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Avoiding greenwashing in investment portfolios through consistent emissions classification and transparent reporting of derivatives

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Executive Summary

1. Investors and other stakeholders should **differentiate between *financed emissions*** and ***real emissions.*** *Financed emissions* represent financial instruments' exposures to greenhouse gas emissions, while ***real emissions*** are **generated by companies through their business activities and directly released into the atmosphere.** The differentiation makes it clear that reducing an investment portfolio's financed emissions does not remove CO_2 from the atmosphere immediately. The removal of emissions only materialises indirectly and gradually through exerting pressure and signalling to the companies that are (de-)financed. **Not differentiating between these two emission types could lead to greenwashing.**

2. In order to obtain representative portfolio carbon metrics, **carbon accounting should rely on the economic exposure of financial instruments to determine the overall *financed emissions* of portfolios.** Alongside the investment in equities and fixed income securities, derivative instruments play a pivotal role in portfolio management. With derivatives, investors can achieve the same economic exposure to a company as through direct investments. Accordingly, when accounting for *financed emissions,* all types of financial instruments should be considered in accordance with their economic exposure. Otherwise, savvy investors could avoid accounting for emissions in carbon accounting by gaining economic exposure through the use of derivatives, while bypassing the accountability of *financed emissions.* **Not taking derivatives into account in the carbon accounting would consequently open the floodgates to greenwashing.**

3. The overall amount of *financed emissions* should always be equal to the amount of *real emissions* of a company. Because derivative contracts always have two contracting parties, ***financed emissions*** **should be reported both positively and negatively** in accordance with their **economic exposure,** so that derivatives neither increase nor decrease the overall amount of *financed emissions.* In particular, if derivatives were to artificially increase the total amount of *financed emissions,* this would lead to a misleading scenario in which the overall *financed emissions* would be larger than and disentangled from the *real emissions.* On the other hand, if derivatives were to artificially decrease the total amount of *financed emissions,* **this would open the doors to greenwashing.**

Content

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1. Introduction

In recent years, Environmental, Social, and Governance (ESG) considerations have gained significant traction in the financial industry and have emerged as important factors in the decision-making process of financial market participants. One area of ESG consideration that has gained particular importance is carbon emissions. As the world faces the threat of climate change, investors and other financial stakeholders are now demanding that investments funds and asset managers disclose their financial carbon footprint and take steps to manage their portfolios' greenhouse gas emissions.

To address these concerns, various standards and frameworks have been established to guide investors in integrating carbon characteristics into their operations and decision-making processes. As standards and frameworks continue to evolve and gain acceptance, it is important to address the challenges that remain. Equity and fixed-income portfolios investing in publicly listed equities and bonds constitute the largest part of most institutional investors' allocation. They therefore play a key role in their investments' return and risk characteristics. In this article, we address two main issues pertaining to such investment portfolios:

- The term *carbon footprint* is widely used by companies, consumers and investors. However, we show that the understanding of what lies behind the concept of *carbon footprint* is not the same for each stakeholder group and that a proper emissions classification helps increase transparency and consistency.

- Next to equities and fixed income, derivative instruments are widely used instruments in investment portfolios. Accordingly, the derivatives market is substantial in size. However, the consideration of such derivative instruments in carbon reporting is still in its infancy. We identify potential caveats and show which carbon accounting approach is the most consistent for those financial instruments.

2. *Financed emissions* are not the same as *real emissions*

According to the UN Principles for Responsible Investing (UN PRI), a key focus for financial portfolios in the light of the transition to a low-carbon economy lies in the measurement and reporting of their financed carbon footprint[1]. However, financial portfolios investing on public markets and exchanges do not directly generate *real emissions*. Instead, portfolios invest in financial instruments (such as equities) whose issuers (mostly companies) generate *real emissions,* for example through the energy consumption of the companies' facilities, their manufacturing processes or their transportation and distribution activities. Because investors buy equity shares (or bonds) of companies, they do not directly generate *real emissions* but instead finance (through their investments) those emissions of the companies in which they invest. The financial industry and academia therefore usually refer to the *financed emissions* of

[1] https://www.unpri.org/download?ac=1876 (PRI Climate Change Strategy Project). Examples of such reporting recommendations or obligations include for Switzerland: ASIP ESG recommendations, Swiss Climate scores; for the EU: Regulatory technical standards (RTS) or the SFDR; globally: TCFD and PCAF recommendations.

