Erasmus Platform for Sustainable Value Creation & Impact Institute

A toolkit for transition: Leveraging Integrated Return Model for Investors' Decision-making

March 2025









Executive Summary

Colophon

The Erasmus Platform for Sustainable Value Creation is an academic think-tank at Rotterdam School of Management (RSM), Erasmus University Rotterdam, that collaborates with leading sustainability experts in the financial sector. This project was initiated by the advisory board of the platform and executed in collaboration with the Impact Institute, using data from their Global Impact Database and based on the Impact Weighted Accounts Framework (IWAF) developed by the Impact Economy Foundation.

Impact Institute is a social enterprise with a mission to empower organisations and individuals to realise a more inclusive economy. IWAF is maintained by the Impact Economy Foundation and provides organisations with a harmonised. consistent way of measuring, reporting and steering on impact. The framework helps to quantify and monetise organisations' impact on social, human and natural capital for all stakeholders.

About the authors

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Therefore, the main objectives of this project are:

1. to evaluate the efficacy and practicality of the integrated return model within diverse corporate contexts 2. to determine the optimal approach for presenting integrated returns from an investor's point of view

Typology of sustainable investments - Busch et al. COMPASS – Global Impact Investing Network Theory of Change – Triodos Investment Management Total Impact Measurement θ Management (TIMM) - PwC Impact Statement – Value Balancing Alliance Impact Multiple of Money - The Rise Fund & The Bridgespan Group Impact Weighted Accounts -Impact Economy Foundation Social Return on Investment (SROI) – Social Value UK The Impact Frontier -Impact Frontiers

Figure 1 - General comparison of methodologies

IWAF approach is scoring the highest in assessing the impact most accurately.



In a time characterised by shifting business landscapes and increasing stakeholder expectations, integrating sustainability into companies' operations and investors' decision-making is gaining importance. Sustainability has evolved beyond being a mere trend, emerging as a pivotal factor in value generation. This report presents a comparison of methodologies evaluating impact and a pilot study aimed at investigating the practical application of an integrated return model (IWAF developed by the Impact Economy Foundation) within the context of public companies coming from various industries. Integrated return reflects the change of scarce capital from financial to natural capital. Integrated return is also useful to construct outcome-based financing and transition finance instruments (e.g. several types of sustainability-linked loans and bonds).

sation ence	Methodology transparency	Completeness	Usefulness in the transition process	Usefulness in decision-making
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
			0	0
	•		0	0

IWAF methodology - Integrated return explained

Integrated return r combines the following dimensions: 1) profit and paid interest (Δ FV); 2) monetarily valued social impact (Δ SV); and 3) monetarily valued environmental impact (Δ EV) during a given year, divided by invested capital (FV):

Integrated return:

r integrated = financial return + social impact + environmental impact invested capital

FV

Figure 2

Pilot Study Results

 $= \frac{\Delta FV + \Delta SV + \Delta EV}{\Delta FV + \Delta SV} = \frac{\Delta FV + Q \cdot SP}{\Delta FV + Q \cdot SP}$

Using stakeholder mapping and materiality analysis, we assess the size of material social and environmental issues (Q) and multiply these by their shadow prices (SP). Based on that, we can calculate the integrated return. Based on our collaboration with Impact Institute, Figures 3 and 4 present the example of integrated return results based on industry averages from the Global Impact Database (GID; see Appendix B).

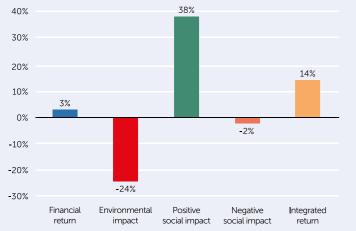


Figure 3 - Integrated return Danone Source: Authors' own, based on GID averages

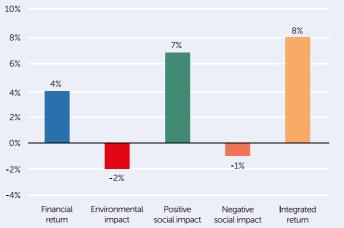


Figure 4 - Integrated return Novozymes Source: Authors' own, based on GID averages

Conclusions and recommendations

Conclusions on integrated returns:

- 1. Integrated return addresses a gap:
- their company.
- b. Negative impact shows exposure to risk of externalities becoming internalised and the positives opportunities for long-term value creation. These have financial consequences.
- c. Impact measurement is a critical addition to traditional business cases as investments/projects can no longer be looked at just from a financial value perspective in isolation; this financial driven shortterminism is limiting and increasingly risky given the new regulatory regime.
- 2. Integrated return provides a good initial overview of a company's profit and impact:
- and impact comparable.
- b. The IWAF methodology facilitates an integrated overview of a company's performance. c. An integrated overview is useful for investors that care about profit and impact. Publication of
- integrated returns would add to transparency as well.
- of assets.
- 3. Materiality analysis is crucial:
- material issues
- 4. Industry averages simplify complexity:
 - a. Analysing thousands of public companies poses a data challenge. Using industry averages simplifies the complexity of integrated return calculations. Industry or sector averages provide a very useful overview of company impact across sectors.
 - b. Estimates are particularly useful in a materiality assessment to determine where to focus data collection efforts, but should be interpreted cautiously when assessing individual companies' impact. In addition, the sector average can serve as a first approximation of a company's impact. It can then be refined by primary data collection. A focus on materiality can also help here. Larger impacts are refined first. For smaller impacts, the initial approximation is often good enough.
- c. Sector averages are also helpful for measuring impacts among the value chain. Here, primary data collection is often not feasible (esp. for indirect suppliers). An approximation based on sector averages is then better than omitting them entirely. 5. Common sense is important:
- results should be investigated further.
- b. General quantitative information could be supplemented with more specific quantitative information and qualitative information about individual companies to have a final judgment on the sustainability of a company. The so-called man and machine approach.
- 6. Impact measurement and valuation need to be scaled up: a. The hurdles to start with impact measurement need to be lowered to achieve scale and lower the
- cost per impact data point. b. More data needs to become available at the right level of granularity. Proxy data can be used to for materiality assessment and benchmarking purposes.
- c. As companies start to report on their impact (CSRD, CSDDD and SFDR) more data will become available.
- 7. Harmonisation of definitions of impact is needed:
 - a. To ensure comparability across companies, harmonised data are needed.
 - b. Frameworks for impact measurements also need to be aligned.

a. Investors, entrepreneurs and CxOs need to know about the impact (positive and negative) of

- a. By monetising impacts, the Impact Weighted Accounts Framework (IWAF) methodology makes profit
- d. It is important to show the individual financial, social and environmental components of integrated return; netting of individual components is forbidden. Results can be aggregated across a portfolio

a. Understanding of material topics/issues in the value chain/sector is important to understand the context for the impact estimates and validate the approximate relative magnitude of impacts. b. Conducting materiality analysis beforehand is essential for comparing impact results against

c. In addition, materiality analyses encourage focus on the largest impact topics. This can save investors a lot of time as only the most significant topics are measured and monetarily valued.

a. The objective of impact assessment is to assess real world impact appropriately. Counterintuitive

Challenges:

- 1. Complexity:
 - a. Calculating integrated return for thousands of companies is complex and data-intensive.
 - b. Measurement of social and environmental impacts requires making assumptions and choices and is resource-intensive.
- 2. Shadow prices:
 - a. Monetising social and environmental impacts involves the use of shadow prices to translate a footprint in a monetised value, based on the contribution of an effect to welfare, wellbeing and respect of human rights.
 - b. Different stakeholders may value impacts differently, leading to disputes or inconsistent results.
 - c. IWAF uses a normative framework that is derived from the UN declaration of human rights. Prices for negative impacts reflect the costs required to undo the damage, compensate affected stakeholders, prevent the impact from happening in the future and any fines. This already gives some weighting of importance.
 - d. Using academic studies helps to make shadow prices as objective as possible.
- 3. Data Availability:
 - a. Accurate and up-to-date data on social and environmental impacts may not always be readily available.
 - b. More value chain transparency/data would be helpful.
 - c. Limited or disorganised data can limit the accuracy of calculations.
- 4. Reliance on industry and country averages:
 - a. Averages may not always reflect an individual company's performance.
 - b. Further company analysis is needed to make the necessary adjustments for reliability and to assess company specific impacts within sectors.

Recommendations for next steps:

- 1. Integrated reporting:
 - a. The Company Sustainability Reporting Directive requires large companies to report on their impacts over 2024 and medium-sized companies from 2025 onwards.
 - b. The increased availability of data facilitates impact measurement.
 - c. Investors could prepare themselves for the increased availability of these data by analysing and interpreting impact.
- 2. Analysing large numbers of companies:
 - a. Making choices and assumptions is inherent in the process of compiling a large database;
 - b. A debate on the results has several dimensions
 - I. What does the data tell us? II. How should we weigh different components?
 - III. How should we deal with data gaps?
 - c. Important and large items, such as consumer surplus and carbon emissions, could be discussed further.

About the Report

The report explores the "Integrated Return Model" for evaluating investments by combining financial, social, and environmental impacts, based on the Impact Weighted Accounts Framework (IWAF). It compares methodologies for impact assessment and demonstrates IWAF's practical application through pilot studies on companies across diverse industries. The IWAF quantifies impacts in monetary terms, offering investors a holistic view of company performance,

aiding in transparency, and fostering sustainability-aligned decision-making. Despite its advantages, the methodology faces challenges like data availability and complexity. Sector averages partially address these challenges but lack granular company-specific insights. Recommendations emphasise the need for harmonised data, improved reporting (aligned with the Corporate Sustainability Reporting Directive), and scaling up impact measurement for wider adoption.

