HIGH MEADOWS
INSTITUTE

Sustainability in Capital Markets:

ESG Integration and Impact

Contents

Executive Summary

As ESG continues to grow in popularity and develop into a dominant investment theme, there is now an increased focus on whether and how the integration of ESG is having a meaningful impact and contributing to progress on environmental and social challenges. Through expert consultations and extensive desk research captured in this report, we explore ESG impact and its central role in the major shift in sustainable finance. First, we assess the current state of play of impact considerations in capital markets by reflecting on the evolution of sustainable finance, as well as drivers and challenges to change. We then dig deeper into the extent to which the world's largest asset managers with the highest equity, credit and debt exposures have systematically integrated impact considerations into their investment approaches. To encourage a much-needed shift in mindset and practice, we conclude with a review of what to expect next in the sustainable finance evolution. In brief, this report showcases the following:

The current state of play

The consideration of impact in mainstream investing is in its infancy, yet marks a shift from the previous phases of sustainable finance. The consideration of environmental, social, and governance (ESG) factors – or what we refer to as sustainable finance 2.0 – is focused on how environmental and social factors affect a company's profitability (financial materiality) stemming from a traditional focus on risk. However, our research supports that a new phase of sustainable finance focused on impact is beginning. We find that a select number of very large, high-profile investors are starting to discuss the importance of assessing how companies' operations affect environmental and social factors (also commonly referred to as "double materiality," used synonymously in this publication with "impact") but have yet to systematically integrate impact into their investment decision making process. This publication categorizes the evolution of sustainable finance practices and objectives into three key phases (see Table 1).

	Sustainable finance 1.0	Sustainable finance 2.0	Sustainable finance 3.0
Focus	Socially responsible investment (SRI)	Environmental, social, and governance (ESG) investment	Systemic investment and impact management
Materiality	Stakeholder materiality	Financial materiality	Double materiality
Key Characteristics	Exclusion criteria, ethically motivated	Designed to manage financial risks	Integrates social and environmental impacts of companies with financial risk metrics

Table 1. Phases of Sustainable Finance

Shifting from sustainable finance 1.0 and 2.0 to sustainable finance 3.0, while much needed, is complex to achieve. While all capital market participants have a role to play driving the systematic consideration and management of impact, we find that asset managers are influenced by a core set of enablers and objectives:

What is enabling and hindering asset managers to consider impact?

DRIVERS OF IMPACT

- Discontent with ESG
- Traction of stakeholder capitalism
- Changing expectations for business in the 21st century
- Demand for sustainable investments that contribute to a better world
- Existing frameworks and standards
- Self-regulatory initiatives

CHALLENGES TO IMPACT

- Fiduciary duty
- Investor will and incentives
- Nationalism
- Uneven progress
- Fragmented regulation
- Talent shortage
- Inadequate data

Investors in practice: sustainable finance 3.0 across specific asset classes

We seek to provide a sketch of the extent to which sustainable finance 3.0 has made its mark across specific asset classes. For the purpose of this report,

we evaluated twenty of the world's largest asset managers with the highest public equity, private equity, and fixed-income exposure. Our research identifies key insights about how leading asset managers are beginning to consider impact in their investment decisions and the tools they are using to drive positive sustainability outcomes. Our assessment confirms that while sustainable finance 2.0 (ESG integration) is well-established in developed markets, the journey to sustainable finance 3.0 is just beginning for most. Importantly, however, all investors we surveyed have made commitments to address the impact measurement challenge.

ESG: ESG appears well-established among leading asset management firms. At the time of assessment, 95% are UN PRI signatories, and all twenty firms evaluated offered ESG-integrated products.

Impact: When the firms in the sample mentioned impact, it was done in a general and high-level way or within the context of a sustainability-themed fund.

What's next?

Achieving sustainable finance 3.0 will require new investor-friendly impact data and methodologies and impact reporting standards. In the final section of this report, we compare metrics used for sustainable finance 2.0 (ESG) and sustainable finance 3.0 (impact), explain existing impact measurement frameworks and provide an overview of the third-party impact data and the emerging regulatory standards landscape. Briefly summarized, our research depicts the following:

1. **From input and output to outcome and impact data**
    - Sustainable finance 3.0 reporting will require business activities to be linked to outcomes and impacts.
    - This will involve a shift from disclosing "What resources have been used for business activities?" (inputs) and "What activities have been done?" (outputs) to "What has changed because of the business activities?" (outcomes) and "How does the outcome affect society?" (impact).

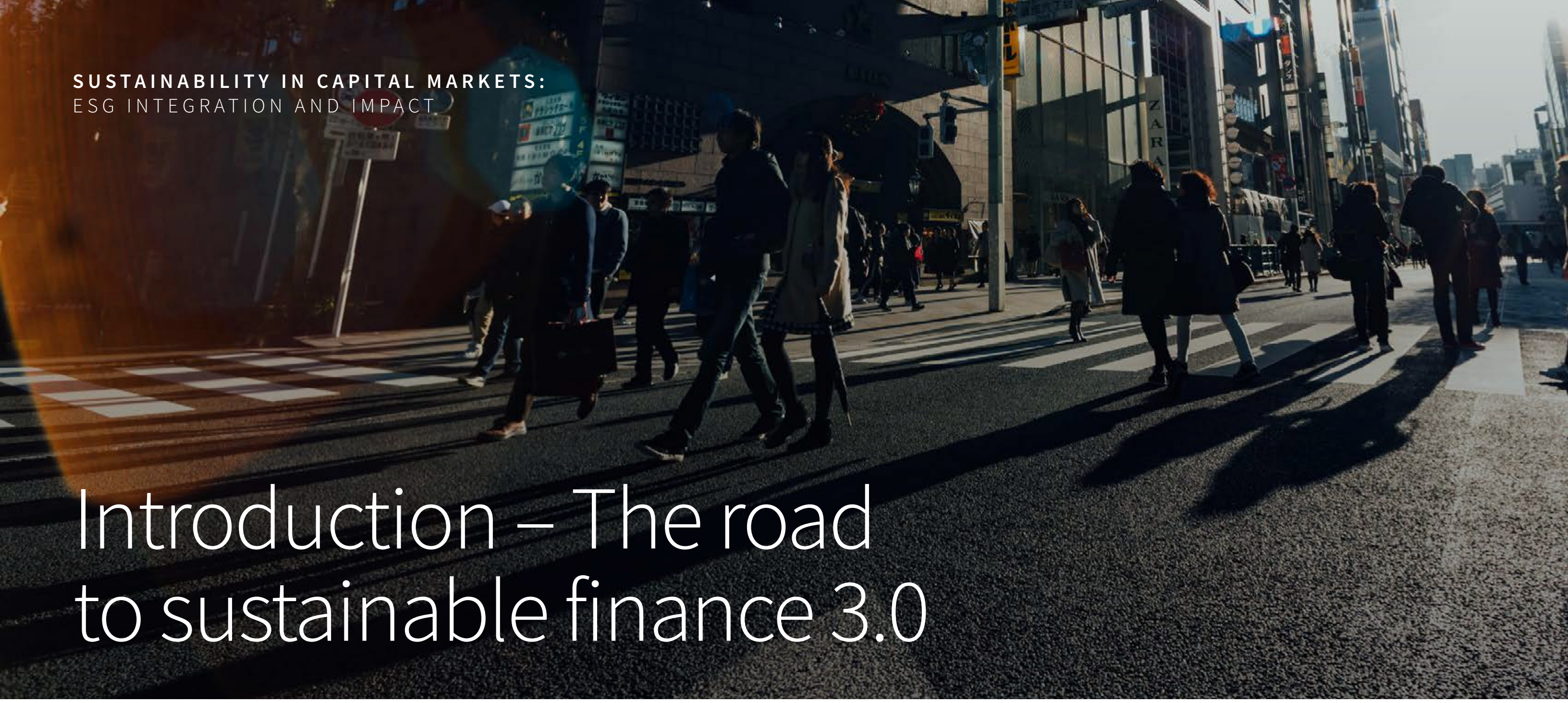
2. **Impact reporting standards**
    - Public policy-driven developments – The EU's Corporate Sustainability Reporting Directive (CSRD) and Sustainable Finance Disclosure Regulation (SFDR) enshrine the concept of double materiality into law; however, few other regulators have followed their lead.
    - Market-driven developments – The intended collaboration between the International Sustainability Standards Board (ISSB) and the Global Reporting Initiative (GRI) will lay the groundwork for double materiality to be included in future proposals of ISSB disclosures.

