

ORIGINAL ARTICLE



Principles for impact investments: practical guidance for impact measurement, assessment and valuation

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Abstract

Impact investments have gained tremendous recognition among investors as well as policy makers in the last years. However, specific details about impact investments are not well understood yet. Specifically, academic research about the magnitude, life cycle, and tradeoffs of impact is still in its infancy. This paper provides practical guidance by developing principles for critical topics of impact measurement, assessment, and valuation using an exploratory approach. Questions that will be tackled include, among others: What is a significant positive company impact (impact magnitude)? Can impacts be transferred between investors (impact life cycle)? How should tradeoffs between impact categories be handled (impact tradeoffs)? The paper proposes 16 principles that provide answers to these and other questions, illustrates their real-world significance through case studies, and provides a discussion of their implications and limitations. It is, however, only one step and much more work is required to standardize the measurement, assessment, and valuation of impact in impact investments. Overall, this paper suggests important steps for this standardization process.

Keywords Impact measurement · Impact investing · Sustainable finance · ESG

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Introduction

According to the Global Sustainable Investment Alliance (2023), 30.3 trillion US dollars are currently invested in sustainable investments globally. In addition, the number of signatories to the United Nations Principles for Responsible Investment (UN PRI) increased from 76 in 2006 to 5375 in 2024, showing investors' increasing willingness to incorporate environmental, social, and governance (ESG) factors into their investment decisions (UN PRI 2021). What do these numbers imply? Despite this apparent mainstreaming of sustainable investing, the financing gap to achieve the Sustainable Development Goals (SDGs) remains large, with estimates of up to 3.9 trillion US dollars of necessary investments each year (United Nations Environment Programme Finance Initiative [UNEP FI] 2019). This, in turn, raises the question of how effectively sustainable investing contributes to sustainable development, leading some to criticize ESG as a "dangerous placebo" (Fancy 2021, August 20). As such, the key question that emerges is: "Do investments in the sustainability context contribute to a better world?" (Busch et al. 2021, p. 5). In response, the notion of "impact investments" has recently gained tremendous recognition among investors (Global Impact Investing Network [GIIN] 2023a; Toniic and Center for Sustainable Finance and Private Wealth 2021) as well as with policy makers (G7 Impact Taskforce [ITF] 2021).

However, when it comes to the effectiveness of impact investments, many questions remain. Thus, this paper intends to provide practical guidance by developing principles for critical topics of impact measurement, assessment, and valuation. There is an established literature on corporate governance that reviews the mechanisms through which investors can influence corporate policies and behavior (e.g., Del Guercio and Tkac 2002; Hirschman 1972; Manne 1965). In more recent papers, this logic has been discussed in the impact context (e.g., Caldecott et al. 2022; Kölbel et al. 2020; Wilkens et al. 2024). Despite these contributions, academic research about the magnitude, life cycle, and tradeoffs of impact is still in its infancy. Although these topics are being discussed, the existing approaches do not yet provide a coherent solution for companies and investors alike. We aim to advance our understanding by providing 16 principles for impact investments (see Annex 1 for an overview of principles).

Questions that will be tackled include, among others: What is a significant positive company impact (impact magnitude)? Can impacts be transferred between investors (impact life cycle)? How should tradeoffs between impact categories be handled (impact tradeoffs)? To harmonize our understandings, we refer to existing approaches and methodologies whenever possible. Our overall goal is to contribute to a further harmonization in the impact investing field. It is important to note that we do not aim to provide an exhaustive account of all necessary steps in impact measurement, assessment, and valuation. Instead, we focus on certain critical topics for which there are currently no commonly agreed upon and accepted approaches in practice as well as little academic guidance.

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This paper is structured as follows: The second section introduces and defines key concepts for impact measurement, assessment, and valuation in order to provide construct clarity and prevent any ambiguities. The third section provides a detailed explanation of the methodology, including the rationale behind the chosen approach and the research design. The fourth section describes the general challenges around the magnitude, life cycle, and tradeoffs of impact, followed by principles on how to best address these challenges. The fifth section discusses the principles and provides an outlook.

Key concepts for impact measurement, assessment, and valuation

Defining impact

The term "impact" is used and defined in several academic and practitioner contexts, such as impact investing, development finance, and social entrepreneurship (Belcher and Palenberg 2018; Maas and Liket 2011; Organisation for Economic Co-operation and Development [OECD] 2015; Social Impact Investment Taskforce [SIIT] 2014). This has led to numerous different understandings and definitions (Belcher and Palenberg 2018; Clark et al. 2004; Ebrahim 2019; Maas and Liket 2011). From a semantic and etymological point of view, most actors refer to impact in the sense of a "results chain" (Ebrahim 2019, p. 22), an "impact value chain" (SIIT 2014, p. 6), or an "impact pathway" (Impact Management Platform [IMP] 2023c). These usually differentiate between inputs, activities, outputs, outcomes, and impacts. This leads to different ambiguities, especially when differentiating outcome from impact.

When defining a concept, there are at least two forms of ambiguities: homonyms, i.e., using the same term to convey different meanings, or synonyms, i.e., using different terms for the same meaning (Sartori 1984). Definitions of impact and outcome show both forms of ambiguity. For example, the terms impact and outcome are sometimes used synonymously to refer to medium-term changes caused by a program or an intervention (United Nations Development Programme [UNDP] 2020; United States Agency for International Development 2009). At the same time, the term impact is used to mean different things (i.e., as homonyms): While some definitions understand impact simply as the change in a result or outcome caused by a specific activity (Clark et al. 2004; IMP 2023c; Kölbel et al. 2020), other definitions include the time dimension or the level of analysis (OECD 2023a). In other words, depending on the definition used, impact can refer either to any changes caused by an economic activity, or it can be restricted to only medium- or long-term changes in higher-level results.