Table of Content

Part I

- 1. Introduction of the Integrated Ref
- 2. Comparison of Methodologies
- 3. IWAF methodology Integrated re

Part II

4. Pilot study results

5. Conclusions and recommendation

Part III

Appendix

Bibliography

	8
turn Model	9
	10
eturn	13
	15
	16
15	26
	27
	28
	30

Part I

The case for the integrated return model and its methodologies

1. Introduction

In an era marked by growing environmental concerns, social challenges, and heightened awareness of sustainability, investors are under increasing pressure to align their portfolios with broader societal and environmental goals. Traditional financial metrics, while essential, no longer provide a complete picture of a company's overall performance and impact. This shift has led to the emergence of methodologies aimed at integrating social and environmental factors into performance assessments, creating a more comprehensive framework for decision-making.

The concept of integrated returns bridges the gap between conventional financial analysis and the need for sustainability-focused evaluations. By monetising social and environmental impacts, frameworks like the Impact Weighted Accounts Framework (IWAF) enable companies and investors to assess and compare impacts alongside financial returns. This approach offers stakeholders a robust tool to evaluate both positive contributions and negative externalities, aligning business operations with long-term value creation and sustainability.

This report examines the efficacy of integrated return models, focusing on the IWAF approach and its application in real-world scenarios. Through a comparative analysis of methodologies and pilot studies on various companies, this research highlights the benefits, limitations, and potential of integrating impact metrics with financial returns. The findings offer valuable insights into how investors can leverage such frameworks for more informed decision-making, ensuring both profitability and positive impact are accounted for in corporate evaluations.



2. Comparison of **Methodologies**

In today's rapidly changing world, the evaluation and assessment of impact of different initiatives, projects and companies plays a crucial role in the transition process towards sustainable investments. Therefore, organisations and investors from various industries are increasingly recognising the need for a robust methodology to measure and understand the aftermath (in case the impact) of their actions. As a consequence, we perform a comparative analysis of different methodologies applied to evaluate the impact (see Appendix A. for descriptions of different methodologies) with a focus on eight comparison criteria.

Comparison Criteria

- 1. Clarity of objectives: to what extent methodology encourages clearly defining and understanding the goals and objectives of a particular investment. It involves setting well-communicated and understood goals for all stakeholders
- 2. Metrics standardisation: it defines whether methodology applies or proposes using a standardised set of metrics to evaluate the investment impact. It enables data comparability and improves decision-making.
- 3. Comparability: to what extent the methodology facilitates making meaningful and accurate comparisons between different investments, and whether it is possible to evaluate and analyse investments with different characteristics
- 4. Monetisation presence: it assesses whether there is a clear approach to convert impact into quantitative value in the monetary form which provides common language among investors and business, therefore enabling greater understanding, comparability and inclusion in decision-making.
- 5. Methodology transparency: it defines whether the methods and procedures used are clear and understandable to others. It incorporates providing detailed information about the steps taken, the data sources used, and the reasoning behind decisions made during the process.
- 6. Completeness: refers to ability with which methodology comprehensively address all the necessary aspects of the impact investment, both positive and negative, and whether it is possible to assess the project/company as a whole or partially.
- 7. Usefulness in the transition process (to achieve SDGs): to what degree the proposed methodology is beneficial and effective in contributing to addressing social, environmental, and economic challenges outlined by the SDGs, and investors' ability to shape sustainable business practices.
- 8. Usefulness in decision-making: to what extent information, data, or insights based on using the methodology are relevant and valuable for investors in the process of making informed decisions.

Overview methodologies

We provide here a short overview of methods to evaluate impact. The full detail of the method are contained in Appendix A.

- A. Typology of sustainable investments Busch et al. (2021) management strategies.
- B. COMPASS Global Impact Investing Network environmental issues.
- C. Theory of Change Triodos Investment Management both quantitative and qualitative measures.
- D. Total Impact Measurement & Management (TIMM) PwC and negative effects.
- E. Impact Statement Value Balancing Alliance
- F. Impact Multiple of Money The Rise Fund & The Bridgespan Group the amount of capital invested.
- G. Impact Weighted Accounts Framework (IWAF) Impact Economy Foundation company can be calculated.
- H. Social Return on Investment (SROI) Social Value UK investment cost.
- The Impact Frontier Impact Frontiers similar to the traditional finance concept of the efficient frontier.

The typology separates impact-aligned and impact-generating investments from ESG-related investments. They propose four dimensions of sustainable investment and suggest that impact-related investments aim to transform industries or markets, while ESG-related investments focus on investment

COMPASS is a methodology for rigorous, consistent, and comparable analysis of investments' social and environmental impact. It produces three standardized figures to illustrate impact scale, pace, and efficiency, enables comparability of impact results, and positions impact relative to social and

The Theory of Change is a framework consisting of five steps to help investors turn their impact goals into real results. The steps involve starting with the mission, identifying the need for change and vision for solutions, setting impact objectives, defining activities, and monitoring and reporting impact through

The TIMM framework includes four guadrants: social impact, environmental impact, taks impact, and economic impact. By measuring these impacts, businesses can understand the balance between positive

The Value Balancing Alliance methodology uses a monetary metric to measure the impact of business models, considering the local context of the activity and the weighting of sustainability aspects.

IMM is used in impact investing to measure the social or environmental impact of an investment. It is calculated by dividing the total value of the social or environmental impact created by an investment by

IWAF is a method that aims to quantify a company's environmental and social impact in financial terms by assigning monetary values to positive and negative impacts. With IWAF, the integrated return of a

SROI evaluates the social impact of an investment by comparing the costs of the investment to the social benefits it generates. It can be calculated by dividing the total social benefits of an investment by the total

The Impact Frontier helps investors to identify the portfolio with the highest possible impact for a given level of financial return or the highest possible financial return for a given level of impact. The concept is

Conclusion

Figure 5 provides the results of a comprehensive evaluation of all methodologies, utilising a color-coded scoring system for clarity. Dark green signifies a "very good" performance, indicating top-tier effectiveness. Light green represents a "good" performance, showing a satisfactory but not exceptional outcome. Yellow denotes a "moderate" performance, suggesting average efficacy with room for improvement. Red highlights a "low" to "very low" performance, signalling significant deficiencies and the need for substantial enhancement in certain criteria.

Usefulness in ecision-makir efulness in th nsition proce Typology of sustainable 0 Ο investments – Busch et al. COMPASS – Global Impact 0 0 Investing Network 0 0 Theory of Change – Triodos Investment Management 0 0 Total Impact Measurement & Management (TIMM) - PwC 0 0 Impact Statement -Value Balancing Alliance 0 0 Impact Multiple of Money - The Rise Fund & The Bridgespan Group 0 Impact Weighted Accounts -0 Impact Economy Foundation Social Return on Investment 0 0 (SROI) – Social Value UK \mathbf{O} The Impact Frontier -Impact Frontiers

Figure 5 - General comparison of methodologies

Two methodologies emerge as particularly promising approaches for practical implementation through a pilot study, namely COMPASS by GIIN and Integrated Return (IWAF). COMPASS provides valuable insights into the progress made towards specific impact goals. It offers a structured framework for the evaluation of various dimensions of impact. But it falls short in supplying a holistic picture of impact, as it does not allow for aggregating the various impacts. By contrast, the Integrated Return method based on IWAF has a distinct advantage by presenting an integrated perspective on both financial and impact performance, which further provides a more comprehensive understanding of a project or company's overall performance. The monetisation of impacts in IWAF allows for making impacts comparable and aggregating them. Based on the assessment of the methodologies, the IWAF methodology receives the highest score. The working group therefore selects the IWAF approach for a pilot study of integrated return. As a result, Impact Institute, who supports business in implementing IWAF, was invited to contribute to the pilot study.

3. IWAF methodology -**Integrated return**

Impact investors look for financial return (profit) as well as social and environmental impact. The integrated value (IV) model combines the financial value (FV), social value (SV) and environmental value (EV) dimensions (see Figure 6).



Figure 6 - The Integrated Value Model Source: Based on Schoenmaker and Schramade (2023)

The Impact Weighted Account Framework (IWAF) is developed and maintained by the Impact Economy Foundation, an independent foundation. IWAF guantifies a company's social and environmental impact in financial terms by assigning monetary values to positive and negative impacts (IEF, 2024). The quantification follows a three-step process. The first step is to determine which social and environmental factors are material (that means relevant) to the company. This prevents analysts getting lost in multiple, often immaterial, factors. The second step is to express these material factors in their own units (Q). The third step assigns a shadow price (SP) to these units, based on welfare theory. The IWAF methodology allows the calculation of integrated return r, which combines the profit and impact dimensions: 1) profit and paid interest (ΔFV); 2) monetarily valued social impact (Δ SV); and 3) monetarily valued environmental impact (Δ EV) during a given year, divided by invested capital (FV):

$$\Gamma_{i}^{integrated} = \frac{financial return + social impact}{invested cap}$$
$$= \frac{\Delta FV + \Delta SV + \Delta EV}{FV} = \frac{\Delta FV + Q \cdot SP}{FV}$$

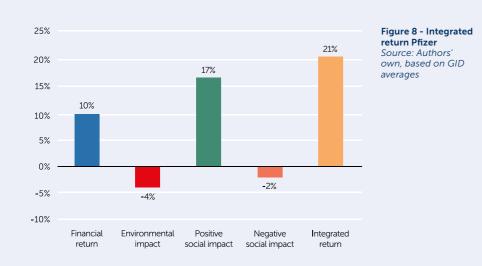
The denominator is invested capital, which is a proxy for the financial value (FV) of the company. This reflects the idea that equity and bond investors 'finance' the company. This ratio reflects the investors' 'bang for their buck' in the widest sense: what do they get in financial and impact benefits for the capital they invested. The formula and methodology are taken from Chapter 14 in Schoenmaker and Schramade (2023).