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portfolios, which is a **metric reflecting the *real emissions*** caused by the companies that the portfolio holds as well as their impact materiality[2]. In order to allocate those emissions to the investors actually financing them, the financial sector widely uses the **carbon footprint[3].** Conceptually, this metric is computed by first calculating the amount of *real emissions* released by a specific company and then dividing this overall amount of emissions by the company's enterprise value. The carbon footprint is then usually expressed in tons of CO_2 equivalent per million enterprise value.

With this metric, investors can then **determine their *financed emissions* according to how much enterprise value of a specific company they hold.** The most straightforward example consists of investors holding an equity position in a company and allocating the share of the company's overall *financed emissions* to their own carbon accounting in proportion to the equity share they hold in the company (a 1% investment in the enterprise value would correspond to 1% *financed emissions* attributed to the investor). Now consider the situation in which investors choose to sell an equity position in a company: after the trade, the *financed emissions* linked to the position sold will be credited to the new investors (the equity's buyers). The total amount of that company's *financed emissions* does not change before and after the trade – they merely changed hands – and neither does the amount of *real emissions* generated by the underlying company. However, while neither ***financed*** nor *real emissions* have changed overall, one investor has reduced his *financed emissions,* while the other has increased them.

The differentiation between *financed emissions* and *real emissions* is crucial because it clearly defines the roles of both investors and companies and avoids the risk of greenwashing. Moreover, it clarifies the primary goal of carbon accounting for investment portfolios, which is to correctly allocate the ***financed emissions*** of the portfolio's instruments. As a result, stakeholders can gain a clear **financed carbon snapshot** of investment portfolios. Moreover, differentiating between these two dimensions makes it clear that a **reduction in *financed emissions* should not be considered as an immediate physical CO_2 reduction:** reducing the portfolio stake in a large carbon emitter does not change the emissions of the underlying company, nor does it remove CO_2 from the atmosphere. In the case of *financed emissions* reduction, the **removal of emissions only materialises indirectly and gradually through exerting pressure on and signalling to companies,** as we will see in the next section.

3. Investors don't change the world, companies do

Generally, **investors cannot directly influence** the *real emissions* that affect the climate. At least, they cannot do so for listed equities and bonds, which represent a huge portion of the asset allocation of a typical investor. Yet there is an indirect way in which investors can exert pressure on or influence companies to reduce their *real emissions:*

- **At the portfolio level,** investors are able to incentivise companies and send signals via the capital allocation mechanism **(market signals),** through public communication of their investment decisions **(non-market signals)** or by directly interact-

[2] Heeb, F., Kellers, A. & Kölbel J. (2022). Does ESG integration impact the real economy? Commissioned by FOEN.

[3] The CO_2 footprint of companies is generally computed as tCO_2e / EVIC, where tCO_2e represents the (scope 1 & 2 or scope 1, 2 & 3) GHG emissions of a company and EVIC the enterprise value including cash, following widely accepted standards.

ing with those companies **(engagement).** These actions exert pressure on companies, which can then indirectly encourage them to lower their *real emissions*[4].

- **At the company level,** companies can directly influence the *real emissions* that physically impact the environment. Companies can reduce their real carbon footprint, for example by using **renewable energy** or **reducing their energy consumption** (e.g. by investing in energy efficiency programmes).

Illustration 1 summarises the two dimensions and how they interact with each other: the *financed emissions* represent the financial exposure of portfolios to *real emissions* produced by companies. Investors can therefore indirectly exert pressure on companies through investment decisions, actions and communication. In contrast, companies can directly reduce *real emissions* through their activities.