3. **Impact measurement and management (IMM) frameworks**
    - Several IMM frameworks have been developed to assist companies with disclosing their impacts in a standardized and robust way. Three notable ones include:

Impact-Weighted Accounts Initiative (IWAI) – designed to measure and monetize a company's societal value using an academic approach

Value Balancing Alliance – monetizes social and environmental outcomes in financial terms like the IWAI but was created by industry practitioners

Capitals Coalition – consists of two decision-making frameworks, the Natural Capital Protocol and the Social & Human Capital Protocol, which are based in ecological economics



Introduction – The road to sustainable finance 3.0

For the last eight years, High Meadows Institute has tracked progress on the rise of sustainable finance 2.0, ESG integration in capital markets, in our biannual State of Sustainability in Capital Markets reports. In that time, we have seen ESG go from the periphery of investment management to a core component of 21st century asset management. From a focus of niche players and discrete investment products, ESG is now central to the investment strategy of the world's largest asset managers and a key component of investment stewardship. Essential to the rapid growth in the adoption of sustainable finance 2.0 has been the concept of ESG financial materiality. By ensuring material ESG factors are integrated into their investment and portfolio construction strategy, it is argued that ESG can help managers achieve competitive returns or even out-performance, creating a win-win value proposition that benefits both investors and society. In the last few years, however, this value proposition has come under increased scrutiny. On the one hand, critics argue that ESG's current financial performance is driven disproportionately by demand, "something of a self-fulfilling prophecy, driven entirely by liquidity and flows." More importantly, critics argue that ESG is not creating a meaningful impact on environmental and societal challenges, despite its claims, and is simply perpetuating an illusion that markets can solve the systemic challenges we face.

In response to these pressures, we are now entering a new stage in sustainable finance. Often referred to as double materiality, sustainable finance 3.0 focuses on integrating systemic societal impacts as well as financially material ESG factors into investment management. The appetite for this approach is growing, with more than half of institutional investors in a recent Schroders poll saying their primary focus now is the desire to positively impact society and the planet (54%), overtaking aligning to corporate/internal values (52%).

In this report, we start by taking an in-depth look at the drivers and challenges in moving financial markets to sustainable finance 3.0. We find that, as with ESG, standards for defining and disclosing data on non-material societal impacts is complicated by the lack of widely agreed upon impact measurement frameworks and disclosure standards. At the same time, we see signs that these challenges are beginning to be addressed by both markets and public policy. Recent initiatives like the Capitals Coalition and the Impact-Weighed Accounts Initiative are creating new pathways and frameworks for impact integration, while the recent EU Corporate Sustainability Reporting Directive (CSRD) will support the Sustainable Finance Disclosure Regulation (SFDR) built around a double materiality framework.

Surveying leading institutional investment managers in capital markets, we find that the integration of systemic impact factors into mainstream ESG investment management is currently still in its early days, with the greatest progress among asset managers with high public equities exposure. Private equity and fixed income remain at the starting gate for the most part. As we look forward, there is no question that the move to sustainable finance 3.0 is here to stay. While in many ways an even more challenging journey than the move to sustainable finance 2.0, the direction of travel is clear and may surprise us with how quickly impact becomes an integrated part of mainstream investment management. At HMI, we look forward to tracking and reporting on progress.

We want to thank our industry advisors for their help guiding the development of this report and KKS Advisors for their assistance in preparing it.

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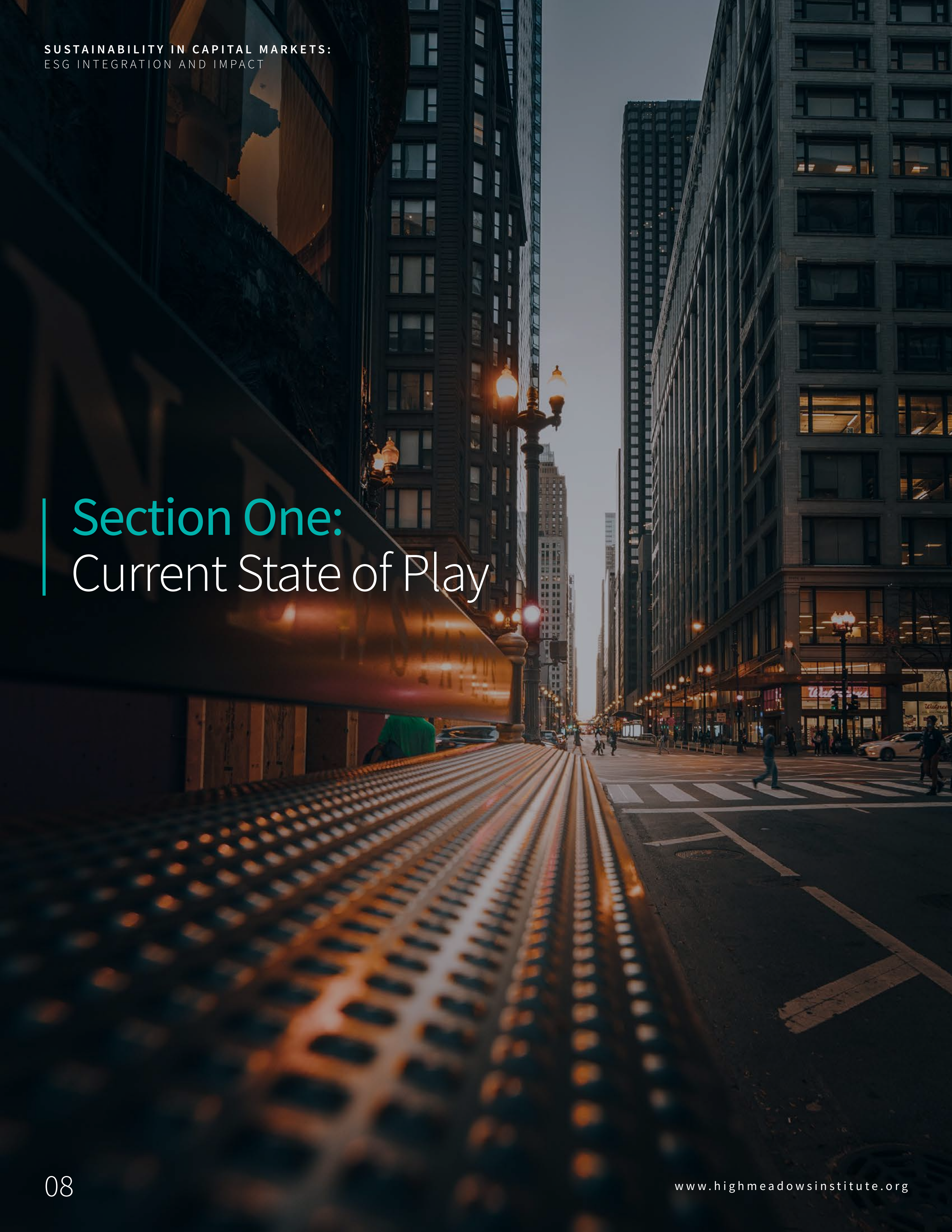