In recent years, both practitioners and regulators have contributed to standardizing the definition of impact (European Commission 2023a; IMP 2023a). Among others, the IMP has achieved progress on harmonizing the definition of impact in the field of impact investing. It is a collaboration¹ between major providers of sustainability standards and guidance, whose goal is to mainstream the practice of impact management (IMP 2023a). The IMP defines outcome and impact in a way that prevents the ambiguities described above: Impact(s) are defined as "the effect(s) of organisations' actions on people and the natural environment" (IMP 2023c). Outcomes are defined as the "level of well-being experienced by people or condition of the natural environment that results from the actions of the organisation, as well as from external factors" (IMP 2023c). These definitions are based on the impact pathway, where inputs, activities, and outputs are considered to be impact drivers that "intentionally or unintentionally cause or contribute to impacts" (IMP 2023c).²

As a result, we use this consistent conceptual framework as the basis for our principles: inputs, activities, and outputs drive outcomes, i.e., the level of well-being experienced by people or condition of the natural environment. Impacts are changes (i.e., effects) in outcomes caused by the actions of organizations. This understanding of impact is also in line with the impact definition provided by the European Union's European Sustainability Reporting Standards (ESRS).³

Based on this perspective, impact measurement is defined as the process of choosing relevant metrics and collecting quantitative and qualitative data, whereas impact assessment is defined as the process of contextualizing this data (IMP 2023f). Further, impact valuation refers to the process of estimating the relative (financial) value of the impact to enable comparability between impact topics and improve decision-making (IMP 2023g). Finally, we refer to impact management as "the process by which an organisation understands, acts on and communicates its impacts on people and the natural environment, in order to reduce negative impacts, increase positive impacts, and ultimately to achieve sustainability and increase well-being "(IMP 2023e).

¹ Partners in this collaboration include, among others, the Organisation for Economic Co-operation and Development, the United Nations Environmental Program Finance Initiative, the International Finance Corporation, the United Nations Development Program, the Global Reporting Initiative, the Capitals Coalition, and the Global Impact Investing Network.

 $^{^2}$ In practice, it is common to measure (changes in) inputs, activities, and outputs (IMP 2023g) as proxies of (changes in) outcomes, since outcomes are often difficult to assess directly (e.g., CO_2 emission reductions as a proxy for global climate change mitigation or the number of micro-loans provided as a proxy for change in income of borrowers in the area of microfinance). When these indicators are used as proxies, it is important to provide evidence on why a certain proxy is valid (IMP 2023g).

³ The ESRS define impact as "The effect the undertaking has or could have on the environment and people, including effects on their human rights, connected with its own operations and upstream and downstream value chain, including through its products and services, as well as through its business relationships. The impacts can be actual or potential, negative or positive, intended or unintended, and reversible or irreversible. They can arise over the short-, medium-, or long-term. Impacts indicate the undertaking's contribution, negative or positive, to sustainable development" (European Commission 2023a, p. 269).

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Defining company impact and investor impact

An important distinction needs to be made between company impact and investor impact (Brest and Born 2013b; Kölbel et al. 2020). Company impact describes changes that a company's activities achieve in a social or environmental parameter, whereas investor impact refers to the change that investor activity achieves in company impact. For investments to have investor impact they can, for example, use the impact mechanisms of capital allocation, engagement, or others (Caldecott et al. 2022; Heeb and Kölbel 2021; Marti et al. 2023; Wilkens et al. 2024).

Investor impact is also often referred to as investor contribution, defined as the "contribution that the investor makes to enable enterprises (or intermediary investment managers) to achieve impact" (IMP 2023f). We consider investor impact and investor contribution to be synonymous terms. This differentiation between company and investor impact is essential for tackling some of the topics in section three, such as the life cycle of impact, and is gaining traction in both academia and practice (e.g., Deutsche Vereinigung für Finanzanalyse und Asset Management 2023; Swiss Sustainable Finance 2023).

Based on the understanding of the impact pathway discussed in the prior section (see Fig. 1), company impact can be further differentiated between supply chain impact, operational impact, and product impact (IMP 2023c). Supply chain impacts are those upstream impacts associated with a company's inputs, including where and how they are sourced. Operational impacts are impacts associated with the company's production process and other business activities. Product impacts are downstream impacts associated with a company's products or services, including their usage and end-of-life treatment.

Based on this understanding, we distinguish between impact-aligned and impact-generating investments (Busch et al. 2024; ITF 2021). Impact-aligned investments focus on company impact and do not require that this company impact is causally influenced by the activities of an investor. In contrast, impact-generating investments are those in which investors seek to "contribute to solutions for social and/or environmental real-world challenges" (Busch et al. 2022, p. 14) by inducing real-world change at the company level, i.e., investor contribution. Therefore, investors can be associated with impact in two ways: They are either aligned with company impact, i.e., impact-aligned investments, or they contribute to company impact as an investor, i.e., impact-generating investments.



Fig. 1 The Impact Pathway (Adopted from IMP 2023c)

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The cause-and-effect debate

To date, when discussing whether and to what extent investors have generated impact, academics and practitioners use terms like "additionality", "attribution", or "contribution". There exists a lot of confusion around these terms, which has notable implications for impact measurement, assessment, and valuation. This section provides a brief overview of all three concepts and argues in favor of using contribution, instead of additionality or attribution, as a synonym to describe investor impact.

On the one hand, the OECD defines additionality as "the characteristic of an intervention, where its (financial or non-financial) inputs, activities, or results are considered as additional when compared to what would have happened otherwise" (OECD 2023a, p. 18). Brest and Born were among the first to introduce the concept of additionality into the impact investing debate, arguing that "for an investment or non-monetary activity to have impact, it must provide additionality – that is, it must increase the quantity or quality of the enterprise's social outcomes beyond what would otherwise have occurred" (Brest and Born 2013a). The question "what would have happened otherwise" in both of these definitions shows that additionality is closely connected to counterfactual causation.

This understanding of additionality is closely related to the concept of attribution.⁴ In discussions on impact evaluations, attribution is traditionally assessed via randomized control trials (e.g., Gertler et al. 2016), which "allow one to associate the intervention as a single cause to a measure of the net impact that can be attributed to the intervention [...] the focus here is on additional change" (Department for International Development [DFID] 2012, p. 38).

Consequently, claims about additionality or attribution require implementing advanced methods that quantify a "net "or "additional" impact, which can usually only be achieved through experimental methods such as randomized control trials. These methods require certain conditions (Ebrahim 2019)⁵ and are difficult, or sometimes even impossible to implement in impact investing practice. Even if the conditions for claims of additionality or attribution are fulfilled and advanced methods are implemented, there will never be a 100 percent proof of the cause-effect relationship. Thus, using additionality or attribution as necessary criteria for impact investing creates a situation in which investors need to invest a lot of resources to provide evidence for something that never can be proven with absolute certainty.

Moreover, using additionality or attribution focuses on measuring to prove impact after an impact investment has taken place, for example for accountability reasons

⁴ The OECD (2023a, p. 20) defines attribution as "the ascription of a causal link between observed (or expected to be observed) changes and a specific intervention".

⁵ Ebrahim (2019, pp. 48–49) describes the following steps as being necessary for making a claim of attribution: "(1) a well-defined intervention or "treatment" applied to a unit or treatment group; (2) an observable outcome; (3) a counterfactual value, that is, the outcome expected in the absence of the intervention; and (4) a means of assigning units or groups that receive the intervention and those that do not (treatment and control groups)". While these steps are possible in some contexts, in other context these conditions might be difficult to establish, such as the measurement of the effect of an asset manager's engagement on a company's impacts.