+ environmental impact pital

Figure 7

In addition to this integrated ratio, the financial return, positive social impact, negative social impact, positive environmental impact and negative environmental impact should be presented separately to highlight positive and negative impacts. Figure 8 shows the integrated return and the individual financial and impact dimensions for the pharmaceutical company, Pfizer.



Part II

Pilot study results and conclusions



4. Pilot study results

We conduct a pilot study to assess the working of the Integrated Return Model (IWAF) in practice. As businesses continue to grapple with the challenges and opportunities posed by sustainability, understanding the real-world implications of integrated reporting and measurement models becomes increasingly vital. Therefore, this part explores the implementation of an Integrated Return Model (IWAF) across different public companies spanning various industries. By selecting firms from disparate fields, we seek to provide insights into the model's adaptability and relevance across sectors. Impact Institute, operating as a social enterprise, has chosen to use IWAF for its work. Impact Institute provided the data for the pilot study and validated the results.

How is the integrated return calculated in practice?

To understand how the integrated return model works in real-life scenarios, we focus on three main parts identifying key stakeholders, analysing materiality, and calculating integrated returns:

- 1. Stakeholder Mapping: First, we identify and map key stakeholders for selected companies, understanding their goals and how companies affect them.
- 2. Materiality Analysis: Building on stakeholder mapping, we analyse environmental and social factors important to stakeholders and the companies.
- 3. Integrated Return Calculation: Finally, we calculate integrated returns. This includes traditional financial metrics and sustainability performance data, giving a comprehensive view of sustainable value creation in financial terms.



Figure 9 - Integrated return calculation process

Scope of the pilot

The following companies are selected from different sectors and regions for performing the pilot study:

- » Danone: Food industry, France
- » Novozymes: Biotechnology industry, Denmark
- » Vinci Construction: Construction industry, France
- » Shell plc: Oil industry, United Kingdom
- » BASF: Chemical products industry, Germany
- » ASML: Computer and electronics products industry, the Netherlands
- » Microsoft: Technology industry, United States
- » Pfizer: Pharmaceutical industry, United States

Steps

For stakeholder mapping and materiality analysis, we rely on the companies' annual statements and sustainability reports. To calculate integrated return, we first attempted to leverage the firms' extensive social and environmental data and incorporate shadow prices from IWAF. However, data availability and scope varies widely from firm to firm, with many impacts reported in incomparable metrics. This highlights the need for more standardisation of impact measurement in the field.

To adress the data gaps, we collaborated with Impact Institute to gain more structured data from their Global Impact Database (GID) and perform informative calculations. GID provides a quantitative estimate of the average environmental, social, and economic impact per country and sector within the global economy. For each company in scope, the impact is estimated based on its respective sector and country. For instance, to assess BASF's impact, we use the chemical products sector in Germany as the basis for calculation.

The impact assessment is based on the environmental and social factors (please see Appendix C. Key impact categories). GID allows for the measurement of the same set of impacts for all companies and provides data on the monetised impacts (positive or negative) per euro of revenue. In that way, reported impacts are comparable across companies. GID uses extended input-output modeling to distinguish direct, upstream and downstream impacts for each category.

For all companies the following impacts were in scope:

- » Financial Return: Profit
- » Negative environmental impact: Contribution to climate change, pollution (air, water), use of scarce water, fossil fuel depletion, use of scarce materials, land use.
- and creation of human capital
- underpayment

We include upstream and downstream items in the value chain. A simple attribution approach is used to calculate a total result for the company. For direct impact (impact that arises at the company itself) 100% of the monetised result is used. For value chain impacts, a 50% factor is applied. This is to acknowledge that the company is only partly responsible for the impact occurring in the value chain as they have less control over this impact.

For the pilot study, Impact Institute has provided the impact data in value per euro revenue. Relying on the data from the firms' annual statements about revenue, the impact data are multiplied accordingly to obtain annual impact. The financial impact in the form of profit and paid interest are also taken from firms' annual statements. All calculations were performed for the fiscal year of 2022.

The compilation of large databases requires making assumptions and making choices for reasons of data coverage, granularity, or quality. The following assumptions and choices are made for the GID data: 1. The Land Use item considers only the use of agricultural land and the effect of this. Therefore, while the land use impact is in scope for agricultural companies there is no information provided on the use of land for, for example construction companies such as Vinci Construction.

» Positive social impacts: Consumer surplus of products and services, well-being effects of employment

» Negative social impacts: Child labour, forced labour, workplace health and safety, gender wage gap,

2. The same is true for water pollution which is only assessed for the use of agricultural land.

3. Since GID captures business to business relationships, the database does not include emissions as a result of private consumers. For example, a company like Microsoft has business customers and private consumers in their downstream. The emissions of business customers are included within the scope of the data however, the emissions from the use of Microsoft products by private consumers are not in scope. This influences, in particular the Contribution to Climate Change results for companies with a

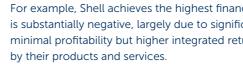
large private consumer base.

- 4. Consumer surplus is calculated as the product of:
 - a. Final household consumption per country and sector (eur) -> Sum of household consumption, nonprofit institutions serving households, and government final consumption per country and sector.
 - b. Consumer surplus multiplier (eur/eur)-> The consumer surplus multiplier is calculated as half of the negative inverse of price elasticity of demand. Price elasticity of demand data is collected per sector from multiple sources through a literature review process.
 - c. This approach, which is analytically correct, leads to high amounts of positive social impact, distorting the other social and environmental impact items.

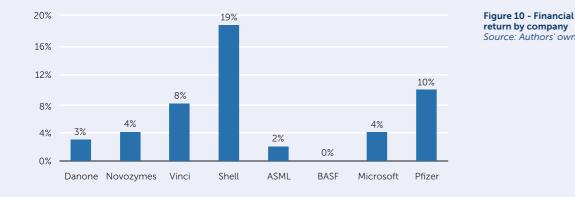
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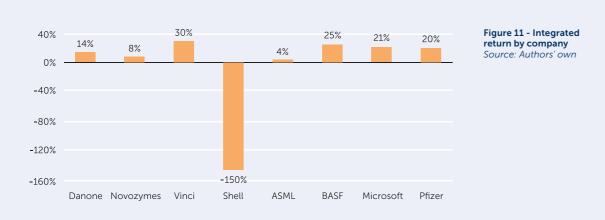
Summary Results

In Figures 10 and 11 the financial return and the integrated return of each company are illustrated. The financial return represents the company's profit, while the integrated return incorporates both social (positive and negative) and environmental (negative) value alongside financial performance. This creates a more comprehensive view of a company's overall impact.



Investors can leverage these insights, as well as the underlying data, to make informed decisions that account for integrated value. For those focused on maximising financial returns while minimising negative externalities, it is essential to assess the environmental and social impacts relative to financial performance (Figure 10). For instance, while Shell shows strong financial returns, it comes at a significant environmental cost. Similarly, Danone might raise concerns for investors prioritising environmental sustainability.





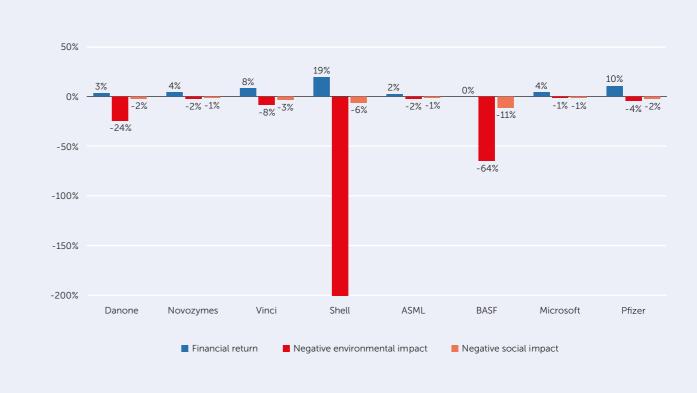


Figure 12 - Financial return compared with negative environmental and social return by company Source: Authors' own

For example, Shell achieves the highest financial return, approaching 20%. However, their integrated return is substantially negative, largely due to significant environmental externalities. In contrast, BASF exhibits minimal profitability but higher integrated returns, attributed to the substantial consumer surplus generated

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Company Results

Starting from Danone, the results are presented in Figure 13. Danone is a multinational food and beverage company specialising in dairy products, bottled water, and specialised nutrition products like infant formula and medical nutrition. The company's integrated return is slightly above 14%. Danone is profitable and has positive social impact, mostly driven by high consumer surplus. However, Danone also has large negative environmental impact. Negative environmental impact for Danone arises mostly upstream in the dairy farming industry which has significant pollution, land use and contribution to climate change impacts. In 2017, Danone started integrating plant-based products into their portfolio. These carry a significantly lower environmental footprint. A strategic shift towards more plant-based products and away from dairy products would lower their environmental footprint.