Section One:
Current State of Play

From ESG to impact: The future of sustainability in capital markets

ESG alone won't fix our hot and divided world. Indeed, no single effort or solution can, but with global sustainable investment reaching USD 35.3 trillion in five major markets, some are asking why it is that we still have not made meaningful progress towards global goals like the Paris Agreement or the UN Sustainable Development Goals (SDGs). This is due, in part, to three causes:

1. ESG has not contributed to significant sustainable outcomes because it was not designed to do so,
2. Investors have overpromised on how their ESG funds contribute to sustainable outcomes, and
3. Institutional and individual investors believe that ESG funds contribute more to positive sustainability outcomes than they actually do.

This is not to say that the integration of ESG considerations into capital markets has been a failure, nor is it an argument against its further adoption. ESG has contributed to positive changes, more sustainable business operations, and a realignment of capital markets, as made clear by growing corporate support for stakeholder capitalism, widespread sustainability reporting by the world's largest companies, and the public's increased scrutiny of companies' sustainability practices. But it's also clear that a new phase of sustainable finance is needed to drive impact, especially at the scale required to meet urgent global sustainability imperatives. Based on our research of the world's largest asset managers, we identified early market signals that this is starting to happen. Investors have started to acknowledge their role in creating a better world. However, it is uncertain if investors will realign their strategies toward impact at the scale needed to reach global sustainability targets. If ESG alone won't save us, could widespread impact investing meaningfully contribute to a better world?

Bloomberg projects global ESG assets to represent more than a third of total AUM by 2025, reaching USD 53 trillion.

But do these investments really contribute to a better world?

How did we get here?

While impact investing by niche players has been in practice for several decades, the impact phase of mainstream ESG investing is just beginning. Our research found evidence that investors are starting to discuss both how environmental and social factors affect a company's profitability (financial materiality), *and* how a company's operations affect environmental and social factors (double materiality, used synonymously in this publication with "impact"). This marks a shift from the previous phases of sustainable finance that were focused mainly on the former, with the exception of niche funds and more pioneering investment philosophies.

This publication categorizes the evolution of sustainable finance practices and objectives into three phases (see Table 1).

- **Sustainable finance 1.0** avoided financing socially and ecologically harmful practices via exclusions; for example, divestment on moral, ethical, or religious grounds.
- **Sustainable finance 2.0** centered on the term ESG, which considers environmental, social, and governance factors in terms of their potential to affect a company's financial performance over the short- to mid-term.
  - In recent years, ESG has grown exponentially, drawing trillions of dollars into funds that, to varying extents, consider E, S, and G factors in investment decisions. This was largely supported by the rapid rise in ESG data and ratings providers.
- **Sustainable finance 3.0** is driven by the concept of double materiality, in which investment decisions are not based simply on generating competitive financial returns but also on their long-term societal impacts. It recognizes that financial materiality and societal systemic impact is a dynamic relationship – changing as a function of evolving environmental, social, political, regulatory, demographical, and other macro-economic factors.
  - Sustainable finance 3.0 uses impact measurement to chart progress on shared objectives like the Paris Agreement and the UN Sustainable Development Goals (SDGs) and recognizes that these objectives may change over time.

However, there are obstacles to the uptake of sustainable finance 3.0, because although there is a lot of talk about driving impact in markets, sufficient capital is yet to flow in that direction. It will require investment managers to commit significant resources to upgrading their ESG investment approaches and strategies to include impact. This in turn will require the support of their investors and regulatory support by governments.

	Sustainable Finance 1.0	Sustainable Finance 2.0	Sustainable Finance 3.0
Focus	Socially responsible investment (SRI)	Environmental, social, and governance (ESG) investment	Systemic investment and impact management
Materiality	Societal impact of companies invested in and their corporate social responsibility (CSR) practices	Financial materiality – the effects of ESG factors on corporate performance and investment returns	Double materiality – the effects of material sustainability factors on profits *and* the broader societal and environmental impacts of the company
Key Characteristics	Limited numbers of small SRI and impact firms, focus on CSR performance, exclusion criteria, ethically motivated	Large institutional investors and asset owners, focus on financial performance and risk management, integration across asset classes focused on managing financial risk and achieving alpha, active engagement with firms invested in to improve performance	Emerging field of investment management currently driven by specialized firms, societal and systemic impacts integrated into core financial analysis when building investment portfolios, measuring societal impacts as well as financial performance, investment decisions are made concerning shared environmental and social goals (e.g., SDGs, Paris Agreement)
3rd Party Data Landscape	Specialized data providers that catered to niche corners of the market Key data providers - Vigeo Eiris, KLD Ratings	Consolidation of ESG data and ratings providers into large market players (lack of consistency between providers) Key data providers - Morningstar, EcoVadis, S&P, Sustainalytics, MSCI ESG, Refinitiv, Bloomberg, ISS	Limited data exclusively related to impact (however, ESG data providers consider impact topics to some extent) Key data providers - Not yet established
Impact measurement	Impact on stakeholders, measurement of social impacts followed by financial performance	Impact on returns to shareholders, measurement of material ESG factors on financial performance and risk management	Impact on returns to shareholders and impact on stakeholders and systemic factors, e.g., climate, measurement of short- to mid-term impact of ESG factors on financial performance and longer term global systemic/societal impacts of portfolio companies (stakeholder view expands to include the environment, nature, and people locally, globally, and in the future)

Table 1. Phases of Sustainable Finance

Drivers towards the next phase

Discontent with ESG

Critics of ESG have described the entire sustainable investing market as a "deadly distraction" from climate and social crises. Much of the criticism was directed at the fact that ESG investment strategies use sustainability information to reduce financial risks rather than to generate positive societal outcomes. This is true and "an essential element of sustainable investing" that has driven its recent growth, but that does not mean ESG is a failure. However, for ESG to contribute to sustainable outcomes, meaningfully and at scale, it will have to advance to the next phase, in which impact on society and the environment is a central focus. This is especially true in the face of increasing political dysfunction and a broad inability to simply "tax or regulate the things we as a society agree are bad and subsidize the things we think are good." The UN, politicians, and top business leaders agree: capital markets are critical to scaling up sustainable and just economies.