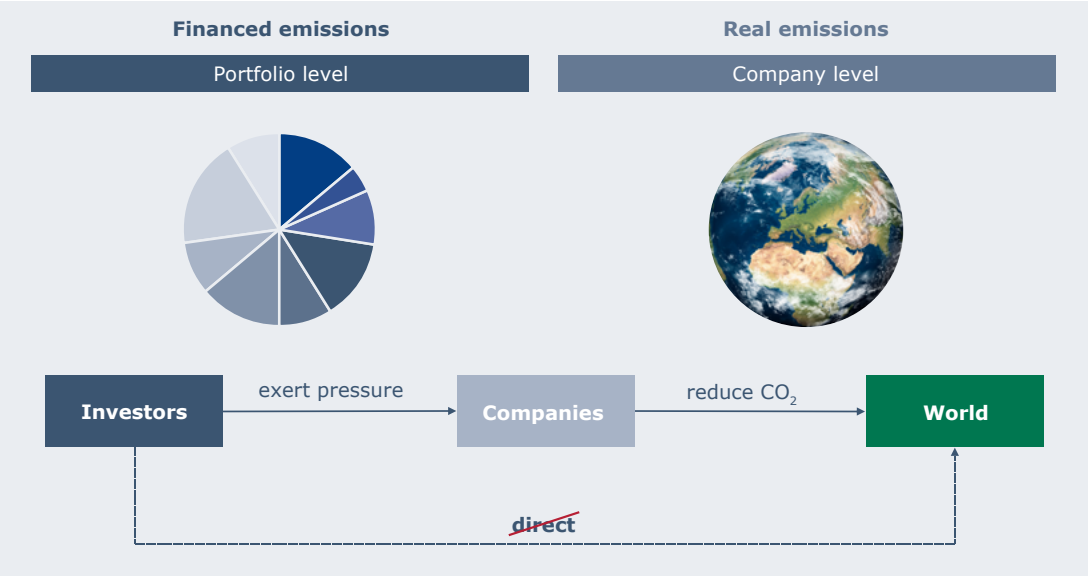

Illustration 1:
The *financed emissions* dimension is a portfolio metric reflecting the *real emissions* generated by companies in an investment portfolio. Investors can only influence these companies indirectly, while companies can directly reduce their emissions into the atmosphere.

4. Carbon accounting should focus on economic exposure

While long positions (like the one mentioned in section 2) are certainly a common way to invest, many portfolios **also make use of other financial instruments such as derivatives**[5]**.** Therefore, in the following, we explore potential caveats in the carbon accounting of derivative instruments and suggest a consistent approach.

Financial instruments – and especially derivatives – aim to build economic exposure to e.g. companies or indexes. When investors hold an equity position in a listed company, they build exposure to the risk and return characteristics of that com-

[4] See Heeb, F. & Kölbel J. (2020). The Investors' Guide to Impact. University of Zurich. For recent academic literature providing empirical evidence for the effectiveness of divestments, see e.g. Rohleder, M., Wilkens, M. & Zink, J. (2022) The Effects of Mutual Fund Decarbonization on Stock Pric-es and Carbon Emissions. Journal of Banking and Finance.

[5] On the use of derivative instruments in sustainable investment refer to Bloomberg's article "Harvard's Money Manager Has a Plan to Turn Short Sellers Against Emitters", Cliff Asness's discussion paper "Shorting your Way to a greener Tomorrow", or MSCI's Research Insight "ESG and Climate Derivatives in Equity Exposure Management"

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pany. The risk investors expose themselves to also include **the exposure to the issuer's emissions**[6] and the associated CO_2 risks (such as e.g. carbon taxation and stranded assets). Consider the illustrative example below (illustration 2) of an investor wishing to gain exposure to a certain listed company by buying the company's equity. With such an investment, the investor would be economically exposed to the company's characteristics, including its *financed emissions*.

Alternatively, the investor could build economic exposure identical to the (100%) equity investment by holding cash and taking a long position in a derivative, the value of which is derived from the same equity (underlying). The resulting economic and emissions' exposure would be identical to the equity purchase. Therefore, in this alternative setup, the investor should report the same *financed emissions* as a 100% equity investment.

illustrative

+ **long position** (derivative instrument)

	100% equity investment	**Cash + long derivative** (100% notional)
Economic exposure	**yes**	**yes**
GHG exposure	**positive**	**positive**
Market signal	**yes**	**yes**
Accounting of financed emissions	**yes** (positive)	**yes** (positive)

Illustration 2:
An investor can gain the same economic and Greenhouse Gas (GHG) exposure with different financial instruments. To properly reflect this exposure, the carbon accounting should treat these financial instruments equally.

Not considering derivative instruments in the carbon accounting of portfolios would **create an insidious incentive to circumvent reporting *financed emissions* by building exposure through derivatives instead of an equity investment.** The outcome would be portfolios that appear to be low-carbon but are instead heavily exposed to CO_2-intensive companies. Moreover, failing to account for derivative instruments altogether poses the obvious issue of **overlooking portfolios' exposures to climate risks.** This would undermine the carbon accounting's aim of transparently mapping the portfolio's exposure to *financed emissions* and would mislead investors. Consequently, **it is not the type of instrument, but rather the economic exposure of an investor to a company that ought to determine whether or not the *financed emissions* should be reported** in this investor's carbon accounting. Other approaches would pose the risk of greenwashing.