(DFID 2012; Roor and Maas 2024). However, it does not provide detailed insights about how impact was generated. Thus, using additionality or attribution as required criteria for impact investing leads to a focus on proving impact, instead of measuring how to improve impact, i.e., create concrete and actionable insights for investment processes.

There are also conceptual inconsistencies when using the term additionality due to different types of additionality not being clearly distinguished. Some development finance institutions define additionality not as causing changes in environmental or social outcomes, but as additional financial or non-financial inputs provided by development banks compared to commercial investors. Changes in real-world parameters (i.e., company impact) are instead referred to as "development impact" (African Development Bank et al. 2018) or "development additionality" (Winckler Andersen et al. 2021). This is in contrast with definitions of additionality mentioned above, leading to ambiguous meanings of the term.⁶

On the other hand, contribution is a helpful alternative term that provides solutions to the analyzed problems of using additionality or attribution. The OECD defines contribution as the "role played by an intervention, together with other interventions, in bringing about an observed (or expected) result. The way(s) an intervention helps to advance towards a goal" (OECD 2023a, p. 25). Contribution focuses on claims "about whether and how an intervention has contributed to an observed impact" (DFID 2012, p. 38). Consequently, contribution is also about establishing causation between an investment and a change in an outcome (Ebrahim 2019).

In contrast to additionality and attribution, contribution does not necessarily require quantifying "net" or "additional" impact, but focuses more on the use of qualitative evidence. Thus, making claims of contribution does not require impact investing to implement advanced methods used for additionality or attribution, especially in cases where they are practically infeasible. Using contribution as a term opens up methodological approaches that are more practical to implement and that focus on *how* impact was created, helping to improve impact. Of course, impact investing can still use evaluations ex post to attribute and quantify how much impact is due to their activities.

Using contribution also signifies that impact investing activities are one "contributory cause" (DFID 2012, p. 40) among other possible causes, focusing more on the role and interplay of other plausible causes than additionality or attribution. This also helps to create realistic expectations about the possible impact of impact investing. Using contribution is also in line with the terminology that has emerged from discussions in the context of the UN Guiding Principles on Business and Human Rights (UN 2011) and the OECD Guidelines for Multinational Enterprises (OECD 2023b). In addition, the Financial Conduct Authority (FCA) also uses the term "investor contribution" (FCA 2023, p. 93). All of these approaches avoid using the term additionality and use the term contribution instead. As a result, we propose using "contribution" instead of "additionality" or "attribution" when talking about impact measurement in impact investing.

⁶ In case investors still intend to make reference to additionality, we recommend making transparent which understanding of additionality they are using as well as the fact that there can be no 100 percent proof of causal mechanisms.

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Methodology

This study adopted an exploratory approach to develop and refine guiding principles for impact investments. The approach prioritizes iterative learning and incorporates a broad spectrum of insights from both academic and practitioner perspectives. The objective was to ensure that the proposed principles are informed by the latest research, aligned with industry practices, and reflect high practical relevance.

The first draft of the principles was collaboratively developed by the first three authors. This phase began with an extensive literature review, with a primary focus on practitioner-oriented guidelines, reports, and frameworks. This review provided an overview of the applied concepts and highlighted knowledge gaps in the impact investing field. In parallel, the three authors engaged in intensive discussions with key stakeholders, including impact investors, regulators, representatives from impact-driven businesses, asset managers, and other practitioners. These exchanges enabled us to derive-as presented in the next section-the three thematic areas "impact magnitude", "impact life cycle", and "impact tradeoffs" and determine the underlying research questions and a first draft of principles.

To refine the principles, the initial draft was presented at an expert conference on impact investments in 2023. Since a major part of the conference was devoted to the principles, we were able to receive extensive feedback from a wide range of participants, including academics, policymakers, and practitioners. This feedback was the basis for significant revisions and ensured the principles' relevance and feasibility. Following the conference, eight additional co-authors were invited to join the project, representing experienced scholars and proficient practitioners in the impact investing field. This expanded author team employed a discursive approach, engaging in several rounds of structured discussions and iterative revisions. Each round focused on refining the principles regarding clarity, coherence, and applicability. One round of double-blind review resulted in further feedback that we incorporated, culminating in final version of the principles as presented in this paper.

Principles for measuring, assessing, and valuing impact

Impact magnitude

What is a significant positive company impact?

There is currently no agreed definition of what constitutes a significant positive impact of an economic activity (company impact). As a result, it is unclear which magnitude of change in a social or environmental outcome can be considered significant. To define significant positive company impact, we need to distinguish between different levels of social or environmental outcomes.

⁷ This paper focuses on positive impacts but acknowledges the need for a definition of significant negative impacts.

⁸ When we use the terms outcomes or impacts in the following sections, we always refer to social and/or environmental outcomes or impacts.

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Different levels of outcomes resulting from economic activities can be classified as sustainable and unsustainable based on social or environmental thresholds. The IMP defines thresholds as a "level or range of performance that divides sustainable from unsustainable performance. These ranges are set with reference to social norms or planetary limits that have been identified through scientific research" (IMP 2023f). Thresholds can be selected based on scientific knowledge (e.g., planetary boundaries) or normative frameworks (e.g., Paris Agreement, SDGs, Universal Declaration of Human Rights). Based on this understanding, in the next step, we need to define which magnitudes of positive changes in these outcomes can be considered significant (i.e., improving positive outcomes or reducing negative outcomes). We propose two approaches to determine the significance of company impacts based on two different decision-making bases (see Table 1).

The first perspective uses thresholds as a decision-making basis. Exemplary thresholds are the SDG 2 of zero hunger by 2030 (UN 2015) or the global level of atmospheric carbon dioxide concentration of 450 parts per million to stay within planetary boundaries (Richardson et al. 2023; Rockström et al. 2009). To make these global thresholds usable for companies, the thresholds must be allocated to the company- or economic-activity-level using a process that is based on scientific research or social norms (e.g., Hjalsted et al. 2021; IMP 2023f). For example, a company might have a threshold of 5,000 tons of CO₂ emissions reduction in a specific year to achieve Paris-alignment. If this company has a CO₂ emissions reduction of 6,000 tons in that year, it exceeds its threshold by 1,000 tons. Based on this first perspective, we consider a positive company impact to be significant if the resulting change leads to an outcome that is sufficient to meet sustainability objectives (i.e., that is within the sustainable range defined by thresholds).