Traction of stakeholder capitalism

Stakeholder capitalism is a form of capitalism in which companies seek long-term value creation by taking into account the needs of all their stakeholders and society rather than solely maximizing profits for shareholders. Investor support for stakeholder capitalism has spurred support for impact considerations. Key organizations including the Business Roundtable and the World Economic Forum (WEF) have put stakeholder capitalism at the core of their missions. And investors and asset managers have started to talk publicly about stakeholder capitalism, including the CEO of BlackRock, Larry Fink. In his highly anticipated annual shareholder letter, Fink wrote that "a company must create value for and be valued by its full range of stakeholders to deliver long-term value for its shareholders."

Changing expectations for business in the 21st century

People have increasingly been looking to companies for leadership in the face of environmental crises, growing social inequality, and widespread misinformation. These expectations could nudge companies to reorient their business models to benefit stakeholders more broadly.

As ranked by the 2022 Edelman Trust Barometer survey, business (61%) was the most trusted institution, above NGOs (59%) and governments (52%). Polling shows that a majority of people (68%) agree that CEOs should step in when governments do not effectively address social problems, and companies that fail to act could suffer reputational damage. Despite many obstacles, companies have the potential to transform and provide moral leadership, self-regulate, and assist with the delivery of public goods and services for a regenerative economy. For example, Patagonia and Danone, two stalwart sustainable business advocates, have adopted regenerative agricultural strategies to reduce GHG emissions and improve soil health. Additionally, Patagonia supports political and grass-roots action towards environmental causes, and even self-imposes a 1% "Earth tax" that provides financial support to environmental nonprofits. Danone's and Patagonia's initiatives are a part of their larger visions for triple regeneration, which involve strategies to restore, renew, and grow people, places, and the planet.

Demand for sustainable investments that contribute to a better world

Millennials (people born between 1981 and 1996) are credited with initially spurring the growth of ESG investing, because of their values-driven approach to wealth creation. But demand for ESG products has now become widespread across investor demographics and investment philosophies. Institutional and individual investors alike cited "positively impacting society and the planet" as their primary driver for sustainable investing, especially in response to the effects of the COVID-19 pandemic on social inequality. In fact, S&P Global reported that as of June 2020, immediately following the first wave of the pandemic, the growth of social bonds was suddenly outpacing green bonds.

Existing frameworks and standards

In recent years, several new impact measurement frameworks and standards have been developed to provide corporates with clear methods to report on their impacts with comparable, decision-useful metrics. These include the Capitals Coalition, the Value Balancing Alliance (VBA), and Harvard Business School's Impact-Weighted Accounts Initiative (IWAI). To harmonize impact frameworks, the VBA and IWAI announced that they will co-develop areas for a standardized methodology.

Additionally, the Impact Management Platform (IMP) was launched in 2021 to coordinate efforts, standardize, and "mainstream" impact measurement and management. The UN and the OECD are involved with the IMP, which has dramatically increased its visibility. Crucially, the IMP takes a science-based approach to impact management. The IMP supports that impact measurement should be used to calculate whether a company's environmental and social outcomes are "sustainable or unsustainable" relative to scientific thresholds (in short, these scientific thresholds are "a safe operating space for humanity"). Part of the IMP's aim to promote measuring, managing, and reporting impact using a science-based approach is to drive absolute, rather than incremental, change towards achieving shared global goals. For example, a company's science-based approach to decarbonization in line with the Paris Agreement has more impact than the same company reducing their carbon emissions by 15% year on year.

Self-regulatory initiatives

Activist investors and investor coalitions have moved the needle on how active ownership can drive impact. Citing weak returns and inaction on climate concerns at Exxon Mobil, the activist investor Engine No. 1 won three board seats with a clearly stated intent to force action on these sustainability issues. It was an unprecedented success that signaled to companies that complacency will not be tolerated by increasingly impact-driven shareholders. Engine No.1's victory may embolden other activist investors to try similar tactics.

Investor coalitions have also reenergized engagement with an aim towards impact. Selected investors of Climate Action 100+ (which represents over USD 55 trillion in assets) have ushered in impressive wins, including targeted reductions of Scope 3 emissions by oil companies and the disclosure of near-term decarbonization roadmaps for one of Africa's highest corporate emitters. Other investor coalitions have formed around specific issues, including deforestation and nutrition, and contributed to significant sustainability outcomes. For example, the Healthy Markets Initiative, along with other coalitions, successfully engaged with Unilever to commit to a new benchmark for public reporting about the nutrition of their food products in line with major government-endorsed Nutrient Profile Models.

Challenges in moving to the next phase

Fiduciary duty

The definition of fiduciary duty may potentially pose a serious obstacle to sustainable finance 3.0. Making investment decisions based on impact has the potential to conflict with ensuring competitive financial returns, especially in the short term, which could be seen as violating an investor's fiduciary duty. It is unclear if and to what extent stakeholder considerations are within the scope of investors' financial duties, especially given that there is no universal definition of fiduciary duty. This has prompted a few large asset managers to comment on the "complex and changing world of fiduciary duty" in the 21st century. In an interview with us, John Hoeppner, the Head of the US Stewardship and Sustainable Investments at Legal & General, commented, "The pursuit of ESG for societal outcomes has not been deemed a part of fiduciary duty, [and that] assumption is being tested in the market right now." For example, there have been legal debates about whether an impact-aligned pension would violate fiduciary duties. In a report entitled *A Legal Framework For Impact*, released by the UN PRI and co-authored by a leading law firm, the investigators determined that "investing for sustainability impact" is permitted to a significant extent across jurisdictions when financial goals are ultimately prioritized. At the end of the day, an investment designed to deliver sustainability outcomes is first and foremost an investment.

Investor will and incentives

On the positive side, there appears to be a rising demand for societal impact integration in investment portfolios. Two surveys from Schroders revealed an investor appetite for more impactful investments. Fifty-seven percent of institutional investors want their investments

to demonstrate measurable outcomes for stakeholders. Individual investors expressed similar levels of interest in outcomes-based sustainable investments. Seventy-four percent of individual investors would feel "happy" if they moved to a solely sustainable investment portfolio because "it would have a positive impact on the world." At the same time, however, large institutional investment managers note that in the final analysis, their primary incentive and responsibility is to generate competitive financial returns for their clients, not social impact. While the integration of material ESG factors could contribute to alpha or at least competitive financial returns, when it comes to the challenge and cost of trying to integrate non-material societal impact considerations into investment management, this is often likely to result in concessionary rates of return. Until is clear that investors are prepared to accept concessionary returns that absorb this cost, or governments are able to set regulatory requirements that level the playing field for the industry and mandate disclosure and reporting standards on societal impact, significant progress on integrating impact may be difficult to achieve in the short term.

