

# Using Physical Carbon Allowances to Mitigate Financed Emissions and Achieve Environmental Goals

## Introduction

Did you know you can mitigate the entire carbon footprint of your portfolio by holding physical Carbon Allowances?

This applies to any type of portfolio and requires no changes to the underlying portfolio composition. The table below shows example carbon allowance overlays required to build net-zero versions of key indices.

	Solactive EM	Solactive DM PAB
Financed emissions (per €m invested)	95.98 tCO <sub>2</sub> e	30.86 tCO <sub>2</sub> e
EUA position in 2022 (as % of AUM)	3.48%	1.06%
EUA position in 2030 (as % of AUM)	7.1%	2.16%

*Assumption: 2% portfolio growth, 5% emission reduction y-y for DM and EM, 7% for DM PAB*

Additionally, mitigating financed emissions via a physical Carbon Allowance overlay strategy can deliver both financial and environmental benefits versus the current alternatives, such as divestment, or purchasing voluntary offsets.

This paper sets out how holdings of physical Carbon Allowances can be used as a key element of a Net Zero investment strategy. It's worth noting that physical Carbon Allowances can be used to align AUM to less strenuous environmental goals, at lower holding allocations, but for the purpose of this explainer we assume the higher hurdle of Net Zero investment.

## What are net zero investments are what are the regulations around them?

Net Zero investing is focused on aligning assets with the commitment of the Paris Agreement to curb global warming to below 1.5 degrees. Many financial institutions have signed up to Net Zero pledges, under different initiatives, such as the NZAOA, IIGCC or SBTi.

The IIGCC's Net Zero Investment Framework (NZIF) is one of the key rulesets on the construction of net zero investment strategies. It recognises the importance of organic emissions reductions at a company holding level, as well as the key role that carbon markets, particularly regulated carbon markets, can play at a portfolio level.

The NZIF follows the market's widespread scepticism of the use of voluntary offsets to create net zero portfolios. Conversely, it sees the use of carbon allowances from net-zero-aligned regulated markets as being valid in a portfolio context:

*“As a general principle, investors should not use purchased assets at the portfolio level to achieve emissions-reduction targets. They should also adopt a precautionary approach when assessing assets’ alignment with net zero and the use of offsets. (...) Credits purchased by participants within regulated carbon markets that are designed to meet the net-zero emissions goal can be used.”*

The EU Emissions Trading System (ETS) is a cornerstone initiative of the EU to reduce emissions in line with the Paris Agreement, and the latest ‘Fit-for-55’ package aims to deliver a net zero EU by 2050. EU Carbon Allowances (EUAs) can therefore be seen as an acceptable carbon allowance within the IIGCC framework.

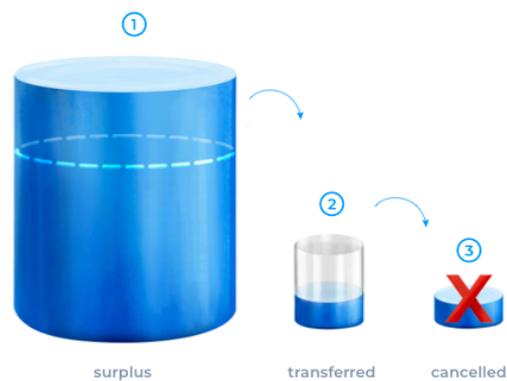
### How does investing in physical EUAs create emission reductions?

Regulated carbon markets establish a price for emitting carbon into the atmosphere. When investors join the market by investing in EUAs, they increase scarcity in the market and thereby incentivise emissions reductions.

In the EU ETS specifically, buying and holding physical EUAs as an investor directly impacts the future supply of allowances, and creates quantifiable and permanent emission reductions. This is due to the functioning of the Market Stability Reserve (MSR), a key feature of the EU ETS that is designed to ensure that the supply of allowances can react to economic shocks.

The MSR was introduced to the EU ETS following the financial crisis in 2008, when lower economic activity led to a significant drop in emissions, which resulted in an oversupply of allowances. This oversupply depressed EUA prices for some years, and indeed threatened the effectiveness of the EU ETS to reduce emissions in the long-term. The MSR was introduced in 2013 to adjust supply based on emissions levels. This is done on an annual cycle, visualised in the chart, as follows:

- 1) The overall surplus of allowances in the system is calculated.
- 2) If that surplus is greater than 833m allowances, 24% of that overall surplus is withheld from the following year’s auction supply and placed into the MSR.
- 3) From 2023 onwards, any EUAs in the MSR exceeding the previous year’s auction volumes are cancelled.



This mechanism is written into EU law and is implemented without any discretion from the EU Commission or any EU Member State.

When an investor buys and holds an EUA, they directly increase the surplus number of allowances in the MSR calculation. As a result, for each EUA they hold, 0.24 EUAs are withheld from the following year’s auction supply, and placed into the MSR for future cancellation. This mechanism is recursive, with auction supply being impacted each year that the investor remains invested. Extending this time horizon, a research paper

published by the London School of Economics has estimated that withholding 1 EUA from the market for 10 years prevents 0.82-1.48 tonnes of emissions.

Crucially, if at the end of this holding period the investor decides to sell that EUA, the impact on the MSR calculation stops, but is not reversed. As such, a temporary holding of EUAs triggers quantifiable, permanent emissions reductions. It is this quantifiable emissions reduction that can be used to mitigate financed emissions at a portfolio level.

## How to build net zero portfolios using EUAs

The emission reductions resulting from holding EUAs can be used to build net zero investments in line with the IIGCC's Net Zero Investment Framework (NZIF). This can be done in four steps:

- Setting an emission reduction goal for your portfolio**  
 This goal is based on the pledge made by the investor and could be, for example, to align the portfolio with the Paris Agreement goal of limiting global temperature increase to 1.5 degrees, or to create a net zero portfolio by mitigating all emissions of the portfolio on an annual basis, in line with the IIGCC's NZIF.
- Measuring the carbon footprint of the portfolio to create a portfolio-specific strategy**  
 The carbon footprint, or financed emissions, of the portfolio are calculated based on the emissions of the investee companies in the portfolio and can include scope 1, 2 and 3 emissions. It is recommended by most frameworks to include at least scope 1 and 2 emissions in any net zero commitments; due to lack consistent data available for scope 3 emissions, they are often excluded.
- Analysing the gap**  
 To create a net zero portfolio, the delta between the emissions of the portfolio and the target emissions pathway has to be mitigated, in order to align AUM to the environmental goal.
- Investing into EUAs to create net zero investments**  
 The exact EUA position required to mitigate the emissions of a portfolio can be calculated using the mechanism of the MSR. This would require an initial investment for the first year's emissions. In the following years, it would require a smaller top-up of the position, as each investment creates emission reductions in every year held, given the recursive nature of the MSR.

The chart shows an example EUA overlay strategy. The required EUA position in future years will depend on the emission reductions generated organically by the portfolio constituents.

Crucially, to claim the full benefit of the emissions reductions created by the MSR, the EUA overlay needs to be achieved via a physical holding in EUAs. Only by physically holding EUAs in a registry account, and thereby



withholding them from polluters, can the full impact of the MSR be harnessed. When investing in EUA futures however, where investors roll their contracts and never take delivery of the underlying allowances, no EUAs are actually withheld from the market.

To get exposure to the performance of physical EUAs, an investor can either;

- set-up their own account in the EU Registry for carbon allowances (but this is a complicated process that can be lengthy)
- or use SparkChange Physical Carbon EUA ETC (ticker CO2.L), a publicly-available carbon investment product that is physically-backed by EUAs

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