions per unit of energy produced, rather than outright emissions.

Together these markets account for 6bn tons of carbon emissions, two thirds of which is from China.

2

**Voluntary offset credits** are a much broader market, with a wide spectrum of underlying activities. These may be audited and assured by various independent associations but there is no standardisation and the quality and price are highly variable.

These are the type of offsets that companies typically use to support their net zero emission pledges where there is no regulatory requirement to constrain their emissions.

As a result of the variable price and quality, the financial markets are in their infancy in terms of widely recognised and traded assets and indices linked to voluntary markets. The current large scale market instruments are therefore predominantly focused on compliance-based credits.

**Both types of credit can be traded between parties, but a fundamental requirement of either market operating correctly is that a credit should only be surrendered once.**

## 4 Why do carbon credits matter?

A key role of carbon credits is to provide a means for capital to be allocated to projects that contribute most to emission reduction per unit of cost. A well-functioning market with clear pricing for carbon emissions provides two important fundamental benefits amongst others:

### Source of revenue

It provides a means for beneficial carbon reduction activity to earn revenue which will lead to more of that activity.

Investment in new forests is one frequently cited example. That said, avoiding deforestation is arguably a more powerful tool given the time taken for a new forest to become a net absorber of carbon. Trees take time to gain sufficient size to absorb enough carbon to offset the emissions involved in preparing the land and planting the trees in the first place.

### Efficient allocation of capital

Carbon credits set a clear market price so that companies can decide whether it is most efficient for them to incur cost to directly reduce emissions or instead to pay for offsetting activity. These sorts of decisions are being made all the time, and carbon credits presents an additional option. For instance, better insulating offices is a cheaper way to initially reduce emissions through lower energy use, compared to extensive roll out of, say, ground-source heat pumps which are more expensive. Clear pricing allows for this sort of prioritisation to be made across different countries and industries, focusing on the biggest 'bang for your buck'.

## What is a ton of Carbon Dioxide?

A ton of carbon dioxide at atmospheric pressure will fill a **large 5 bedroom house**

The current price for a carbon offset is around **\$48 per ton** of CO<sub>2</sub> equivalent offset\*.

It takes a human being about **3 years of breathing** to produce a ton of carbon dioxide

A typical tree absorbs around 1 ton of carbon **in its lifetime**.

\*Based on IHS markit index of compliance-based carbon credit markets as at 30 Nov 2021





## 5 Are there any shortcomings of the carbon offset credit markets?

There are currently a number of shortcomings relating to the operation of carbon credit markets. Outside of the compliance regimes which are standardised and tightly controlled, voluntary markets suffer from a lack of standardisation and consistency.

Voluntary carbon credits are typically assured by independent third parties, but this is an unregulated environment with criteria and methodologies differing materially. This results in a wide range of prices and a wide range of qualities of carbon credits.

A private sector-led taskforce initiated by Mark Carney – the **Taskforce on Scaling Voluntary Carbon Markets** – has sought to facilitate a pathway to a more efficient and robust voluntary carbon credit market recognising the important role this will have to play in coming years.