In this example we have introduced the long side of a derivative contract. However, as in other types of contracts, **a derivative contract always has an investor taking the reverse position:** the short side of the derivative position. Any long position thus necessarily creates a short position of the same size. In the next section, we will see how to consider such positions in the carbon accounting.

[6] Refer to ISS ESG's Insight article: "Caught Short: The Importance of Clear Reporting on the Use of Derivatives in Climate Strategies"

5. Overall, the amount of *financed emissions* should be equal to that of *real emissions*

Illustration 3 exemplifies the situation for an investor on the other side (short side) of the derivative transaction introduced in the previous section. This investor holds the opposite strategy (cash + 100% notional as a short position) with a reversed economic exposure. Consequently, he or she must exhibit a negative exposure to the underlying company and its *financed emissions*. Doing so increases transparency of the portfolio's exposures because it requires portfolios to report (both negative and positive) exposure to GHG emissions.

illustrative

+ **long position** (derivative instrument)

+ **short position** (derivative instrument)

	Cash + long derivative (100% notional)	**Cash + short derivative** (100% notional)
Economic exposure	**yes**	**yes**
GHG exposure	**positive**	**negative**
Market signal	**yes**	**yes**
Accounting of financed emissions	**yes** (positive)	**yes** (negative)

Illustration 3:
Because derivative contracts always have two sides (long and short), each side should report its *financed emissions* according to its (positive or negative) economic exposure to increase transparency and avoid double counting.

Accounting only for long derivatives would not be consistent either, because it would overlook the contract (two-party) nature of derivatives and ignore the negative exposure to emissions. Overall, derivative contracts should not change the sum of *financed emissions*, as this sum should always be equal to the amount of *real emissions*[7] (see illustration 4). The contract nature of derivative instruments "mechanically" ensures that the two sides of the contract net each other's *financed emissions*. It thus guarantees that the exposure of investments is congruent with reality and that the **overall amount of *financed emissions* remains equal to the amount of *real emissions*. For a consistent approach to carbon accounting, short positions should thus be considered negatively** in the accounting framework, in line with their economic exposure.

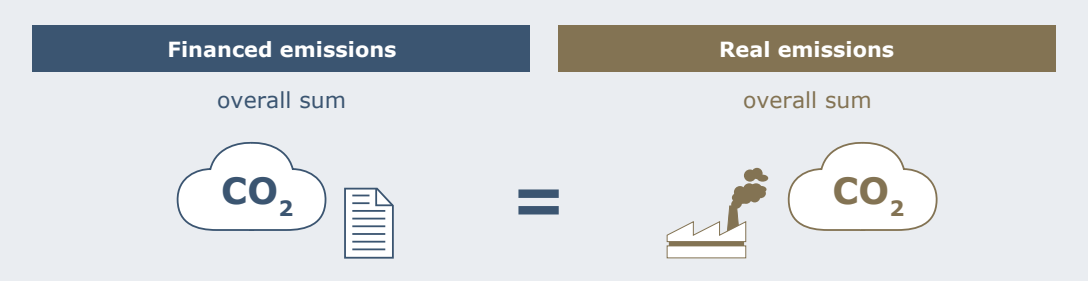

Illustration 4:
Overall, the amount of *financed emissions* should always be equal to the amount of *real emissions*.

[7] Refer to Pierre Lender's Financial Times Letter: "Short selling has as much carbon impact as divesting"

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6. Example

The example below (see illustration 5) shows a fictive derivative contract between two parties (A and B) on a notional value amounting to 1% of the enterprise value of a company with a carbon footprint of 30 tCO2e / $ Mill. EVIC. For the overall carbon footprint of the company to remain at 30 (its true carbon footprint), the two parties on each side of the derivative contract should report their **carbon exposure** to the underlying company. Because the exposure amounts to 1% of the company's enterprise value, the investor on the long side should report a positive carbon footprint of +0.3 (1% of 30) and the short side -0.3 (-1% of 30) for that specific derivative contract. These two positions net each other out, so that:

1. no *financed emissions* are added artificially to the overall amount of *financed emissions*
2. both parties' carbon accounting reflects the true exposure to these *financed emissions*.