Nationalism

A core driver for increasing investment managers' focus on impact is investor and public expectations for greater public-private sector collaboration to address global collective action challenges like climate change. Rising nationalism, as we have recently seen in climate talks at COP26, can stand in the way of this and the creation of global regulatory standards that can support the efforts of investment managers to integrate impact measurement into their investment management practices. Despite this, it is encouraging that banks and asset managers representing 40% of the world's financial assets pledged to meet the goals set out in the Paris Agreement.

Uneven progress

There are several asymmetries in capital markets that threaten progress toward a better world. One is the frequently overlooked role of debt financing for state-owned enterprises (SOEs) that contribute to negative societal outcomes, particularly climate change. Recent research shows that SOEs emit more carbon than any country, except for China. Limited ESG integration in public debt markets means that SOEs in "dirty" industries retain access to cheap capital. However, there are cases where ESG-minded investment managers screen out prospective borrowers in heavy-emitting industries due to their exclusions policies. In some of these cases, private debt markets step in to provide financing, pushing these "dirty" assets into unregulated spaces. This highlights the insufficiencies of divesting and sustainable finance 1.0. Without regulation and increased ESG integration, public debt and private market financiers will continue to prop up and profit from heavy emitting SOEs.

Fragmented regulation

Globally, the landscape of sustainable finance-related disclosure regulations is highly fragmented, and there are no signs of convergence or alignment in sight yet. As of today, Europe has taken a leading position on mandatory sustainability disclosures for both corporates and investors – with newest releases taking into account both financial and double materiality. Concerns, however, have been raised that the sustainable finance-related regulation from the bloc is not robust enough to fully prevent against greenwashing.

Additionally, Europe has tried to get ahead of incoming demand for impact products and related disclosures through the EU Sustainable Finance Disclosure Regulation, but the classification has not provided the market with clarity thus far.

Within the small pool of countries that are considering sustainability-related disclosure regulation, only the EU, UK and Hong Kong have initiatives related to double materiality that are either proposed or in consultation. Piecemeal sustainable finance regulations and limited motivation from regulators to mandate impact-specific disclosures underscore the role of investor-led self-regulatory initiatives to report on standardized, decision-useful impact frameworks.

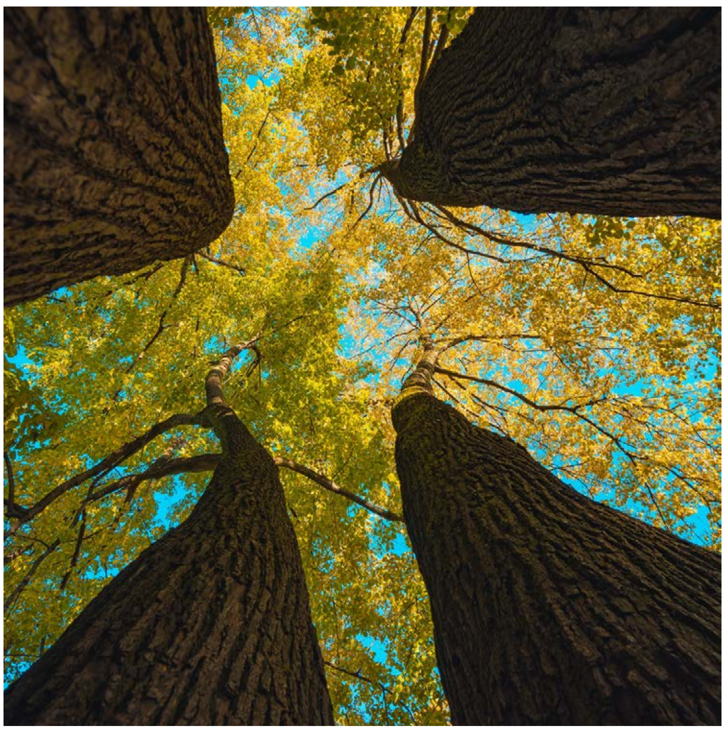
Talent shortage

Mobilizing the market towards sustainable finance 3.0 will require a greater number of ESG, impact, and sustainable finance professionals than are currently available. There has been "a war for ESG talent," leaving financial market participants and advisory firms short of the expertise needed. Additionally, ESG and impact were built upon complex topics, approaches, frameworks, and data integration methods that have presented difficulties for candidates without sustainable finance experience. A "lack of personal knowledge" was ranked first in a survey from Invesco about the barriers to sustainable investment.

Business schools, professional organizations, and sustainable finance initiatives are responding to the "explosion" of interest in ESG. The University of Pennsylvania Wharton School of Business, the Duke University Fuqua School of Business, and Harvard Business School now all offer courses related to social impact or enterprise. The CFA Institute offers a certificate in ESG Investing and the UN Environment Programme Finance Initiative offers training courses on sustainable finance. Participation in the latter two programs has increased continually since their respective launches.

Inadequate data

The availability and management of high-quality impact data have been very limited. This is in part due to various interpretations and definitions of impact. Existing ESG data and ratings providers generally focus their scoring on "activities" (e.g., policies, procedures) instead of "outcomes" (e.g., gallons of water withdrawn), which means they are not useful for determining impact. Instead, quantified sustainability outcomes are the basis for impact investing and therefore also the basis for impact data.



Sustainability data firms have started to innovate in this space, notably with the creation of geospatial data and product impact data. However, the investment community will need comprehensive impact data to move forward on large-scale, impact-aligned financing.

Conclusion

While the world needs a truly sustainable financial system 3.0, the drivers and barriers to achieving this at scale encompass a complex set of issues. Positive drivers range from rising public expectations for finance to take greater responsibility and leadership in addressing the systemic environmental and societal challenges we face to the increasing availability of high-quality impact measurement and management frameworks. Public policy is also starting to catch up with the EU's recently announced Corporate Sustainability Reporting Directive (CSRD) and Sustainable Finance Disclosure Regulation (SFDR) built around a double materiality framework. Current barriers include investment managers' potential unwillingness to move beyond ESG 2.0 without greater clarity on the incentives for doing so. This includes government regulation and clearer reporting and disclosure standards and demonstrated investor willingness to accept potential concessionary financial returns in returns for greater societal impact. The direction of travel is clear, however, as evidenced by both a growing sentiment that ESG "isn't doing enough" to contribute to sustainability outcomes as well as the demand for more sophisticated sustainable finance assessments that evaluate risk, return, **and** impact.