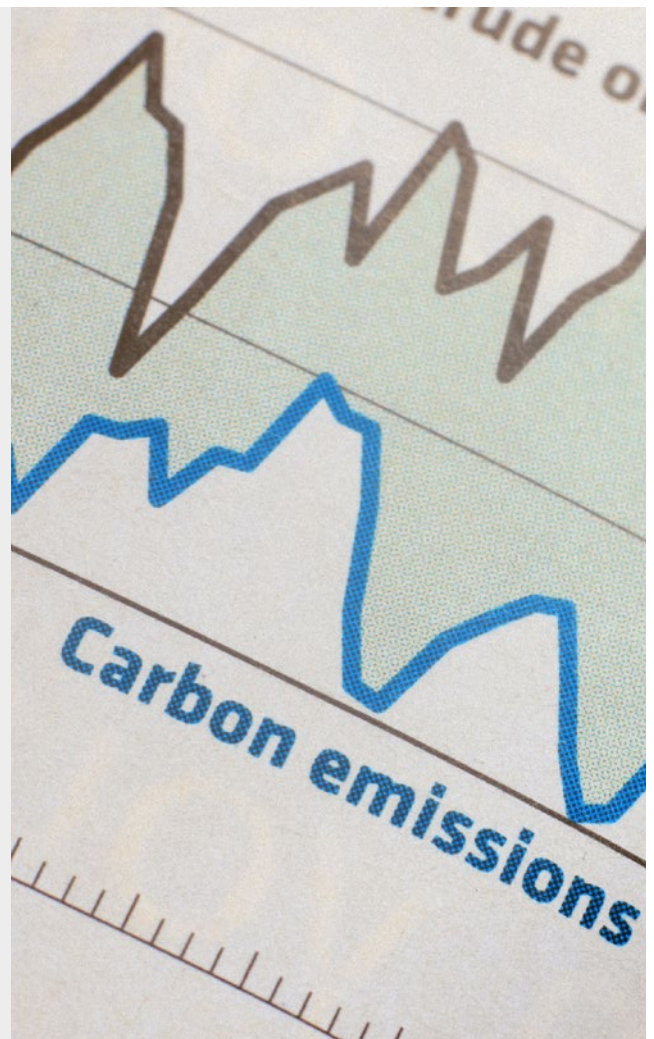
Market improvements will also arise from the implementation of Article 6.

### What is Article 6?

Article 6 of the 2015 Paris Climate Agreement sets out a rulebook for the system of carbon credit trading.

It names the UN as the certifier of carbon projects that can be used to count as part of a country's Nationally Determined Contributions (NDCs). It establishes standards so as to avoid double counting within the NDCs where offsets have been traded internationally, effectively preventing more than one party surrendering the same credit. (NDCs determine the level of carbon emissions that countries can legally emit in conjunction with their legal obligations under the Paris agreement).

It is expected that Article 6 will also have beneficial implications for the voluntary market beyond NDCs – by establishing a set of standards that can be adopted more widely.



# 6 How can you invest in carbon offsets?

There are a number of ways that investors might participate in carbon credit markets. The applicability for pension schemes will be heavily linked to their chosen policy on climate related matters. That said, the role of the different investment options for pension schemes can be generalised to some extent given their key features and risk and return profiles.

We summarise some high-level considerations but note that circumstances can differ considerably and this does not constitute advice.

1

## Direct ownership for emission reduction

**Directly buying either regulated or voluntary carbon offset credits to 'surrender' and use to reduce portfolio emissions**

### XPS viewpoint

The purchase of carbon offsets to reduce a portfolio's emissions will have a direct cost on a portfolio's return. This can be likened to the philanthropic donation of money to a good cause. This stretches beyond the objectives of most pension schemes so needs to be considered very carefully. Further to this, given pension schemes don't directly produce the emissions of the underlying investments, it's hard to see that offsetting within the scheme serves any additional efficiency benefits to society as a whole. This is because there is no means for a scheme to influence which emissions are reduced, unlike where a company directly offsets their own residual emissions.

Within the regulated markets, it can be argued that buying credits reduces their supply in the market thereby forcing companies to reduce emissions as the number of available credits reduces. The flipside is this potentially artificially bids up the cost of credits, distorting governments' and companies' decision making. This could have unintended consequences, such as forcing up energy prices with a disproportionate impact on the poorest in society – who typically spend a higher proportion of their income on energy.

2

## Direct ownership for future resale

**Directly buying either regulated or voluntary carbon offset credits to hold with a view to sell on to the end user at some point in the future**

### XPS viewpoint

Investing in carbon credits themselves has scope to deliver a profit if the carbon price continues to increase. This is a concentrated speculative investment with equivalent downside risk.