Novozymes is a biotechnology company that focuses on producing industrial enzymes and microorganisms used in various industries such as agriculture, food and beverages, bioenergy, and pharmaceuticals. They aim to develop sustainable solutions that improve efficiency and reduce environmental impact in industrial processes. Figure 14 presents the outcomes for Novozymes, which shows a positive integrated return of 8%, driven by a positive financial return, positive social impact, and a relatively low negative environmental footprint. It is expected that Novozymes' integrated return may be more positive than reflected in these results, due to the fact that they not only have a relatively low environmental impact themselves, but their products and solutions help to reduce emissions and environmental impact for their clients (Schoenmaker and Schramade, 2023). This positive effect, of reducing emissions for clients operating in the agriculture, food, transport, and pharmaceutical industries, is not reflected in the data.

Vinci Construction, shows an integrated return of almost 30%. Vinci Construction is a global construction company and a subsidiary of the Vinci Group. It operates in various sectors, including building and civil engineering, infrastructure development, and environmental services. The company is doing well financially as well as has a high positive social impact arising from consumer surplus and from the creation of jobs (Vinci Construction employs almost 120 000 people and many more work throughout their value chains). Vinci's negative environmental impact is driven by air pollution, contribution to climate change and fossil fuel depletion. The majority of these effects occur upstream in the extraction of raw materials and manufacturing of materials such as steel, concrete and glass. Another significant effect of the Vinci Construction is the land that is used or transformed by their projects. This effect is out of scope as GID data only considers the use of agricultural land, leading to the scenario where most likely the firm's impact in this category is higher, decreasing the integrated return in consequence.

In Figure 16, the results for **Shell plc** are presented with substantially negative integrated return of -150%. The global energy company's high profitability and high positive social impact (driven by the high consumer surplus of their goods and services) are overshadowed by significant environmental costs associated with fossil fuel extraction and processing. As a result the total impact of Shell is largely unfavourable, driven by the significant environmental burden.

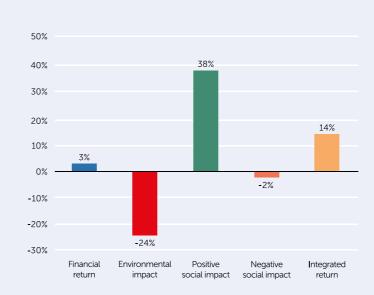
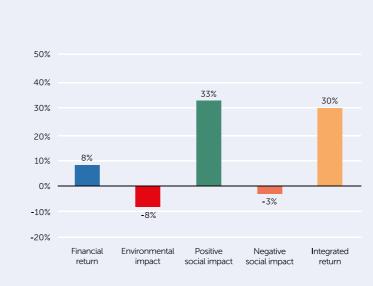
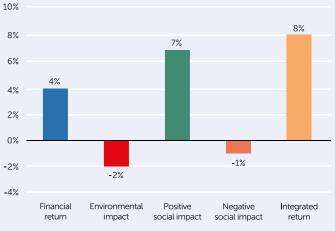


Figure 13 - Integrated return Danone Source: Authors' own, based on GID averages









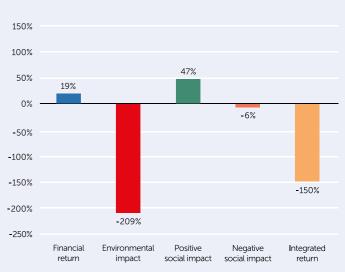
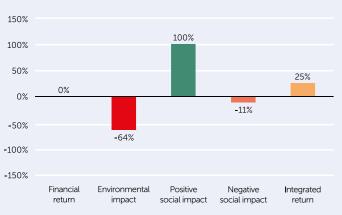


Figure 16 - Integrated return Shell plc Source: Authors' own, based on GID averages



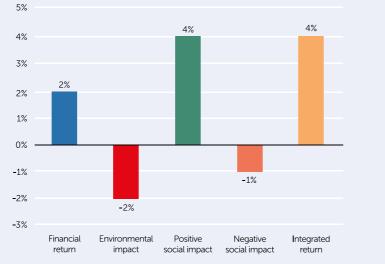
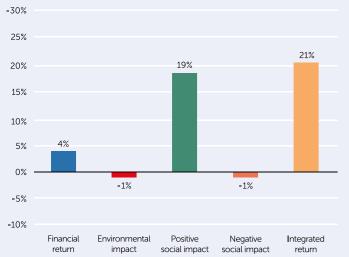


Figure 17 - Integrated return BASF

Source: Authors' own, based on GID averages

Figure 18 - Integrated return ASML

Source: Authors' own, based on GID averages



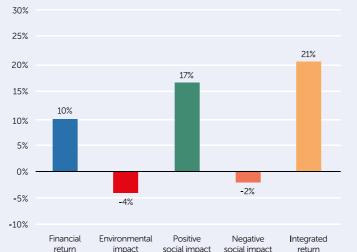


Figure 19 - Integrated return Microsoft

Source: Authors' own, based on GID averages

Figure 20 - Integrated return Pfizer

Source: Authors' own, based on GID averages

The global chemical company **BASF** produces a diverse range of products, including plastics, performance products, and agricultural solutions. As shown in Figure 17, BASF has an integrated return of approximately 25%, primarily driven by a high positive social impact, which is largely offset by negative social and environmental impacts, as well as very low profitability. The main driver of BASF's negative environmental impact is air pollution, resulting from its chemical production processes. One omission in the current study is that while the impact of plastic production is covered in the environmental impact calculations, the impact of the use and disposal of plastic is not. This is increasingly a threat to ocean, wildlife and human health. Incorporation of these effects would likely significantly reduce the integrated return. BASF presents an interesting case where the company appears to deliver significant value to its customers, yet this is not reflected in its financial returns. To understand the underlying cause—such as potentially high investments in R&D that may lower profits—further analysis of the company beyond the integrated return is required. Therefore, the integrated return serves as a useful starting point for deeper investigation.

ASML (figure 18) is a leading semiconductor equipment manufacturer, producing advanced photolithography machines, which are used in the production of microchips. ASML has an integrated return of almost 5%, driven by positive financial return and social impact. ASML has relatively low negative impact.

Regarding another technological company, **Microsoft**, its results are displayed in Figure 19. The firm has an integrated return of over 20%, with positive social impact leading to this outcome. In particular, it is the consumer surplus which constitutes the majority of the positive social impact, and it consequence drives the positive integrated return of the firm. Microsoft's GHG emissions have risen since 2020 mostly due to the construction of AI infrastructure and data centres. Generative AI, I-cloud services and datacentres are power-intensive with large energy and water demands and its impact is most likely underestimated. Furthermore, this environmental impact will continue to scale along with their ambitions in years to come.

Pharmaceutical Company, **Pfizer** (figure 20) shows an integrated return of over 20%, mostly driven by its higher profitability and equally high positive social impact. Pfizer produces life-saving medications and vaccine which explain the significant value to consumers The firm's negative impact is fairly low.

Comparing industry averages vs company data calculations

The above analysis made use of sector level data to try to inform an approximation of the integrated value of specific companies. This approach has benefits, among them that collecting and standardising impact data for thousands of companies is currently a very labour-intensive process.

The sector level approach also has limitations. The most central one is that many companies operating within a sector may differ from the average of the sector – for instance because they have practices in place to manage their negative externalities that are considered frontrunning. In these cases, the sector estimate may be an over estimation. In addition, many companies have operations that extend over several standardised sector classifications or geographies. In the analysis, at most two sectors have been selected to represent a company's operations. This is no doubt a simplification. Finally, impact databases that have been developed to offer an efficient and quick "top-down" way to identify material impacts across value chains or in investment portfolios, such as GID, have their own limitations. For example, in terms of granularity or coverage of activities throughout a value chain. In this pilot, for example, the impact generated by consumers was not taken into account in the analysis (e.g. the impact of consumers using Microsoft's products are excluded). Depending on the objective of the assessment, often a hybrid of top-down and bottom-up assessments is being applied. This requires collecting company-specific data, the availability of which is the long-term ideal.

Below, we have performed comparison calculations for climate change impact to distinguish the potential differences between using sector level averages vs. using company's self-reported data from annual statements and shadow prices.

Example of Microsoft

Distribution of impacts across the value chain

Microsoft reports on their scope 1,2 and 3 GHG emissions. Scope 3 data is also divided over the different components (supplier or downstream users). GID provides an estimate of this same scope, whilst using categories like own operations and value chain (upstream and downstream).

	Own operations/ Scope 1	Scope 2	Value chain/ Scope 3	Attributed ¹ Euros
GID	1%	99% (approximately upstream and 28% d		€ 5,876,000,000
Microsoft own reporting	1%	2%	97% (over 80% is from upstream and less than 15% is emitted downstream)	€ 1,383,000,000 (based on a reported 12,988,000 Mtons Co2-eq in 2022) ²

¹A simple attribution approach is used in which the companies direct (or scope 1) emissions are attributed 100% to the company and value chain (or scope 2 and 3) emissions are attributed 50%. ²Microsoft 2022 Environmental Sustainability Report https://news.microsoft.com/wp-content/uploads/prod/ sites/42/2023/05/2022-Environmental-Sustainability-Report.pdf Scope 2 and 3 CO2eq emissions are attributed 50%.

Despite slight differences in how emissions are assigned to different categories, for example based on PCAF scope 1,2 and 3 definitions or the GID value chain definitions, there is significant alignment in the distribution of Impact across the value chain. In both Microsoft's own reporting and based on GID sector estimates, the upstream value chain is the area most responsible for GHG emissions. This comes from the production of the components and inputs that are used by Microsoft. There is also significant impact downstream through the use of Microsoft computers.