	Public Equity	Private Equity	Fixed Income	Common to All Asset Classes
Pre-investment	**Long-term ESG trend analysis:** The process of monitoring ESG and impact issues or conditions that play out over time. **Assessing ESG performance:** Assessment of ESG and impact performance of fixed income assets as well as of issuers/borrowers and its integration in financial modeling, asset valuation and portfolio construction (e.g., adjusting the internal credit assessments of borrowers with their ESG performance).	**Due diligence:** The processes that a GP uses and the internal or external resources it allocates to identify and manage material ESG- and impact-related risks and use ESG and impact factors to create value.	**Assessing ESG performance:** Assessment of ESG performance and impact potential of companies and its integration in financial modeling, equity valuation and portfolio construction (e.g., assigning higher weights to companies with high ESG performance and impact potential). **Due diligence (in the case of private debt):** The processes an investor uses to identify drivers of material ESG- and impact-related risks, which may affect a borrower's credit strength.	**Materiality analysis:** The process of identification and assessment of financially and double material ESG and impact risks and opportunities.
Post-investment	**ESG performance monitoring:** Regular assessment of ESG or impact performance of companies. The monitoring results may be used as basis of stewardship activities to improve companies' performance. **Passive strategy:** Approaches to include ESG factors in passive investment strategies, i.e., using ESG scores to tilt portfolio constituents relative to a benchmark. These portfolio tilts might be done to reduce negative impacts (e.g., to reduce exposure to carbon emissions from portfolio holdings).	**ESG performance monitoring:** Monitoring of ESG and impact performance for each portfolio company based on material risks and opportunities identified in due diligence. The monitoring results may be used as the basis of stewardship activities to improve companies' performance. **Exit:** Sharing key ESG and impact performance data of portfolio companies being sold and conducting due diligence on future buyers' sustainability credentials.	**Long-term ESG trend analysis:** The process of monitoring ESG and impact issues or conditions that play out over time. **Time horizons:** Accounting for different time horizons of holdings in terms of how they may affect ESG and impact factors (i.e., whether investors consider only current ESG risks or also take into account medium and/or long-term risks).	**Dynamic materiality:** Issues identified as material for financial and impact considerations may change over time. Dynamic materiality recognizes that these focus areas change. A forward-looking, adaptive approach to reprioritizing ESG and impact topics is critical for investors to respond to the evolving nature of sustainability factors, especially for asset classes with longer holding periods liked private equity and fixed income.
Reporting / Disclosure	**Sharing sustainability information with stakeholders:** Disclosures of the sustainability outcomes and/or impacts of sustainable investments as well as the outcomes of stewardship activities. Disclosures are as meaningful as their underlying frameworks. There is increasing pressure to report both ESG and impact issues according to science and evidence-based thresholds rather than incrementally and relative to past company performance (e.g., reporting GHG emissions in relation to rigorous science-based targets rather than to year-on-year performance).			
Stewardship	**Voting:** Exercise of voting rights on management and/or shareholder resolutions to formally express approval (or disapproval) on relevant matters to improve practices on an ESG issue or change a sustainability outcome and/or impact. **Shareholder proposals:** The use of rights to file proposals or resolutions to address relevant ESG matters to improve practices on an ESG issue or change a sustainability outcome and/or impact.	**Engagement:** Interactions between an investor, either individually or collaboratively with other investors, and current or potential investee companies or borrowers/issuers (in case of fixed income), aimed to improve practice on an ESG issue, change a sustainability outcome and/or impact, or improve public disclosure. Engagement can also include advocacy, supporting policies and regulations that foster progress on relevant sustainability issues.			
ESG Data / Tools				

Figure 1. Intervention points for impact across asset classes. *Figure content adapted from the PRI's resources on listed equities, private equity, and fixed income.*

Section Two:
Investors In Practice – Sustainable Finance 3.0 Across Specific Asset Classes

Assessment approach

As ESG integration's capacity to deliver on sustainability outcomes has attracted increasing attention, double materiality has come into focus for investors that seek to achieve measurable E, S, and G targets towards shared global goals that benefit a variety of stakeholders.

The budding commercial response to impact from the world's largest asset managers represents a paradigm shift in the ESG space. The underlying sentiment is that ESG integration alone may not save our environmentally stressed and increasingly inequitable planet. However, sustainable finance has the potential to actualize double materiality more comprehensively if it is mainstreamed by forces including stakeholder capitalism and the pressure for sustainable investments to contribute to quantifiable, positive societal outcomes.

In this chapter, we showcase if and to what extent the world's largest asset managers with the highest public equity, private equity, and fixed income exposure consider impact. This was done from three perspectives:

- The degree of penetration of ESG in the asset classes that make up capital markets.
- The state of double materiality in capital markets, examining which tools leading organizations use to measure the impact of ESG within each asset class.
- What the future of ESG and impact might look like, based on current developments and innovations.

This evaluation was applied to each firm through the review of all publicly available materials on their respective sustainable investing practices to determine the level of consideration for both financial materiality and double materiality in their:

- Sustainable investment and stewardship policies
- Sustainability and corporate responsibility reporting
- Approach to sustainable investing
- Approach to stewardship
- ESG data and tools

Data sources: Annual reports, ESG/sustainability reports, 10-Ks, company websites (e.g., stewardship and sustainable investment policies and approaches), and UN PRI Signatory Reports.

This analysis was based on information that was publicly available at the time of research in November and December 2021. Please refer to the Appendix for more information.

These aspects of the investment and stewardship processes were selected because of their relationships with key intervention points for ESG and impact across the three selected asset classes (see Figure 1). ESG and impact can be integrated across pre-investment, post-investment, reporting/disclosure, and stewardship stages of an investment. Sustainability-minded investment managers have policies and procedures that ensure ESG and/or impact is built into each stage and systematically considered. A key difference between integrating ESG and impact is that, because of its focus on double materiality, impact requires the measurement of outcomes that result from the investment.

Impact integration by asset class

As explained in the previous section, there are intervention points for impact across the investment cycle. However, there are also specific structural aspects of each asset class that make them well-positioned to drive impact.

Public equities

In 2021, the global market cap of equities grew to USD 120.4 trillion, up nearly 300% from 2000, with Asia Pacific gaining the most in recent decades. In addition to the size and trajectory of the equity market, public equities are well-positioned to drive impact for three core reasons:

1. **Active ownership –** Active owners of public firms can promote impact in their stewardship activities via engagement, shareholder proposals, and voting.

2. **Data availability –** Investors can purchase third-party data and access companies' self-reported sustainability data to inform their investment decisions regarding impact.*

3. **Reputational incentives –** Investors can push public companies to realign their business models and value propositions towards driving impact to capitalize on the reputational and financial benefits of transparent sustainability activities.

**Note: Although there is limited data specifically for impact, existing ESG data can still help investors align their portfolios with impact objectives.*

Private equity

Investors have embraced private markets in recent years. Capital flows into private equity have increased and exceeded USD 7 trillion in 2021. The growing visibility and importance of sustainability in private markets make private equity investments well-positioned to drive impact for three core reasons:

1. **Demand for meaningful private investments –** There is increased demand for sustainable investments in private markets that make measurable, positive differences.

2. **Hands-on ownership –** Private equity firms work very closely with their holding companies. They provide resources, strategic capabilities, and operational support that can be directed at integrating impact into their holding companies' core missions and business models.

3. **Longer holding periods –** Private equity firms own companies for an average of 5.4 years compared to public equities investors who hold shares for an average of 5.5 months.[1] Longer holding periods enable private equity firms that want to drive impact to deeply embed double materiality into their investment thesis and the growth stages of portfolio companies.

Fixed income

Unlike public or private equity owners, bond owners are creditors. The dynamics of debt financing are different from those of public equities or private equity, largely because their focus is mitigating downside risks. The global bond market is larger than the global equity market and was valued at USD 123.5 trillion in 2020. The sheer size of the bond market and the structure of fixed-income products make fixed-income investments well-positioned to drive impact for three core reasons:

1. **Investors' ability to influence issuance terms –** Fixed-income investors can influence the structure and terms of the debt issuance toward targeting specific sustainability outcomes (e.g., sustainability-linked bonds).