Using thresholds to determine the magnitude of company impact is already being practiced. One major framework that uses thresholds is the ABC classification from the IMP (see Annex 2). They define three types of company impact based on a comparison to thresholds (IMP 2023g). "A" impacts describe outcomes that improve but remain below the threshold. "B" impacts refer to outcomes that were and remain above the threshold or improve even further. "C" impacts describe outcomes that were initially below the threshold and improved to above the threshold. "Applying our understanding of significance to the IMP's framework, a company impact is

 $^{^9}$ Thresholds can be dynamic or static. For example, the required reductions in absolute CO_2 emissions for a Paris-aligned reduction pathway change for consecutive years, depending on the individual transition pathway. In contrast, static thresholds remain the same. For example, the threshold for human rights violations should be zero for a company, without any changes required over time. There are also different types of thresholds, such as minimum thresholds to distinguish the insignificant from the significant, or normative thresholds to distinguish the sufficient from the insufficient.

Non-transformable activities are by definition not able to meet a threshold and are thus excluded from the rules defining significant positive company impact (see Principle 4). We also recognise that this approach to measuring the significance of positive impacts has its limitations. For example, a company may reduce its human rights violations by changing suppliers, but the overall harm remains. This requires further action, such as collective efforts or regulatory action.

¹¹ These types of impacts can be analyzed for supply chain impact, operational impact, and product impact.

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Table 1 Types of significant positive company impacts

Decision-making basis		Positive company impact is significant if
Thresholds		it leads to a change in a social or environmental outcome that is sufficient to meet sustainability objectives (i.e., that is within the sustainable range defined by social or environmental thresholds).
Relative performance measures	Historic comparison	it leads to an improvement in a social or environmental outcome by a pre-defined X percentage value on average compared to the previous Y years. ^a
	Peer comparison	the change of the social or environmental outcome caused by the company belongs to the best-performing X percentile of its peer group (sector/industry). ^b

¹The concrete percentage change and time frame will vary across industries, asset classes, and economic activities, and should be specified for each sector in a stakeholder process. For some activities, the EU Taxonomy already provides values, for example, for the renovation of buildings, for which one of the substantial contribution criteria is a reduction of primary energy demand of at least 30 percent in a maximum of three years (European Commission 2021, p. 162)

^bExact percentages or percentiles are part of the ongoing debate

significant only if it is a "B" or "C" impact since the impact leads to an outcome that meets or exceeds the threshold in both cases. 12

The EU Taxonomy is another example of an existing approach that uses thresholds to define which economic activities are deemed environmentally sustainable, enabling investors to measure an economic activity's substantial contribution to specific environmental objectives (European Commission 2021). Similarly, the EU's Platform on Sustainable Finance (PSF 2022) uses thresholds in its proposal to extend the EU Taxonomy by defining valid environmental transition pathways for economic activities. In other words, they define different changes in outcomes that are considered valid for an environmentally sustainable transition. The PSF's report shows that the Taxonomy usually uses two different types of thresholds, defining a lower limit that identifies harmful outcomes and an upper level that identifies levels of outcomes that substantially contribute to sustainability objectives, with intermediate performance levels in between. 13 Applying our first understanding of significance to the proposal by the PSF, a company impact is significantly positive if it leads to an outcome that meets or exceeds the upper threshold, contributing substantially to sustainability objectives. ¹⁴ The approach to using thresholds is also part of the ESRS (European Commission 2023a).15

Compared to the EU Taxonomy, the definition of a positive contribution to a social or environmental objective is less clear in the EU's Sustainable Finance Disclosure Regulation (SFDR). Our definition of significant positive company impacts provides more clarity for measuring positive contributions to sustainability objectives in cases where the SFDR applies but the EU Taxonomy is not used. ¹⁷

¹² We acknowledge that the IMP framework is more nuanced, distinguishing, for example, between the cause of the harm for "A" impacts (caused by the company) and "C" impacts (caused by external factors). In our interpretation of the ABC framework, both, "A" and "C" impacts can be caused by the company or external factors.

¹³ This is an important difference to IMP's ABC framework described above, which usually uses one threshold.

¹⁴ We would also argue that a change from a significantly harmful to an intermediate performance level could be considered significant. If significantly harmful performance levels of economic activities are improved but remain significantly harmful, this improvement should not be considered a significant positive company impact (see exception to Principle 2 below).

¹⁵ ESRS 1, paragraph 42 states that "the undertaking shall apply the criteria set under Sects. 3.4 and 3.5 in this Standard, using appropriate quantitative and/or qualitative thresholds. Appropriate thresholds are necessary to determine which impacts, risks and opportunities are identified and addressed by the undertaking as material and to determine which sustainability matters are material for reporting purposes" (European Commission 2023a). In a recently published implementation guidance for the materiality assessment under the Corporate Sustainability Reporting Directive, the European Financial Reporting Advisory Group (2024) provides inputs on how to set thresholds for determining the severity of impacts.

¹⁶ When practitioners questioned the EU Commission about how to measure the positive contribution of economic activities to social or environmental objectives, the Commission did not provide more specific guidance: "The definition of sustainable investment set out in Article 2, point (17), SFDR does not prescribe any specific approach to determine the contribution of an investment to environmental or social objectives" (European Commission 2024, p. 7).

Apart from measuring positive contribution, using thresholds to determine sustainable outcomes also helps identify significantly harmful performance levels, thereby providing transparent and science-based criteria to measure whether an economic activity is doing significant harm. This also supports implementing a Do-No-Significant-Harm-assessment as necessary for sustainable investments under SFDR.

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Principle 1 A positive company impact of an economic activity is significant if it leads to a social or environmental outcome that meets or exceeds a well-established (e.g., science-based or international standards-based) threshold. Regarding the IMP classification, this applies to B and C impacts.

Case study 1: Threshold-aligned emission reduction

A global supplier and recycler of metals decided to align its operations with the Paris Agreement by reducing its carbon emissions. In 2020, the company's annual baseline emissions totaled 1,500,000 tons of CO₂ for Scopes 1 and 2, and 6,000,000 tons of CO₂ for Scope 3. The company committed to cutting Scope 1 and 2 emissions by at least 50% and reducing Scope 3 emissions by at least 25% by 2030 to meet thresholds aligned with science-based targets. This corresponds to an annual reduction of 6.7% for Scopes 1 and 2 and 2.7% for Scope 3 over the 10-year period.

Over three years, the company implemented renewable energy solutions, upgraded equipment for energy efficiency, and optimized its supply chain. These efforts, carried out between 2021 and 2023, resulted in an average annual reduction of 7.5% of Scopes 1 and 2 emissions, and 3.0% of Scope 3 emissions while reducing operational costs. These results exceeded the required annual reduction thresholds, positioning the company ahead of its emission reduction targets.