Value chain scope and attribution

The main differences between the GID estimates and Microsoft's own analysis, are in the scope of the downstream impact being considered. Microsoft focuses on the use and end of life of the products sold. GID includes the use of products, when they are used by businesses (not consumers, due to data availability gaps), but also includes a share of the GHG of the company that the products are used by³. For example, if Microsoft products are used by Shell a small part of Shell's GHG emissions are also incorporated into the downstream. This explains why the GID estimate for tons of CO2-eq is significantly larger for downstream. This also partly explains why overall impact is approximately four times larger when calculated with GID than it is when calculated using the data from Microsoft's Sustainability Report. As is shown in the figures below, this has little effect on the overall integrated value of the company⁴.

Comparability

Differences in scope and data sources make it hard to fully compare the two figures. Results like this show while sector estimate can differ from company level data significantly, that sector level data can be used as a tool for companies and investors to identify material impact and where they most likely occur in their value chains.

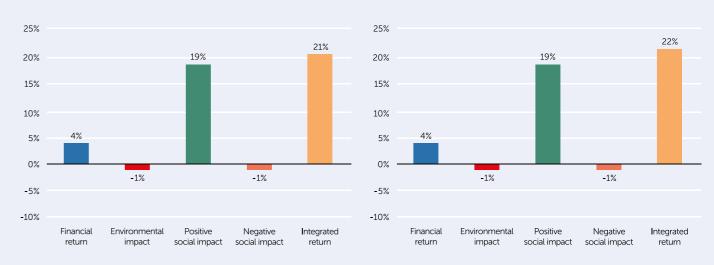


Figure 21 - Integrated return Microsoft

Source: Authors' own, based on GID averages

³An explanation of the value chain attribution approach can be found in chapter 8 of Impact measurement in the financial sector. Measure what matters, Banking for Impact, June 2022 ⁴The reason the effect on the overall integrated value is limited is that although the GHG impact by GID is 4 times larger, it's still very small since GHG emissions are only a share of the environmental impact. Using Microsoft's estimate of the GHG emissions, which is 4x smaller, environmental impact still represents around 1% (rounded)

Figure 22 - Integrated return Microsoft

Source: Authors' own, based on GID averages for all impacts except for contribution to climate change, and Microsoft 2022 Sustainability Report for contribution to climate change impact

5. Conclusions and recommendations

Integrated returns offer a crucial perspective on a company's performance by presenting a more balanced view of the value it generates. One effective way to achieve this is through the Impact Weighted Accounts Framework (IWAF) methodology. This approach monetarily values social and environmental impacts, elevating them to the same level as financial profit and making them directly comparable. By adopting this methodology, IWAF provides an integrated overview of a company's overall performance, blending traditional financial metrics with impact-related measures. This comprehensive perspective is particularly valuable for investors aiming to align their portfolios with both profitability and positive societal impact, enabling more informed and balanced investment decisions. Additionally, publishing integrated returns enhances transparency, allowing stakeholders to better understand and evaluate the full scope of a company's contributions and externalities.

This holistic approach highlights the importance of showcasing not just the total integrated return but also the individual financial, social, and environmental components. Presenting these distinct elements helps investors and stakeholders identify a company's strengths and challenges, fostering accountability and promoting well-informed engagement with corporate strategies.

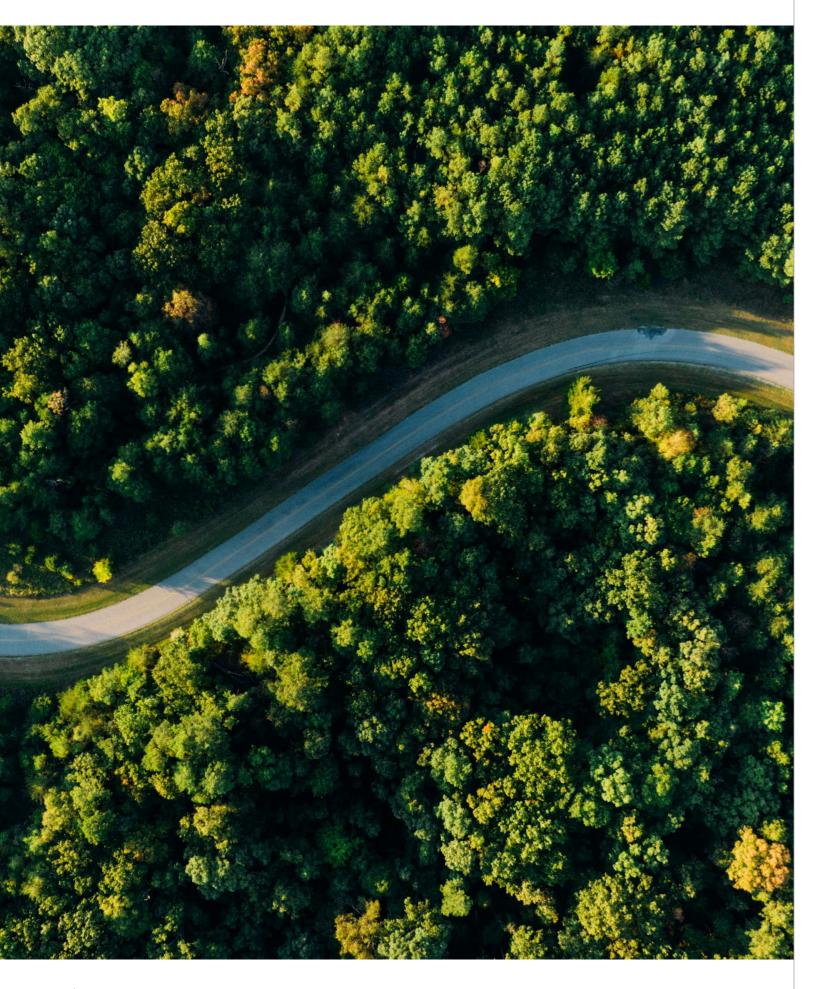
However, challenges remain, particularly concerning data availability and the complexities involved in measuring environmental and social impacts. Sector-level data, such as the GID database used in this study, can provide impact results efficiently and cost-effectively. Yet, sector averages may not accurately reflect an individual company's performance and do not enable investors to compare and choose between investment opportunities within the same sector. Moreover, companies seeking to actively manage their impact will find it insufficient to track progress using only sector-level data.

Company-level data offers more detailed insights for decision-making, benefiting both investors looking for companies with differentiated approaches and companies aiming to closely manage their environmental and social impact. However, obtaining and utilising company-level data to calculate impact returns is currently complex and resource-intensive, particularly for investors managing large asset portfolios.

Currently, there is a trade-off between efficiency and granularity, and investors must carefully consider which type of information is most appropriate for their specific decision-making needs. Nonetheless, the new Corporate Sustainability Reporting Directive (CSRD) brings hope for advancing these practices.

The CSRD aims to standardise sustainability reporting across the European Union, requiring companies to disclose detailed information on environmental, social, and governance (ESG) aspects. This directive is designed to increase the availability and comparability of sustainability data, facilitating better insights for stakeholders and investors. By mandating consistent, company-level reporting, the CSRD ensures that data on corporate impacts becomes more transparent and accessible. This will help bridge the current gap between sector-level and granular company-level data, enabling investors to make more informed decisions and allowing companies to track and improve their sustainability performance more effectively.

Part III Appendix



Appendix

Appendix A.

Description of Impact Methodologies This appendix describes the nine impact methodologies that are reviewed in Section 2 of this report.

A. Typology of sustainable investments - Busch et al.

Typology separates impact-aligned and impact-generating investments from ESG-related investments. They propose four dimensions of sustainable investment and suggest that impact-related investments aim to transform industries or markets, while ESG-related investments focus on investment management strategies.

Criteria	Typology of s
Clarity of objectives	Typology's main and impact-g categories: » ESG-scree » ESG-mor » Impact-a » Impact-g
Metrics standardisation	There is a clea specific metri for future rese policymakers, sustainable in
Comparability	Due to placin comparison v
Monetisation presence	There's no cle
Methodology transparency	The methodo
Completeness	It aims to asse one of the ca not say anyth case a firm ha
Usefulness in the transition process	Relatively use It highlights th positioning in guidance, esp are positioned another.
Usefulness in decision-making	Relatively use the preliminal proposed inve

ustainable investments - Busch et al.

nain goal is to enable greater separation of impact-aligned investments generating investments. The investments can be classified to one of 4

eened investments

onitored investments

aligned investments

generating investments

ear methodology on how to classify the investments, yet it does not use very rics to measure each particular investment. It serves more as a foundation search and debates in the field of impact investing by practitioners, s, and academics, and as a prevention tool for impact washing as the term vestments, sustainability and ESG are often diluted.

ng the investments into one of four categories, it enables first-order what type of investment it is and how it is related to the other ones.

lear methodology on how to put impact in monetary terms.

ology is clear and understandable.

sess the company's investments/individual project as a whole and classify to tegories. However, it only focuses on the area of impact investing and does ning about negative impacts and how it would influence the classification in as more negative impact than positive.

eful in the transition process, high value in positioning the investment. the issue of impact washing and the importance of distinguishing and nvestment based on the initial motives. Could be more used as the pecially in more portfolio management, seeing where current investments ed and which characteristics need to be changed to move from one level to

eful, but more in terms of laying foundation, could be more used as ary step helping in positioning the investment and the narrowing of the estments to a few depending on the incentive.

B. COMPASS - Global Impact Investing Network

COMPASS is a methodology for rigorous, consistent, and comparable analysis of investments' social and environmental impact. It produces three standardized figures to illustrate impact scale, pace, and efficiency, enables comparability of impact results, and positions impact relative to social and environmental issues.