2. **Leverage from refinancing –** A bondholder has a significant amount of leverage over a company once a bond must be refinanced at maturity. A bondholder can choose not to reinvest or provide more expensive capital based on terms they set, which has the potential to create more opportunities for investors to drive sustainability outcomes under new financing conditions.

3. **Long-term nature of bonds –** Most corporate bonds mature in between 1 and 30 years. The lengthy maturity of bonds matches well with the long-termism required for driving meaningful sustainability outcomes for impact-minded investors.

Public equities	Private equity	Fixed income
Active ownership	Demand for meaningful investments	Investors' ability to influence issuance terms
Data availability	Hands-on ownership	Leverage from refinancing
Reputational incentives	Longer holding periods	Long-term nature of bonds

Table 2. Opportunities to drive impact by asset class

1. **Note –** this figure includes individual investors

Sustainable finance 3.0 in public equities

Data highlights

ESG in Pre-Investment Analysis	
Financial Materiality Considered	Double Materiality Considered
Systematically by 10/10	At least to some extent by 8/10

ESG in Engagement	
Financial Materiality Considered	Double Materiality Considered
Systematically by 10/10	To some extent by 4/10

ESG Data	
3rd Party ESG Data Utilized	Proprietary ESG Data Tools
10/10	9/10

Overview of the findings

As anticipated, our assessment showed that all ten asset managers consider the financial materiality of ESG issues across their funds. However, our research also identified that some of the world's largest asset managers with high equity exposure also consider the impact of their investments to some extent. The asset managers that discussed impact acknowledge three common considerations.

As asset managers, they:

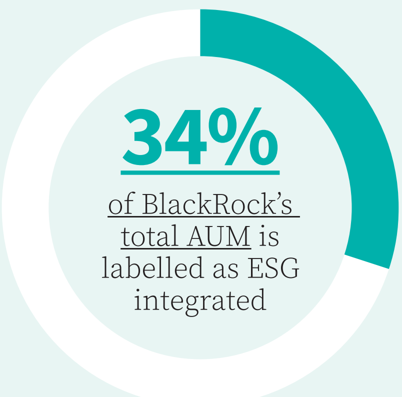
- Contribute to both positive and negative E, S, and G impacts via their investments and holdings.
- Can use engagement strategies and proxy voting to nudge firms to act on E, S, and G issues.
- Could be held publicly and legally accountable for their financing of unsustainable activities.

Firms included in the public equities sample:	
BlackRock	Vanguard Group
Fidelity Investment	State Street Global Advisors
Capital Group	JP Morgan Chase
Amundi	Goldman Sachs
Morgan Stanley	Legal & General

Materiality in the largest asset managers with high public equities exposure

All ten firms widely and explicitly consider sustainability factors that are material to their holdings' value.

10
firms have ESG integrated portfolios



ESG disclosure

10 firms publish an annual sustainability report

10 firms are PRI members

7 firms report in alignment with TCFD

5 firms report in alignment with SASB

ESG data

10 firms purchase third-party ESG data

9 firms designed proprietary ESG tools or datasets

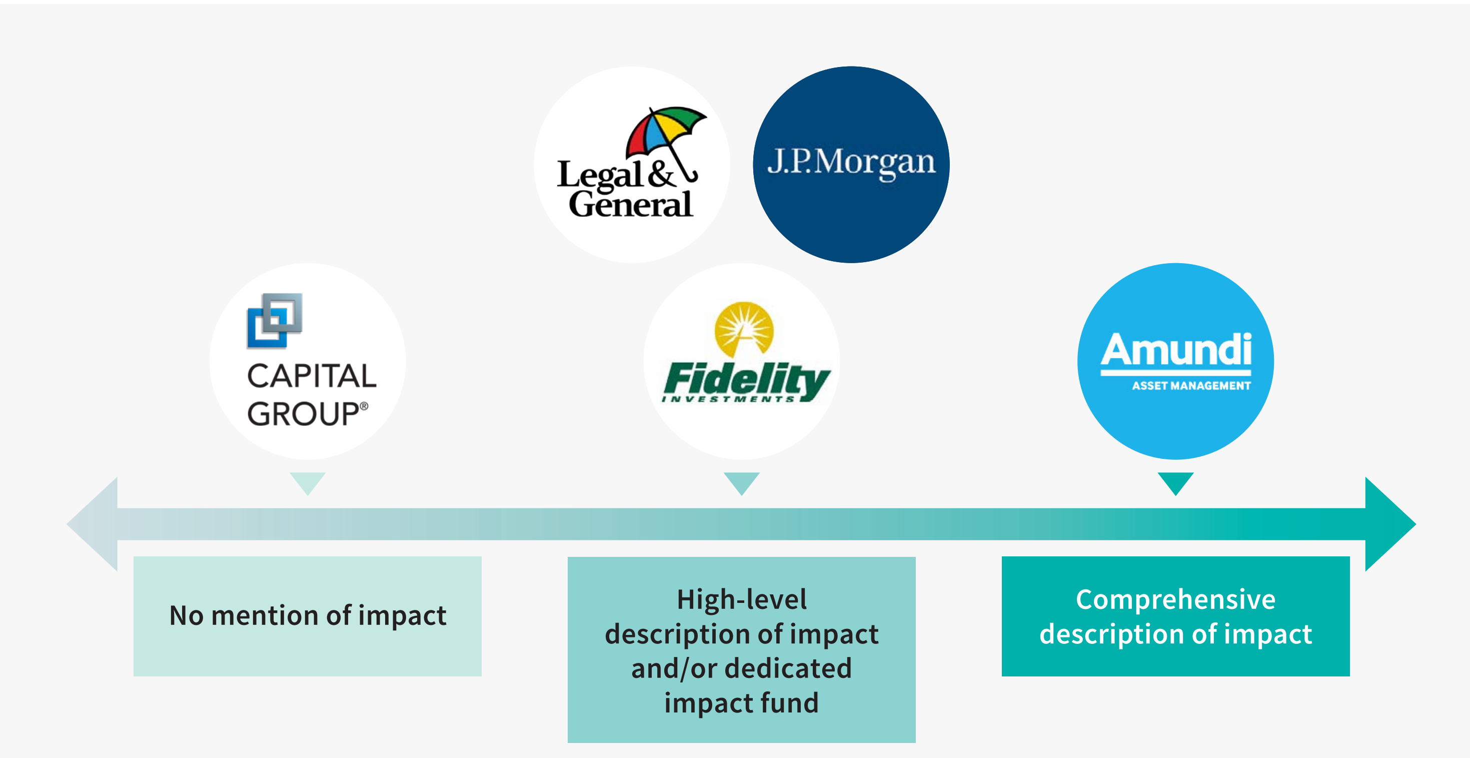
Considering double materiality

Overall, double materiality is not yet widely evaluated by the asset managers that we assessed.

However, the instances in which double materiality is mentioned provide insight into how asset managers publicly consider their role in contributing to social and environmental impacts. When double materiality is mentioned, it is often done so in a general and high-level way or within the context of stewardship, as opposed to as a part of the firm's sustainable investment strategies or considerations.