Application of Principle 1:

Science-based thresholds: The company's reduction target was explicitly tied to the Paris Agreement, ensuring alignment with global climate objectives.

Significance of impact: By exceeding the threshold, the company demonstrated that its efforts had a measurable and meaningful positive environmental impact.

While the use of thresholds is very helpful to define which magnitude of company impact is significant, it also has certain limitations. For example, there are feasibility issues in practice, as science- or norms-based thresholds and allocation methodologies do not exist for many social or environmental issues. In these cases, we encourage investors and companies to develop thresholds in cooperation with science and relevant stakeholders. 18 Furthermore, even when there are thresholds, there is currently no approach for how to differentiate significant from non-significant "A" impacts as defined in the IMP's framework. Thus, a second perspective that uses relative performance to determine the significance of a company impact is helpful. 19

First, relative performance refers to historic comparisons to analyze the significance of a company's impacts, without referring to concrete quantitative thresholds (see Table 1). Comparing the company's outcomes with its own historic performance ensures that percentage changes translate into absolute changes in the real world. Based on this perspective, we consider a positive company impact to be significant if the outcome improves by a pre-defined percentage value on average compared to its historical performance over several years.²⁰ Changes below that are considered non-significant (see footnote 8 above).21

This is also useful from a regulatory perspective since the ESRS state that the impact materiality assessment should include quantitative and/or qualitative thresholds, so undertakings falling under the Corporate Sustainability Reporting Directive will need to address this (European Commission 2023b).

¹⁹ See for example GIIN's (2023a, p. 10) survey results where 63 percent of participants stated that they

assess impact performance "relative to our past impact performance".

20 An aspect for further debate is how to deal with and account for growth effects of a company in this context.

²¹ One exception is changes that lead to outcomes that are still significantly harmful as, for example, defined in the PSF (2022) report on extending the environmental Taxonomy. If an outcome remains significantly harmful, a positive significant percentage change should not be considered a significant positive company impact.

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Second, investors can also determine the significance of a company's impacts by comparing the changes of outcomes of economic activities in the current year to the change in outcomes of its sector respective to industry peers. From this perspective, a positive company impact can be considered significant as long as the change of outcome belongs to the best performance among its peers in the sector, based on a pre-defined percentile value. Changes of outcomes in that percentile are considered significant, while changes of outcomes outside are considered non-significant. This approach can be useful when there are no thresholds available or historic data over several years is missing. The peer comparisons are, however, a relative measure that does not automatically translate into absolute improvements in outcomes. As a result, a company's outcome might be positive compared to peers, but negative in absolute terms. This is the reason why the percentile values accepted in the peer comparison need to be strict enough to be a plausible proxy for absolute improvements. ²⁴

Measuring and reporting the significance of company impacts with relative performance measures (historic or peer comparison) should be understood as a second-best or temporary solution for situations where science- and norm-based thresholds are not available or to specify the significance of "A" impacts. Even though using relative performance measures is helpful when no concrete thresholds are available, investors using this approach still need a broad normative framework to determine which direction of change or which outcome is positive and negative. Examples include the SDGs, whose sustainability objectives can provide a direction where concrete thresholds are missing.

Principle 2: If thresholds are not available or if IMP's "A" classification applies, the significance of company impacts should be defined based on relative performance measures. A company has significant positive impact if it leads to an improvement in a social or environmental outcome by a pre-defined percentage value on average compared to the previous years or if the change of the social or environmental outcome caused by the company belongs to the best-performing percentile of its peer group (sector/industry).

The peer comparison should be based on relative measures such as CO₂ emission intensity to account for size differences between the peers. Peer groups should be based on established market standards.

 $^{^{23}}$ One example is a company that plans to introduce an innovative product, like producing photovoltaics before it was mainstream. At the point of developing this technology, the company can provide research that it would create electricity with fewer CO_2 emissions (outcome) compared to existing coal or gas power stations, but it wouldn't be able to provide historic evidence, and concrete thresholds, such as the Paris Agreement, might not have been available. The comparison of changes of outcomes to industry peers still provides useful evidence showing that the impact of power generation using photovoltaics would be significant once realized.

²⁴ In order to avoid cases where a company only marginally improves or even worsens its performance, but still belongs to the best performing group within its peers, the impact could still be considered "not significant". To achieve this, a "minimum threshold" of historical performance improvement should be considered as an additional requirement for the peer comparison approach.

Based on this discussion, we propose that impact-aligned and impact-generating investments should only refer to significant company impacts, and they should be aggregated on a portfolio level.²⁵ For both impact-aligned and impact-generating investments this refers to expected and realized company impact.

Principle 3: Impact-aligned and impact-generating investments should only refer to significant company impacts and aggregate them on a portfolio level.

Case study 2: Relative performance in water use reduction

A global soft drink producer with operations worldwide utilizes water from 50 locations that were classified as high-risk using the World Resources Institute Aqueduct 4.0 tool. In 2020, due to the absence of validated science- or norms-based thresholds, the company undertook a stakeholder consultation process involving local authorities, non-governmental organizations, and industry experts. This process established the goal of achieving 100% water replenishment in each high-risk location by 2035. This corresponds at an annual level to an improvement of either (I) 6.7% of high-risk locations achieving 100% replenishment or (II) a 6.7% improvement in replenishment rates at each high-risk location.

Through energy efficiency upgrades and equipment modernization, the company reduced water use across several operations during the first three years. These efforts resulted in an annual increase of 8.5% in the number of high-risk locations achieving a 100% replenishment rate. This improvement exceeded the required annual rate, demonstrating significant impact under Principle 2.

Application of Principle 2:

Relative performance measures: The company's water reduction target was explicitly tied with regional and local community needs, validated through inclusive stakeholder engagement that accounted for critical perspectives.

Significance of impact: The company demonstrated significant positive impact relative to its historic baseline.

How to deal with non-transformable activities?

There are economic activities that lead to negative outcomes without the option to transition to a level that is in line with sustainability objectives. Take, for example, power production based on solid fossil fuels which, according to the EU Taxonomy, will not be able to achieve a level of environmental performance good enough to contribute to mitigating climate change (European Parliament & Council of the European Union 2020). In this context, the EU's (PSF 2022, p. 24) refers to "always significantly harmful activities" as activities "that are excluded from the green Taxonomy as they are significantly harmful to one or more of the six environmental objectives and are by their nature unable to transition". Consequently, for these activities the only option to stop causing significant harm is to "cease operation in a well-managed fashion" (PSF 2022, p. 24). Therefore, these non-transformable activities are excluded from the rules defining significant positive company impact.