Criteria	COMPASS - Global Impact Investing Network				
	Very clear objectives, very structured methodology:				
	COMPASS is the methodology developed by Global Impact Investing Network and aims to lay a groundwork that would facilitate strict, consistent and comparable assessment of investments' social and environmental results. The other goal is advancing the benchmarks development, ratings and other analytic tools.				
	The methodology:				
	» helps investors to understand their contribution towards impact				
Clarity of objectives	» provides three standardised analytic figures - scale, pace and efficiency of an				
		' impact within a given impact the			
		nvestment's context in the perforr for nuances of particular impact s	mance analysis and thus allows for		
	-	plicability of analysis, therefore, e	-		
	impact resu		5		
	» puts impact	results of a particular investment	relative to the change needed to		
	positively ta	ckle social or environmental issue	2		
		des three analytic figures for any <u>c</u> ustrate different angles of impact	given normalised outcome, each of performance:		
	Analytic figure	Purpose	Example		
	Scale	To understand the scale of impact results	34,000 metric tons of GHG sequestered		
	Pace	To understand the change that has occurred	18% increase in the volume of GHG sequestration since the prior year		
	Efficiency	To understand the efficiency with which your investment has created impact	4,100 metric tons of GHG sequestered per USD 100,000 invested		
Metrics standardisation	To assure standardised information, metrics should be collected and communicated in a consistent manner, using coherent categories, calculations, units, time periods, and assumptions. The analysis of impact metrics should be aligned with available, generally accepted resources measuring and optimising impact such as the IRIS+ system and the Impact Management Project's Dimensions of Impact (Who, What, How Much, Risk and Contribution).				
	IRIS+ Core Metrics Sets is a standardised set of measures of performance indicators and in their methodology, they aim to include scale, depth, duration and volatility, encompassing positive/negative and intended/unintended consequences of a specific investment.				
	By using a measurement system, such as IRIS+, and applying relevant rigorous assumptions, you will arrive at a series of investee-level outcomes backed by several layers of evidence.				
Comparability	It only allows comparison if investments are evaluated based on the one particular impact eg. when comparing impact of CO2 emissions. The comparison of investment into company as a whole with different operations and from different industries is not possible yet.				
Monotisation processo	It does not clearly monetize the values, yet put a numerical value to ease the comparability etc.:				
Monetisation presence	As one of the steps, it is necessary to normalise impact results, meaning to mathematically adjust values determined on different scales to achieve comparable data.				

Criteria	COMPASS - Glo
Methodology transparency	The methodolo with step-by-st investors as we
Completeness	Relatively low. project impact It does not fully negative impac
Jsefulness in the transition process	Highly useful Ultimately, by n GIIN expects to more impact to collective socia
Jsefulness in decision-making	COMPASS is int and asset mana Through that, t investment or s management o analysis, such a picture of inves Thus, COMPAS social and envir

C. Theory of Change - Triodos Investment Management

The Theory of Change is a framework consisting of five steps to help investors turn their impact goals into real results. The steps involve starting with the mission, identifying the need for change and vision for solutions, setting impact objectives, defining activities, and monitoring and reporting impact through both quantitative and qualitative measures.

Criteria	Theory of Ch
Clarity of objectives	Very clear. A and manager understand a and manager actually achie
Metrics standardisation	The output of comes from the can result in a identified thro
Comparability	As it mostly s investments i
Monetisation presence	Not available, a guide work Using a ToC a needs to chai and designed to adapt activ outcomes. As to which outo
Methodology transparency	During the To about how ch going from a to understand activity to wo

obal Impact Investing Network

ogy is very clear and structured. GIIN provides the whole document step methodology, its objectives and goals, examples and instruction for ell as incorporates and places it within already existing methods.

The methodology assesses only one particular aspect of the company's/ t such as people gaining access to clean water or offsetted CO2 emissions. ly specify how it should be processed when there is both positive and cts, even within one category.

making impact information credible, accessible, and comparable, the o see more capital to flow toward impact and, even more critically, o result from each dollar of capital invested, exponentially amplifying the al and environmental results of the investment community.

ntended to facilitate assessment of impact performance for asset owners agers.

the methodology helps to comprehend the effectiveness of a specific strategy in terms of accomplishment of impact objectives and of impact risk. These evaluations should be complemented by the financial as risk and return, liquidity, and resourcing to achieve an all-encompassing

stment performance. SS provides one significant input to support the complete evaluation of

ironmental change.

ange - Triodos Investment Management

A coherent, consistent practice of high-quality impact measurement ement must be implemented at the core of all organisations seeking to and improve their effects on people and planet. Effective measurement ement of impact data is essential if investors are to know whether they are ieving the impact they seek.

of a ToC process is not necessarily a tangible product since the added value the process itself and the resulting conversations. However, a ToC process a graphical depiction and/or impact narrative of the impact pathways roughout the process. Such a ToC narrative can be a useful starting point.

serves as a guiding framework, at this point the comparison of companies/ s is not easily possible.

e, it depends on what is discussed during the whole process. Serves more as and starting point, or like overarching framework:

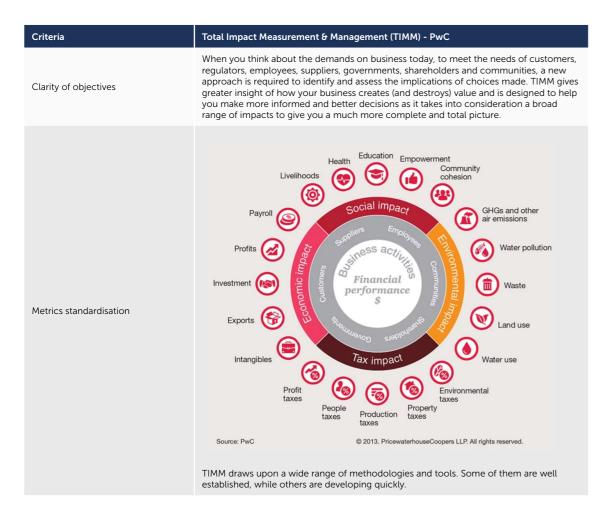
as an ex-ante planning tool can facilitate critical reflections on 'what ange' before doing it and can therefore allow for a project to be planned d towards impact. Further, as a monitoring and evaluation tool, it can help tivities where needed to assure they are still aiding to reach the desired As an ex-post assessment tool, it allows you to trace back which activities led Itcomes in the change process.

ToC process all these elements are unpacked and underlying assumptions change happens are made explicit. Often assumptions underlie the logic of activities through outputs and outcomes to impact. Making this explicit helps nd and make clear for yourself why and how you expect the output from an ork in support of the outcome and impact.

Criteria	Theory of Change - Triodos Investment Management
Completeness	There is possibility of completeness, however as it serves more as overarching framework, specific steps are dependent on the flow of discussion and decision made.
Usefulness in the transition process	ToC is a central tenet to creating societal impact. The purpose of the ToC process is to allow people to think about what must change before doing it. It can be seen as a general steppingstone to impact related work with a multitude of potential use cases, such as writing impact narratives, impact sections in grant applications, monitoring progress or evaluation. Although it is good to realise a ToC does not provide a specific implementation plan but rather a direction; think compass, not map.
Usefulness in decision-making	The Theory of Change framework is a five-step model that streamlines the processes for investors to translate their impact intentions into real impact results. A major benefit comes from making different views and assumptions about the change process explicit, especially seemingly obvious ones. Within multi-stakeholder projects there may be different perspectives or even different realities regarding what the desired change is, why it is desired and how it could and should happen. A shared ToC process can facilitate bringing these differences to the surface and develop a sense for what drives different stakeholders and their understanding of the problem. This process can be quite confrontational, especially if done in an organisation or team, but can contribute to a more shared understanding of a project's purpose and strategic choices.

D. Total Impact Measurement & Management (TIMM) – PwC

The TIMM framework includes four quadrants: social impact, environmental impact, tax impact, and economic impact. By measuring these impacts, businesses can understand the balance between positive and negative effects.



Criteria Comparability	Total Impact Measure Due to quantifying comparison of con
Monetisation presence	There is presence By moving beyond monetise outcom converting these is
Methodology transparency	All is clearly explai practical example
Completeness	The model focuse provide more con and destruction.
Usefulness in the transition process	TIMM framework and to judge perfo But new language Even though man we believe that th business leaders of At present, howev potential benefits these measures. T ability of business
Usefulness in decision-making	The ability to assig is crucial here. It n for the first time a bedrock for decisi TIMM provides a h > the value chai > their contribu > their impact of In this way, TIMM and, potentially, d who are relevant t More than 90% of businesses to iden believe it would put them to identify n

Measurement & Management (TIMM) - PwC

tifying and including all necessary categories of impact, the general of companies/investments is possible.

ence of monetisation:

eyond more traditional measures of inputs and outputs to quantify and tcomes and impacts, TIMM simplifies complex interdependencies by nese into a language the boardroom is familiar with – money.

explained, with the methodology explained step-by-step and mples.

ocuses on the whole impact generated by a specific business, and aims to e complete and total picture. It also considers both value creation ion.

vork believes that this offers a robust starting point to evaluate decisions performance.

uages are not learnt overnight.

many businesses can foresee the benefits of the total impact approach, hat the approach may have even greater relevance and potential than some lers currently recognise, especially given the changing business context. owever, there is a significant execution gap, with more CEOs seeing the hefits of the total impact approach than are actually using and reporting res. This suggests that the demand for TIMM information has outpaced the inesses to supply the data.

assign a monetary value to both individual and aggregate business impact e. It means that like-forlike assessments and comparisons can be made me across a comprehensive range of impacts, providing a much stronger decision making.

es a holistic view of how business delivers value through

e chain and communities they operate within

tribution to the economy and public finances

pact on the environment and wider society.