Not accounting for short positions would ultimately add emissions to the company's overall amount of *financed emissions* (in the example the carbon footprint would increase by 0.3)[8]. However, **the overall amount of *financed emissions* should remain equal to the amount of *real emissions*.**

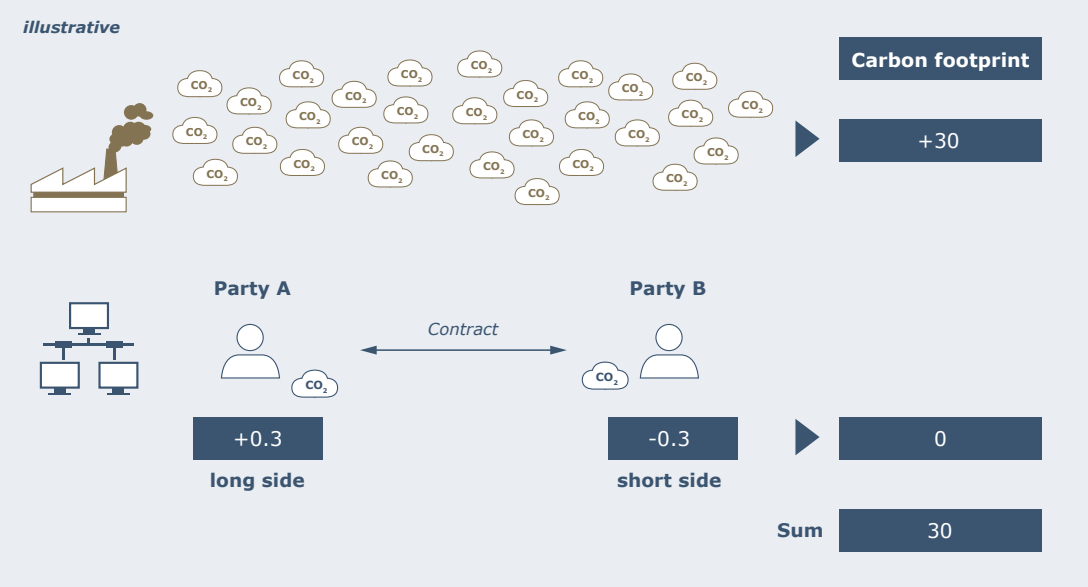

Illustration 5:
Illustrative example of carbon accounting for a derivative contract corresponding to 1% of the enterprise value. For the overall carbon footprint of the company to remain at 30, the two parties on each side of the derivative contract should report their carbon exposure.

[8] Under the assumption that the enterprise value remains constant.

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7. Summary

As the world faces the threat of climate change, investors and financial institutions are increasingly looking at investment portfolios' carbon characteristics. Like other metrics and communication around investment, transparency and clear reporting on carbon characteristics of investment portfolios are paramount. To achieve this, we have identified three key elements that should be considered.

First, investors and other stakeholders should differentiate between *financed emissions* representing financial instruments' exposures to greenhouse gas emissions and *real emissions* generated by companies through their business activities and released into the atmosphere. Portfolios investing in public markets influence companies indirectly and should thus primarily focus on *financed emissions*. Only companies can directly influence *real emissions*. Reducing exposure to *financed emissions* only materialises indirectly and gradually through exerting pressure on and signalling to companies. Failing to differentiate between them properly can lead to greenwashing.

Second, carbon accounting must rely on the economic exposure of financial instruments to determine the overall *financed emissions* of portfolios. Alongside the investment in equities and fixed income securities, derivative instruments play a pivotal role in portfolio management and for all capital allocation decisions in general. Investors can achieve the same economic exposure to a company through direct investments or through the use of derivatives. Accordingly, when accounting for *financed emissions,* all types of financial instruments should be considered in accordance with their economic exposure. Failing to take derivatives into account in the carbon accounting would consequently open the floodgates to greenwashing.

Third, the overall amount of *financed emissions* should always be equal to the amount of *real emissions* of a company. Because derivative contracts always have two contracting parties, *financed emissions* should be reported both positively and negatively in accordance with their economic exposure, so that derivatives neither increase nor decrease the overall amount of *financed emissions.* Otherwise, this would open the doors to greenwashing.

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