²⁵ One possible approach for the aggregation of impacts on the portfolio level has been proposed by the IMP (2023d). They use their ABC framework to first classify the impacts of a company within an overall company classification. This company classification is then used to classify the share of ABC companies at portfolio level (see Annex 3). The same logic could be applied to significant company impacts. However, further work on this question is necessary.

²⁶ Other activities mentioned as possibly falling in this category are "thermal coal mining and peat extraction (climate change mitigation), construction of new housing in extreme high-risk flood areas (climate change adaptation)" or "activities destroying ecosystems with high biodiversity value" (PSF 2022, p. 24).

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Principle 4: If economic activities have no viable option to transition away from significantly harmful social or environmental outcomes, no significant positive company impact can be generated.

Impact life cycle²⁷

How long is a positive company impact significant?

Currently, there is no common understanding of how long a company impact is significant. We argue for the threshold approach that positive company impacts are significant as long as the outcomes resulting from a company's activities meet the allocated thresholds. In IMP's ABC framework, this would refer to annual "B" or "C" impacts.

Principle 5: A positive company impact is significant as long as the resulting social or environmental outcomes continue to meet their thresholds over time. For the IMP classification, this applies to "B" and "C" impacts.

Case study 3: Life cycle developments of impact

The global metals supplier and recycler from case study 1 successfully aligned with the Paris Agreement in the years 2021 to 2023 by cutting Scope 1, 2, and 3 emissions significantly. However, two years later, the company faced challenges due to limited financing and supply chain issues. As a result, its annual CO₂ reduction rate fell to 3.8% for Scopes 1 and 2 emissions, and 2.6% for Scope 3 emission.

This decline meant that the company no longer met the Paris-aligned reduction thresholds of annual reductions of 6.7% for Scopes 1 and 2 and 2.9% for Scope 3 over the 10-year period, rendering its impact no longer significant under Principle 5.

Application of Principle 5:

The company's impact remained significant as long as it met the annual Paris-aligned threshold during the first three years. Once the threshold was no longer achieved, the impact was reassessed and deemed no longer significant.

If relative performance measures are chosen, positive company impacts are significant for as long as the historic improvement rates or industry-specific percentile values are met.

Principle 6: In cases when thresholds are not available or where IMP's "A" classification applies, a positive company impact is significant as long as the pre-defined relative improvement rates or industry-specific percentile values are consistently met over time.

How long does an investor contribution last?

As argued above, investors can claim investor contribution only if they provide evidence for how their individual activities contributed to company impact. There is no clear guidance on how long an investor can claim to have this kind of

²⁷ This section is strongly influenced by the work of the Deutsche Vereinigung für Finanzanalyse und Asset Management impact working group. The members of the working group refer to the impact life cycle consideration as "fungibility".

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contribution. The duration of investor contribution will vary depending on the kind of investor contribution mechanism chosen by the investor. For the capital allocation mechanism, investors have a certain latitude about how long they can claim a positive investor contribution. In some cases, this is obvious; in others they should provide a reasonable time frame for which they claim to have contributed to the company impact.²⁸

Principle 7: For the capital allocation mechanism, a positive investor contribution lasts as long as the positive company impact lasts and the investor remains invested.

When using stewardship as a mechanism for investor contribution, investors can claim to have a positive contribution to the company impact for as long as they provide evidence that their engagement leads to improvements in company impact.

Principle 8: The positive investor contribution of stewardship lasts as long as the investor provides ongoing evidence that the continuous improvements in company impact can be traced back to their engagement activities.

Case study 4: Investor contribution through capital allocation

A private equity fund invested in a green building developer in Southeast Asia, financing the renovation of energy-inefficient office spaces. The fund provided \$50 million in equity, enabling the developer to upgrade three buildings effectively reducing the energy consumption by 30%.

The fund held its investment for seven years, during which the developer achieved a reduction of energy consumption by 32%. Upon exiting the investment, the fund's investor contribution ended, even though the buildings continued to generate CO₂ savings compared to their baseline year.

Application of Principle 7:

The fund's contribution was directly tied to the persistence of its capital allocation. The contribution lasted as long as the fund held its investment and supported the developer in achieving measurable impact, i.e., seven years.

Case study 5: Investor contribution through stewardship

An institutional investor engaged with a multinational consumer goods company to improve its supply chain practices, focusing on reducing deforestation linked to palm oil sourcing. Through consistent shareholder engagement and voting at annual meetings, the investor pushed the company to adopt sustainable sourcing policies, achieving a 25% reduction in deforestation-related emissions within five years.

The investor provided detailed evidence annually, linking its stewardship activities to specific policy changes and outcomes. This ongoing evidence demonstrated the persistence of its contribution.

Application of Principle 8:

The investor's contribution lasted as long as they continued engaging and providing evidence of how their stewardship activities resulted in measurable improvements. If the investor ceased engagement, the company's achievements would no longer be attributable to its actions.

²⁸ For example, for debt investments like corporate bonds or credit, the investor contribution may last as long as the term to maturity lasts. For equity investments, the investor contribution may be assumed to last for 10–15 years, or as long as the investor is invested and no changes to the capital structure occur. Practical rules for such time frame aspects should be developed.

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Can impacts be transferred between investors?

Another important question is whether impacts can be transferred between investors within the life cycle of an investment. We argue that company impact can generally be transferred or passed on from one investor to another, since, until proven otherwise, it exists independently from the investor's activities. In other words, when an investor increases its investor share of company impact, this share of company impact is transferred from one investor to another. It is important to note that transferring company impact leads to an alignment with this company impact (i.e., impact-aligned investments). This is conceptually different to contributing to company impact as an investor (i.e., impact-generating investments).

To calculate the investor share of company impact, investors should multiply the impact of a specific investee with the investment amount outstanding in relation to the enterprise value of that investee, as proposed, for example, by the GIIN's (2021) COMPASS methodology. The larger the investment amount outstanding from a specific investor, the larger the investor's share of the company impact. For example, when an investor buys bonds or shares from another investor, its outstanding investment amount increases, which also increases its investor share of the investee's company impact. At the same time, the seller's investor share of the investee's company impact decreases, which prevents double counting of company impact on the investor level.²⁹

Principle 9: Company impact is generally transferable between investors.

In contrast, investor contributions are not transferable since they depend on the actions of a specific investor. Investor contribution can only be claimed if the investor provides evidence for how its individual activities contributed to company impact. Consequently, only these types of investments qualify as impact-generating investments. In other words, if a new investor buys shares of a company from an impact-generating investment, this new investment cannot claim to be an impact-generating investment. Instead it is most likely an impact-aligned investment, unless the new investor also contributes to company impact.