IMM provides a comprehensive assessment of how businesses generate illy, destroy value for shareholders and for the diverse other stakeholders vant to the business.

0% of the CEOs believe that measuring total impact would help their b identify and manage their risks more effectively. Further, more than 80% uld provide more insights than conventional financial reporting and help tify new business opportunities.

E. Impact Statement - Value Balancing Alliance

The Value Balancing Alliance methodology uses a monetary metric to measure the impact of business models, considering the local context of the activity and the weighting of sustainability aspects.

Criteria	Impact Statement - Value Balancing Alliance
Clarity of objectives	The Value Balancing Alliance methodology employs a monetary metric to tangibly discern the impact of business models, place it in the local context of the activity, understand the significance and weighting of individual sustainability aspects and, ultimately, better integrate them into corporate management.
	It encourages to apply the consistent set of methodologies, yet doesn't specify one method that could be applied across all impacts, but creates guidance to a couple of approaches that could be used depending on the characteristics of the particular aspect of the impact. Three groups of approaches can be applied to estimate the impact of externalities on
	society: stated preference, revealed preference and cost-based approaches. Basically, it gathers already existing approaches that could be used in this context as well:
Metrics standardisation	the objective is to describe the overarching approach underlying impact valuation. Setting out the overarching approach is needed because economics theory encompasses a combination of approaches that are heterogeneous in terms of boundaries, objectives and methodologies. They also represent different schools of thought. Therefore, it is necessary to document a set of principles that are homogeneously applied in the valuation methodologies for each individual impact category.
	Interestingly, it highlights an important aspect:
	When developing an approach to valuing an impact, a study on the value in a specific country, region, socioeconomic group or demographic group may be available. When this is the case, it may still be possible to use this data as a starting point, and to adjust the values reported in such studies to make them applicable in other contexts.
Comparability	The comparison is only possible on the particular sustainability aspect. There is no clear description how all factors could be aggregated and therefore compared.
Monetisation presence	The assignment of a monetary value to these impacts allows for an understanding of the scale of the consequences of more traditional measurement and reporting. It also enables a direct comparison of different impact areas.
Methodology transparency	Helps increase transparency towards external stakeholders, especially in relation to organisations' performance. It can also assist in identifying and quantifying trade-offs that have previously been ignored or difficult to assess, thereby enabling more explicit and inclusive communication with stakeholders.
	Includes motivations behind the methodology, step-by-step guides etc.
Completeness	In its description, the methodology aims to tangibly discern the impact of business models and understand the significance and weighting of individual sustainability aspects. However, it does not specify yet on how all aspects could be aggregated to show the complete impact.
	Helps investors to put capital in innovation and development of new products based on the societal value that they create, thereby providing insights into impacts beyond financial profits.
Usefulness in the transition process	Encourages to add to and seek compatibility with existing and emerging frameworks and where possible refer to existing frameworks/initiatives, rather than create own definitions. E.g. for principles relating to natural capital assessment see Natural Capital Protocol. For
	measurements of impact drivers, link to OEF/PEF.
	Crucially, seek to bridge sustainability and financial performance perspectives.
	Aims for scalability and practical feasibility. Helps in decision-making, as results can easily be integrated into existing business
Usefulness in decision-making	decision making, as results can easily be integrated integrated integrated integrated integrated integrated investigned business decisions. For many financial and investor audiences, the monetary valuation approach seeks to express the complex impact of different investments in financial terms that they can understand. As such, it can support decision-making. As the financial system has relied exclusively on financial value considerations for decisions about capital allocation – with increasingly devastating social and environmental consequences – monetary valuation marks an opportunity for institutions to integrate impact value into their
	existing decision-making processes.

F. Impact Multiple of Money - The Rise Fund & The Bridgespan Group

amount of capital invested.

Clarity of objectivesThe metro purpose is assign each assign each making an There is no sources de Look for a To find the previous re- income levMetrics standardisationIMM uses a making an There is no sources de Look for a To find the previous re- income levComparabilityThe comparabilityComparabilityThe comparabilityMonetisation presenceIMM product many dolla aims to put to base the is not knowMonetisation presenceIMM product many dollaring aims to put to base the come of the benefit and or a station presenceMethodology transparencyFirst of all, effort. After positive get dollar invest positive get at the art of all effort. After a commitm studies need CEOs talk a the art of all effort. After positive getUsefulness in the transition processOne of the different in archor studies need calculation anchor stu	Criteria	Impact Mul
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		Treat the IM

IMM is used in impact investing to measure the social or environmental impact of an investment. It is calculated by dividing the total value of the social or environmental impact created by an investment by the

tiple of Money - The Rise Fund & The Bridgespan group

nod aims to equal the impact underwriting with financial underwriting. The main to estimate the impact before the investment is made and as a consequence ch invested dollar value to social and environmental good.

social science research to estimate a company's potential for impact before investment. We call this approach evidence-based impact investing.

o one way and metrics to choose from, it advises to find evidence-base lepending on the goal and expected outcomes:

solid study which robustly turns those outcomes into economic means. e right study, it is necessary to check whether it systematically evaluates esearch results, whether it encompasses people living in similar contexts and evel, the recency and frequency of citation.

parison would be very difficult as methodology encourages to choose a study ne value on. Therefore, if different studies would be applied or the chosen study wn, the comparison might be distorted.

uces one metric for the expression of impact: for each dollar invested, how lars of benefit will the company generate for society or the planet? In short, it It real impact in impact investing.

tep "Calculate social return on every dollar spent" can differ for businesses and

e method can be dividing the estimated value of a social or environmental nd dividing it by the total investment

vestment of 25 million to launch a collection of inexpensive eyewear in

loping countries, estimated of social benefits is 200 million, therefore it is 8 rs in social value for every dollar invested => IMM = 8X

the firm needs to define which products, services or projects concern the er this, the 6-step method can be performed.

ep methodology with clear questions and guidance, formulas for adjusting risk, nating terminal value and social return on very dollar spent available.

on the particular investment and how much impact was generated by each ested. It does not consider business perspective. It seems it only focuses on the enerating-impact investments.

del that Rise and Bridgespan seek to share with other investors and businesses, tment that led Rise to launch a new entity to foster research and aggregate eeded to inform impact-investment decisions. In a world where more and more about profit and purpose, the IMM offers a rigorous methodology to advance allocating capital to achieve social benefit.

e biggest advantages of IMM is that it facilitates direct comparisons between nvestment opportunities.

tant, however, to realise that the number is not a precise multiple, like a ock's price-earnings multiple. For all the rigor that may lie behind a given IMM n, it is possible that some other analyst will rely on a different, equally valid udy that leads to a quite different number.

MM as a directional measure instead.

G. Impact Weighted Accounts - Impact Economy Foundation

The Impact-Weighted Accounts (IWA) framework is a method that aims to quantify a company's environmental and social impact in financial terms by assigning monetary values to positive and negative impacts.

Criteria	Impact Weighted Accounts - Impact Economy Foundation
Clarity of objectives	Impact-Weighted Accounts supplement traditional financial accounts with positive and negative impacts on stakeholders such as employees, customers, the environment and the broader society through quantitative and valued accounts.
Metrics standardisation	The organisation shall include impact contribution categories associated with all impact categories contained in the Standardised List of Impact Categories in its IP&L Statement.
Comparability	The methodology applies one set of metrics and methodology to all impact categories. It also provides aggregated score, therefore the comparison of different companies/ investments regardless of the characteristics and industry is possible. Additionally it is possible to distinguish and compare both positive and negative impacts.
	The Impact-Weighted Accounts Framework (IWAF) specifically uses monetary valuation for comparability.
Monetisation presence	Encourages defining monetisation factors and putting monetary value on impact.
	IWAs value impacts consistently (i.e. monetarily) to make different dimensions comparable by using the same units.
	Very clear and understandable steps, the whole guide with each stage defined, its objectives and goals, and step-by-step methodology, very detailed.
Methodology transparency	The process is transparent and relies on highly rigorous scientific research, methods and databases, which alleviates many people's concerns that some experts will decide on what's good or bad for all organisations.
Completeness	High completeness. It captures all companies' impacts, both positive and negative. It highlights the importance of presenting the outcome as one number, the integrated return as well as the elements that lead to this score, helping to distinguish true impact of the business.
	Very useful
Usefulness in the transition process	The uptake of compiling and publishing IWAs is a key step in the transformation of our economy into an impact economy: a sustainable economy that creates value for everyone.
	Stakeholders can use it to make informed integrated decisions.
Usefulness in decision-making	IWAs helps investors to understand long-term value creation for all stakeholders of the reporting organisation, and provides insight into the long-term financial viability of the organisation.

H. Social Return on Investment (SROI) - Social Value UK

investment cost.

Criteria	Social Retur
Clarity of objectives	SROI measur experience c measuring so represent the
	This enables indicates tha
	There is no c which metric characteristic
Metrics standardisation	Some of the social value i uncertainty, Several resea measure on saved.
Comparability	The compari for companie evidence is c
Monetisation presence	SROI can he activities, as
Methodology transparency	There is a de they measur Putting a fina controversia
Completeness	SROI can he activities. It c
Usefulness in the transition process	One of the n to apply. It re understandir also involves how to attrib depending o the reliability
	By using a co compare and
Usefulness in decision-making	However it is different indu to SROI, Ling measuremer and, if not st little value".