Carbon is expected to become a greater area of focus and so its price might be expected to rise. However, there are risks such as an increase in the supply of regulatory issued permits pushing down the price of carbon. The supply of voluntary carbon offsets, which by definition are not constrained, may rise by more than is expected resulting in erosion of value to the carbon credit holder. Offsets do not produce income and fund management fees (which can be material) will also detract from returns.

The investment in this sort of asset can be likened to any other commodity and in general XPS is cautious around the role that a long position in commodities has as part of a pension scheme's strategic asset allocation. A skilled active manager could potentially add value net of fees but investors would need to be confident that suitable investment managers could be identified and that the active management opportunity is more attractive than other potential investments.



### 3

#### Indirect ownership via financial instruments

Investment in financial instruments linked to the price of carbon offset credits. For example, futures linked to carbon indices, or via Exchange Traded Funds (ETFs) which invest in underlying credits or underlying derivatives

#### XPS viewpoint

In addition to the points around direct ownership for future resale which apply equally to indirect ownership, there are some additional considerations where derivatives are used.

Market expectations of future price rises will be reflected in the price of derivatives, meaning rising carbon prices won't necessarily lead to investor returns unless they exceed expectations. It is also important to understand the specific markets that the chosen index is exposed to and the nature of those underlying markets as these have scope to differ materially.

Again, this is an area much like other commodity markets which can be unforgiving and needs to be approached with considerable caution due to the concentrated risk, but can have scope to deliver strong performance when accessed appropriately.

### 4

#### Indirect exposure via related asset classes

Investing in assets which earn revenue through selling carbon offset credits. These could include renewable energy, forestry or new technologies that are expected to directly reduce carbon emissions.

#### XPS viewpoint

Voluntary carbon credit markets create scope for companies to earn a new revenue stream from selling carbon credits from which pension schemes might ultimately benefit, whilst also investing for a better world. This enhances the business case for already viable investments and may create scope for new investments that were otherwise not viable.

That said, generalisations need to be treated with caution, for instance, forestry investments. From a carbon credit perspective, fast growing soft wood trees will deliver the greatest carbon reduction for a given investment, but other considerations like resilience to disease, bio-diversity and fire risk mean that single species forests are often not the most desirable investment in practice. It will be important that activities are well thought through and not blindly profit seeking through carbon offsets, as they may lead to undesirable consequences.

In either case, understanding all the dynamics and the combined business case will be essential and there is no substitute for expertise in your asset manager. However, in our view, indirect exposure via related asset classes represents the most appealing investment case in relation to the evolving carbon credit market.



# Conclusion

Carbon credit markets incorporate a breadth of underlying activities across a number of fundamentally different market regimes. These range from the various different compliance-based frameworks, through to the more fragmented voluntary market. Therefore a thorough understanding of the dynamics of any particular investment opportunity is paramount.

There is room for a variety of investment approaches to support and benefit from the net zero transition that we will observe over the coming decades. The scope for companies to earn an income from creating voluntary carbon credits via targeted activities that permanently reduce CO2 in the air is a fascinating area. No doubt further innovation will see further ways to participate, be it directly or indirectly.

We view that investing via infrastructure, natural assets and the equity or debt of forward-thinking companies, rather than the commodities markets themselves, remains the best way for pensions scheme to contribute and share in the value that these sustainable and impact opportunities will create. There is scope for participation via commodity markets also, but investment would need to be appropriately modest, given the considerable concentration of risk. This would also necessitate greater active management to manage the various factors appropriately.

## Next steps

One way to incorporate this kind of approach within your strategy is to tilt your portfolio towards sustainable themes, either through specific asset class allocations or by employing sustainable approaches within the management of equities and bond portfolios.

We encourage trustees to consider the role these strategies can play given the strong demand for capital to fund our transition to net zero as a global economy.

If you would like to find out more on **Carbon Offset Credits**, please contact **Simeon Willis**:



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