Principle 10: Investor contribution is generally not transferable between investors.

How should company impact and investor contribution be measured throughout the investment life cycle?

In general, there is agreement on when an investment should measure company impact throughout the investment life cycle: Impact-aligned investments focus on companies that are expected to or that have already realized and continue to realize positive company impact. To select investee companies with positive impacts, impact-aligned investments thus set goals of expected company impact and measure and monitor the actual company impact after investment. Impact-generating investments should also measure the expected and actual company impact as

²⁹ While this is a relatively simple approach to calculating the investor's share of a company impact, we recognise that there are limitations. For example, there is a difference between debt and equity. While debt is typically a more interchangeable financial instrument offered on standard terms with no operational control and ownership, equity is a more entrepreneurial and operationally controlling form of economic ownership.

a precondition for analyzing their investor contribution in both the pre- and post-investment phases, and thus is in line with the Operating Principles for Impact Management (OPIM 2023). However, it is unclear how the measurement of company impact is specified in detail, especially with reference to the time to onset and the duration and reporting of impact.³⁰

We argue that investors should set company impact goals in the pre-investment phase for both the investee and portfolio levels and report these goals. These goals should specify (I) the expected magnitude of company impact overall, (II) the time required for the company impact to materialize (i.e., time to onset), and (III) a reasonable assessment of how long the company impact will last (i.e., impact duration). As not all information essential for making informed decisions may be accessible to investors, we recommend that investors engage with companies during the pre-investment phase to obtain the necessary information and ensure that their underlying assumptions to close information gaps are well-founded and transparent.

In addition, impact-generating investments need to measure the expected and generated investor contribution as well as provide evidence of these contributions. Thus, impact-generating investments should state investor contribution goals, specifying the expected investor contribution on an annual basis (e.g., International Finance Corporation 2023; UNDP 2020). This requires impact-generating investments to specify (I) the planned investor contribution mechanisms (e.g., capital allocation, stewardship, capacity building), (II) the time required for the investor contribution to materialize (i.e., time frame), and (III) a reasonable assessment of how long the investor contribution will last (i.e., impact duration). This preparation for the investment should be conducted at the investee level as well as at the portfolio level.

Principle 11: During the pre-investment phase, investors shall determine and report their company impact goals and, for impact-generating investments additionally, specify their intended investor contribution goals at the investee and portfolio levels.

To be able to monitor the fulfillment of these company impact goals, both on the investee and portfolio levels, investors should also annually measure and report the realized company impact and their investor share of realized company impact, including their calculation assumptions. The measured and reported information about company impact should specify (I) the realized company impact in that specific year, (II) whether the development of company impact is in line with the expected time the company impact needs to materialize, (III) whether the company impact lasts as long as expected, and (IV) the investor share of company impact that can be associated with the investment. ³¹

Moreover, impact-generating investments need to measure and report whether the investor contribution goals were realized after investing. Thereby, the expected and generated investor contribution can be compared. To monitor the realization of

³⁰ While this paper provides a certain level of detail on how investors should measure company impact, in practice, further operationalization is required.

³¹ It is also important that investors make transparent whether company impacts are due to regulatory obligations or not. This helps to assess whether companies are going beyond what is required by regulation.

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expected investor contribution, the investor should measure and report each year on (I) the realized investor contribution, (II) whether the investor contribution is in line with the expected time it needs to materialize, and (III) whether the investor contribution lasts as long as expected. If the investor contribution cannot be measured, it needs to at least be reasonable to an unbiased observer.

Principle 12: During the post-investment phase, investors shall annually measure and report progress in achieving company impact goals and, for impact-generating investments additionally, realized investor contribution goals at the investee and portfolio levels.³²

Case Study 6: Impact goals and progress reporting

An institutional investor allocated \$30 million to a green energy company developing a wind farm to accelerate the transition to renewable energy. During the *pre-investment phase*, the investor and the company collaborated to establish clear and measurable goals:

Company impact goals: Generate 50 GWh of renewable energy annually and reduce CO_2 emissions by 25,000 tons per year starting in year three.

Investor contribution goals: Provide direct funding for project implementation and actively participate in governance to ensure operational efficiency – both critical to generating the intended company impact.

During the *post-investment phase*, the company and investor ensured transparent monitoring and reporting of progress:

The company's annual reports detailed energy production and emissions reductions, showing that by the third year, the wind farm was generating 52 GWh annually and achieving a reduction of 26,000 tons of CO₂.

The investor reported on its contribution, demonstrating the impact of the direct funding and how the governance role expedited regulatory approvals.

Application of Principles 11 and 12:

Principle 11: During the pre-investment phase, the investor clearly defined company impact goals and investor contribution goals, creating a transparent framework for assessing progress.

Principle 12: Through continuous reporting, both the company and investor demonstrated accountability and progress. This iterative process allowed for mid-course adjustments, ensuring both impact and contribution goals were met and exceeded.

Impact tradeoffs

Which environmental and social impacts should be considered?

In order to determine which social or environmental impacts are relevant and, as such, should be addressed and managed, several impact measurement methodologies provide guidance (European Commission 2023b; IMP 2023b; Social Return on Investment Network [SROI Network] 2012). The ESRS, for example, require that companies conduct an impact materiality assessment to select the social and environmental impacts they should report on. This materiality

³² An issue to discuss in the future is what share of a portfolio an investor needs to engage with in order to classify a product as impact-generating.

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assessment considers the severity of actual impacts and the likelihood of potential impacts (European Commission 2023b). Another example is management-focused approaches of selecting impacts that usually include an analysis of which impacts a company is associated with, based on a company's economic activities, size, or sector (IMP 2023b). These approaches also include an analysis of the company's specific operating context, i.e., the priorities and needs of the potentially affected stakeholders or the natural environment in the locations where the company, or the actors in its value chain, are active.

While these approaches provide important guidance on identifying relevant impacts, they often lack a clear answer on how to determine the priorities amongst relevant impacts. One way to solve this issue is to use context-based materiality assessments (Baue & Thurm 2022). Utilizing such assessments, companies can prioritize the previously identified material impacts and derive a corresponding action plan. In other words, the context-based materiality assessment helps investors focus on impacts for which the affected social and environmental stakeholders are most underserved. We propose that investors adopt context-based materiality assessments wherever possible when selecting impacts.³³ This way, the selection process focuses on those impacts that are most important from the perspective of sustainability objectives.³⁴

Principle 13: Investors should conduct a context-based materiality assessment to select the company's most relevant positive and negative environmental and social impacts for impact management.