SROI evaluates the social impact of an investment by comparing the costs of the investment to the social benefits it generates. It can be calculated by dividing the total social benefits of an investment by the total

rn on Investment (SROI) - Social Value UK

ures change in ways that are relevant to the people or organisations that or contribute to it. It tells the story of how change is being created by social, environmental and economic outcomes and uses monetary values to nem.

s a ratio of benefits to costs to be calculated. For example, a ratio of 3:1 at an investment of £1 delivers £3 of social value.

one clear way which metrics should be used. It serves more as a tool, yet ics should be considered depends on the case and its assumptions and/or tics.

e most critical challenges are difficulties in finding proxies for monetizing that cannot be directly measured. When proxies hold a substantial degree of it throws the whole method into question.

earchers have observed that some types of social value are cumbersome to a monetized scale such as a general increase in the quality of life, or lives

rison might be distorted as there is no clear guidance how the proxies ies/investments' evaluation should be chosen on. Therefore, if one same chosen, it is possible to compare, yet the bigger picture is very much limited.

elp you identify and quantify the positive and negative effects of your well as the trade-offs and risks involved.

egree of subjectivity as SROI analysts have to apply their own discretion when re and evaluate the effects.

nancial value on conditions that do not have a monetary value can be al and highly subjective.

elp you identify and quantify the positive and negative effects of company's does not really assess the firm as a whole.

main disadvantages of SROI is that it can be complex and time-consuming requires a lot of data collection, analysis, and validation, as well as a clear ing of the theory of change and the impact pathways of your work. SROI s some subjective and ethical judgments, such as how to value outcomes, bute impact, and how to discount future benefits. These judgments can vary on the perspective and preferences of different stakeholders, and can affect ty and credibility of the results.

common currency of value, such as dollars or euros, SROI can also help you nd communicate your impact across different contexts and sectors.

is also difficult to compare SROIs between organisations, especially in dustries, unless the calculation method is similar and consistent. In a guideline gane and Olsen (2004) state that "differences in outcomes measured, ent methods, and data sets used can significantly affect the SROI calculation tandardised, could result in comparisons that are of

I. The Impact Frontier - Impact Frontiers

It helps investors to identify the portfolio with the highest possible impact for a given level of financial return or the highest possible financial return for a given level of impact. The concept is similar to the traditional finance concept of the efficient frontier.

Criteria	The Impact Frontier - Impact Frontiers		
Clarity of objectives	It extends the two-dimensional frontier of financial risk and return to include a third dimension of performance: impact. A portfolio is on the 'efficient impact frontier' if it offers the greatest possible level of impact for a given amount of risk-adjusted financial return. This concept helps investors relate investment-level decision-making to portfolio-level impact and financial goals, in order to construct portfolios that optimise both impact and financial performance.		
Metrics standardisation	It places investment based on impact and risk-adjusted return. The Efficient Impact Frontier Impact Prontier Impact Pront		
	One possible integrated investment strategy		
Comparability	The comparison is only possible on the first-order level, meaning it helps to classify the companies/investments, however the exact comparison or minor differences, which often important, might not be easily visible or missed.		
Monetisation presence	It does not provide the outcome in monetary terms. It serves more as a tool which can give a direction towards which investments are worth taking (helps investors think about the impact and financial performance of their investments in an integrated way, and relate investment-level decision-making to their portfolio-level impact and financial goals).		
Methodology transparency	It does not give specific steps on how to calculate impact or financial return, or similarly how to adjust it for return. It serves more as a guidance.		
Completeness	It mostly helps to place them against each other and how well they score on impact and financial performance in genal terms. The method does not specify how the impact-adjusted return should be calculated. Therefore, relatively low completeness.		
Usefulness in the transition process	Can be useful: The efficient impact frontier helps investors make informed decisions about how to allocate their capital to achieve their social and environmental goals while still generating financial returns.		
Usefulness in decision-making	Relatively helpful A portfolio is on the 'efficient impact frontier' if it offers the greatest possible level of impact for a given amount of risk-adjusted financial return. This concept helps investors relate investment-level decision-making to portfolio-level impact and financial goals, in order to construct portfolios that optimise both impact and financial performance.		

Appendix B. Global Impact Database (GID)

The Global Impact Database (GID) of the Impact Institute is a powerful tool that quantifies and monetizes the environmental, social, and economic impacts of activities across global industries, companies, and countries. Using input-output analysis (IOA), GID assesses how economic actions spread through interconnected sectors, capturing both direct and indirect effects. It converts diverse impact data into standardized and comparable monetary units through impact and monetization factors. Rooted in frameworks like the Integrated Reporting (IR) Framework and the Universal Declaration of Human Rights, GID ensures high data quality through rigorous validation and cleaning processes. While GID excels in providing detailed retrospective impact insights, it does not forecast future trends or capture intellectual capital impacts due to data limitations. It has evolved through multiple versions to enhance accuracy and scope. GID is invaluable for financial institutions, corporations, and tech companies, aiding in portfolio impact measurement, supplier assessments, and integration into sustainability platforms. By offering a quantitative basis for evaluating economic activities' cumulative impacts, GID supports informed decision-making towards sustainability.

For more information on GID: <u>www.impactinstitute.com</u>



Appendix C.

Key Impact Categories

Туре	Impact	Definition	
Negative social impacts	Child labour	Child labour is work that deprives children of their childhood, their potential and their dignity, and is harmful to physical and mental development. Whether participation of children in work is deemed child labour depends on age, nature of the work and the work relation, as specified by international institutions such as ILO (1999) and UNICEF (2014).	
	Gender wage gap	Lower pay for equivalent work between men and women constitutes the gender wage gap.	
	Underpayment	Underpayment occurs when the actual wages of employees over standard working hours, including financial wages and some forms of in-kind compensation, lie below the legal minimum wage or below a decent living wage. Underpayment in the value chain can also include underpayment of child labourers and forced labourers. It excludes underpaid overtime, which is included under 'Excessive and underpaid overtime'.	
	Forced labour	Forced labour concerns all physical and psychological damage from work or service that is claimed under threat of punishment and for which the person concerned has not volunteered. Forced labour includes practices such as the use of compulsory prison labour by private business entities, debt bondage, indentured servitude, and human trafficking.	
	Workplace health and safety	Impact on workers' health and safety at work: the extent to which working in the value chain negatively affects the safety and overall health status of the workers. The term health, in relation to work, indicates not merely the incidence of disease or infirmity, but also includes the physical and mental elements affecting health, which are directly related to safety and hygiene at work (ISO 2010, Goedkoop et al., 2018). Safety is understood as the	
		extent to which working under defined conditions reduces safety of employees. This includes fatal and non-fatal incidents, the application of prevention measures and management practices and the incidence of occupational diseases.	
Positive social impacts	Consumer surplus of products and services,	Economic welfare gained from consumption of goods and services by end users.	
	Well-being effects of employment	Besides a source of income, employment is also a source of well- being for people. Surveys show consistently that there is a small but significant difference between people that are unemployed and people that have work, even after controlling for the income	
		Creation of Human Capital (e.g., new competences through training and on-the-job learning) is a positive impact for	
	Creation of human capital	employees (as they have higher earning potential reflected in higher salaries) and company and investors (as the trained worker contributes more to future earnings of the company) (FIS Beta, 2019). The stakeholder group 'employees' typically only considers employees of the organisation in scope. Employees of value chain partners are typically part of the stakeholder group 'government, local communities, and others.'	

	Definition
e	Negative contribution to climate change from emissions of greenhouse gases (carbon dioxide, methane, nitrous oxide and other). Emissions of greenhouse gases increase their atmospheric concentration (ppb), which increases the radiative forcing capacity and consequently increases the global mean temperature. Ultimately this results in damage to human health – e.g. increased risk of diseases, and ecosystems (Huijbregts et al., 2016).
	Impacts caused by emissions to air other than climate change, namely ozone layer depletion, acidification, photochemical oxidant formation, particulate matter formation, terrestrial and aquatic ecotoxicity and human toxicity, as defined in LCA methodologies (European Commission, 2012, Huijbregts et al., 2016).
	Water usage impact concerns the use of water in such a way that the water is evaporated, incorporated into products, transferred to other watersheds or disposed into the sea (Falkenmark et al. 2004). Water that is used as such is not available anymore in the watershed of origin for humans nor for ecosystems (Huijbregts et al. 2016). Scarcity of water depends on the watershed of origin and the geographical context.
	Water pollution is the emissions to water contributing to eutrophication of marine and freshwater bodies. Eutrophication occurs due to the runoff and discharge of nutrients, for example from leaching of plant nutrients, into soil, marine and freshwater bodies and the subsequent rise in nutrient levels, i.e. phosphorus and nitrogen (Huijbregts et al. 2016). Rising nutrient levels affect water quality and transparency and damage ecological systems.
	Land occupation impact is the decreased availability of land for purposes other than the current one, through land occupancy. Land occupation displaces habitats and ecosystems and therefore leads to biodiversity loss and loss of ecosystem services. (Groot et al., 2012).
	Fossil fuel depletion is the primary extraction of fossil fuels linked to fuel use, energy use and energy required to produce other inputs. Extraction of crude oil, hard coal or natural gas bears external societal costs because the stock of these materials is reduced for present and future generations. In this methodology, fossil fuel depletion is considered separately from the depletion of other non-renewable materials.
s	Use of scarce material is the primary extraction of scarce, non- renewable resources besides fossil fuels, such as minerals. These are external societal costs because the stock of these materials is reduced for present and future generations. Fossil fuel depletion is excluded from this impact and calculated separately.

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