How should tradeoffs between impact categories be handled?

There is little guidance for how to deal with tradeoffs between company impacts in cases where activities with positive social or environmental impacts simultaneously have negative impacts. For example, electric vehicles are more environmentally sound in their usage phase (assuming a sufficient share of renewable electricity is used) than cars that use fossil fuels. Yet, the construction of the necessary batteries is energy intensive and requires resources such as rare elements that are partially extracted under unethical conditions. We argue that investors should measure both the positive and negative impacts of their investees to be considered impact-aligned or impact-generating, and mitigate negative impacts as much as possible (UNDP 2020).

Principle 14: Investors should conduct a thorough analysis of the potential negative impacts that stem from tradeoffs between different impact categories. Such negative impacts should be measured, monitored, reported, and mitigated over time.

To manage tradeoffs between positive and negative impacts, impact-aligned and impact-generating investments need to measure impacts in a way that makes

³³ If concrete thresholds are not available for every impact category and if investors cannot develop science- or norm-based thresholds, they should use the rules and guidelines of existing standards for impact materiality assessments as provided by, e.g., Global Reporting Initiative (2023), the ESRS (2023b), or the IMP (2023b). There are also various resources that provide lists of impact categories, such as the EU Taxonomy (2021), GIIN's IRIS+Thematic Taxonomy (2023b), and UN PRI's Impact Investing Market Map (2018).

³⁴ At the portfolio level, we propose that investors first conduct a context-based materiality analysis per sector, and then review and refine the results for each company to reduce the effort required.

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tradeoffs transparent. If impacts in different categories, e.g., greenhouse gas (GHG) emissions and human rights violations, are aggregated in one indicator, tradeoffs will not be apparent. This is why we argue that impacts should only be aggregated within the same impact category, e.g., CO₂ and methane emissions when measuring GHG emissions.³⁵ Impact categories can be defined using existing standards like in the literature on life cycle assessment, where concrete definitions exist (European Commission's Joint Research Centre 2010). Consequently, positive impacts in one category (e.g., production of electric vehicles) cannot outweigh or hide negative impacts in another category (e.g., unethical working conditions).

Principle 15: Impact-aligned and impact-generating investments should only aggregate company impacts within established impact categories (e.g., as defined in life cycle assessments) and should not aggregate impacts across different impact categories.³⁶

Should investors monetize their impact?

A growing trend in impact measurement is to value impacts by monetizing them (Impact Economy Foundation 2022; International Foundation for Valuing Impacts and Value Balancing Alliance 2023; SROI Network 2012). Valuing impacts is important to estimate the relative value that a company creates for its stakeholders and to support decision-making by expressing impacts in a common unit (IMP 2023g). Monetization is one possible way to value impacts in that sense. While monetizing and netting impacts may be seen as a potential way to reduce complexity, and while it might be helpful in some contexts, it also comes with challenges and pitfalls. For instance, some critics doubt that monetization adds meaningful information, since the "coefficients which the monetization is based on are often rough estimates which makes the results prone to mistakes or even manipulation" (Braig and Edinger-Schons 2020, p. 5). Others argue that "technical and data challenges often lead to a high degree of uncertainty and threaten credibility" (Impact Management Project 2020, p. 5). One major issue is that monetization introduces a sense of comparability between impact categories for which comparisons do not make sense. For example, monetizing the costs of CO₂ emissions and the costs of human rights violations might create the impression that both impacts are comparable and can offset each other. Looking at both impacts directly, however, it is obvious that human rights violations cannot be compensated by or remedied with lower CO₂ emissions (Baue and Thurm 2022). Therefore, aggregating impacts at the portfolio level – e.g., for a mutual fund – through monetization across different impact categories may be more confusing than providing reliable information.

Principle 16: Monetizing impacts at the portfolio level across different impact categories is not a useful approach for impact-aligned or impact-generating investments.

³⁵ See footnote 4 for an example of how to aggregate company impacts at the portfolio level.

³⁶ This principle refers to aggregating both positive and negative impacts. As a result, both positive and negative impacts can be aggregated within established impact categories.

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Discussion and conclusion

First, this paper contributes to the discussion on impact measurement, assessment, and valuation by analyzing conceptual ambiguities and providing a consistent set of definitions that are in line with markets standards and current EU sustainable finance regulations. Second, we develop 16 principles relating to questions of the magnitude, life cycle, and tradeoffs of impact.

We propose a standard for defining and measuring what magnitude of positive company impact can be considered significant based on thresholds or relative performance measures. This helps practitioners to assess a company or asset's positive impact, providing guidance on questions that regulatory frameworks like the SFDR currently leave unspecified. Regarding the life cycle of impact, we provide principles for new topics, like the transferal of company impact and investors contribution. We also specify how to deal with expected and generated company impact and investor contribution, especially regarding their development over time. In the section on impact tradeoffs, we provide guidance on how to select impacts and how to measure negative impacts resulting from tradeoffs with positive impacts.

The real-world implications of these principles span multiple stakeholder groups, each benefiting from the clarity, structure, and rigor introduced by the principles. For investors, the principles offer a clear roadmap for identifying and prioritizing meaningful investments. Business managers may benefit from the principles' emphasis on setting clear impact targets during the pre-investment phase and reporting progress, fostering alignment between investors' expectations and operational realities. By requiring investors and investees to document progress across multiple dimensions of impact (e.g., magnitude, time frame, materiality), the principles reduce the risk of greenwashing and improve stakeholder trust.

While the principles offer a structured and practical approach for impact measurement, assessment, and valuation, their application is not without challenges. Establishing company-level thresholds requires robust, sector-specific data, which may be unavailable in certain regions or industries. Additionally, while thresholds focus on measurable impacts, they risk undervaluing qualitative or intangible outcomes, such as systemic or cultural changes. Moreover, power imbalances in stakeholder engagement risk sidelining community concerns, leading to decisions that fail to account for systemic inequities or cumulative impacts.

To address these limitations and advance the principles, several developments are needed. Establishing sector- and context-specific thresholds for every major sustainability objective in line with global goals like the SDGs or the Paris Agreement will be critical. This includes the development of practical guidance for identifying, prioritizing, and mitigating tradeoffs in a way that centers community voices. Furthermore, research is needed to capture investor contributions in different asset classes and across contexts such as debt financing, blended finance, or public equity markets, where direct influence may be harder to trace.

Overall, this paper addresses many critical topics that are currently not well understood in the impact investing field and provides practical guidance regarding impact measurement, assessment, and valuation. It is, however, only one step

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forward and more work is required to standardize the measurement, assessment, and valuation of impacts. We hope that this paper supports this process.

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