High-level descriptions of impact

Eight of the ten asset managers acknowledge that their investments have considerable effects on people and the planet. The ways that asset managers describe how their operations and financing activities affect stakeholders range from general and high-level to thematic.



- Of all the firms assessed, Amundi stands out for the most comprehensive description of how double materiality is integrated into their investment process. Additionally, Amundi explicitly describes how investors contribute to positive and negative sustainability outcomes in their Stewardship Report, stating that companies have a "major impact on society" and "investors have a role to play in building a sustainable society." Amundi's responsible investment commitment is based upon this conviction.
  - Additionally, Amundi's ESG integration approach already considers double material factors to some extent.
- Seven of the ten asset managers are members of The Net Zero Asset Managers Initiative. In their 2021 Climate Policy, Legal & General Investment Management (LGIM) outlines their integrated strategy to reach net zero. LGIM's approach involves working with policymakers, developing their capacity to assess climate-related risks and opportunities, engaging with companies and their boards to ensure that they are aligned with the net zero trajectory, reporting to clients, and investing in solutions that are aligned with low-carbon opportunities. LGIM has committed to net zero because "the global temperature increase we will experience in the coming decades will have a profound impact on people's lives and, therefore, on our economies."

DRIVERS OF IMPACT

- Self-regulatory initiatives

Descriptions of impact within stewardship statements

Based on our analysis, five out of the ten asset managers use language related to impact within the context of stewardship.

Spotlight: Stewardship for the SDGs

Our review demonstrated that the asset managers we assessed seek impact outcomes via engagement more than any other method. Three of the firms assessed (BlackRock, Amundi, and Legal & General) indicated that the Sustainable Development Goals (SDGs) are a meaningful framework to support their stewardship activities in terms of determining social and environmental outcomes.

Firm name	Excerpt from stewardship policy	Firm differentiators
Legal & General	"Client outcomes, and broader societal and environmental impacts, sit at the heart of our engagement decision-making process."	Legal & General directs their engagement strategy towards specific impact themes including health, income inequality, privacy, data security, and transparency.
Morgan Stanley	"We recognize that an unintended consequence of some of our investments may include some level of adverse impact on broader systemic sustainability factors."	Morgan Stanley aims to mitigate such potential adverse impacts through engagement stewardship, research, and collaborative efforts in the broader investment industry.
Goldman Sachs	"GSAM defines stewardship as the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment, and society."	In practice, most of the engagement activities described in Goldman Sachs' stewardship report were done expressly to minimize future risks and negative financial impacts.
Amundi ASSET MANAGEMENT	"The topics we engage on are linked to a dual materiality perspective… Engagement is also how the company affects society and the sustainability factors (impacts on society, material to the society even though might not be material for the financial statements of the company, on a short to medium-term horizon)."	Amundi takes a firm stance on the use of proxy voting to achieve ESG outcomes. Amundi stated that since 2019, their voting efforts have been targeted on two priority themes: energy transition and social cohesion.
BlackRock	"Companies should articulate how they address adverse impacts that could arise from their business practices and affect critical business relationships with their stakeholders. We expect companies to implement, to the extent appropriate, monitoring processes (often referred to as due diligence) to identify and mitigate potential adverse impacts and grievance mechanisms to remediate any actual adverse material impacts."	BlackRock focuses their stewardship activities on specific engagement priorities, which are increasingly aligned with the UN SDGs such as climate and natural capital and company impacts on people.

Table 3. Impact within stewardship policies

Sustainable finance 3.0 in private equity

Data highlights

ESG in Pre-Investment Analysis	
Financial Materiality Considered	Double Materiality Considered
5/5	0/5

ESG in Engagement	
Financial Materiality Considered	Double Materiality Considered
5/5	0/5

ESG Data
Proprietary ESG Data Tools
4/5

Overview of the findings

Our assessment showed that all five private equity firms consider the financial materiality of ESG issues across their funds. Two firms, TPG Capital and Neuberger Berman, mention double materiality in a general way. Both note their convictions that private markets can have a positive impact on the planet and on society at large. The other three firms do not mention impact, except when specifically referring to their dedicated impact investing funds.

Firms included in the private equity sample:	
Blackstone Group	Carlyle Group
TPG Capital	Neuberger Berman Group
KKR	

Materiality in the largest private equity firms

All five firms widely and explicitly consider sustainability factors that are material to their holdings' value.

5
firms have ESG integrated across their investment cycles

ESG disclosure

5
firms publish an annual sustainability report

4 firms are PRI members

3 firms report in alignment with TCFD

All firms
have an ESG team that liaises with the deal team and is overseen by senior leadership.

ESG data

2
firms participate in the ESG Data Convergence Project (DCP)

The DCP was created by the Institutional Limited Partners Association to streamline the approach to collecting and reporting ESG data within the private equity industry.

Considering double materiality

Overall, double materiality is not yet widely evaluated by private equity firms.

However, the instances in which it is mentioned provide insight into how the world's largest private equity firms publicly consider their role in contributing to social and environmental impacts. When double materiality is mentioned, it is often done so in a general, high-level manner with regards to stakeholder benefits.

High-level descriptions of impact

Two firms mentioned double materiality and one firm singled out the role of portfolio companies in contributing to positive environmental impact.

- TPG Capital mentions impact in their ESG report: "At TPG, we believe that – in addition to improving environmental and social outcomes – assessing material ESG performance facilitates a stronger understanding of business risks and opportunities and can result in enhanced financial returns for stakeholders."
- Neuberger Berman describes ESG integration as a critical risk reduction and returns-enhancing tool. In their ESG Report, Neuberger Berman elaborates on the benefits of ESG and states, "We believe our [ESG] approach not only benefits our clients but can also support better-functioning capital markets and have a positive impact for people and the planet." Although this statement is specifically about ESG, the impact-related language is a small signal that the view of sustainable finance at Neuberger Berman is slowly evolving to acknowledge double materiality considerations.

DRIVERS OF IMPACT

- Stakeholder capitalism

Spotlight: TPG Capital's sophisticated impact evaluation methods for impact investing

All the firms have double materiality embedded in their pure impact investing businesses.

TPG Capital stands out for their launch of Y Analytics, an organization focused on enhancing environmental and social performance capabilities through data-driven tools. Y Analytics has developed several tools, including ones that measure impact, to assist capital allocators throughout the investment cycle.

TPG Capital has a dedicated impact investing arm called The Rise Fund (USD 13 billion in AUM), which works in partnership with Y Analytics and on impact measurement and monetization strategies. They developed a new metric called the Impact Multiple of Money (IMM) to "manage, measure, and track impact results" during the holding period. The Rise Fund uses the IMM to compare investment opportunities and evaluate their positive impact. IMM exemplifies the innovation and potential for impact measurement and monetization within sustainable finance.

Sustainable finance 3.0 in fixed income

Data highlights

ESG in Pre-Investment Analysis	
Financial Materiality Considered	Double Materiality Considered
5/5	0/5*

While double materiality was not yet widely considered in these managers' fixed-income strategies, all firms assessed offered themed and/or green/sustainable bonds that were issued to finance progress on specific sustainability issues.

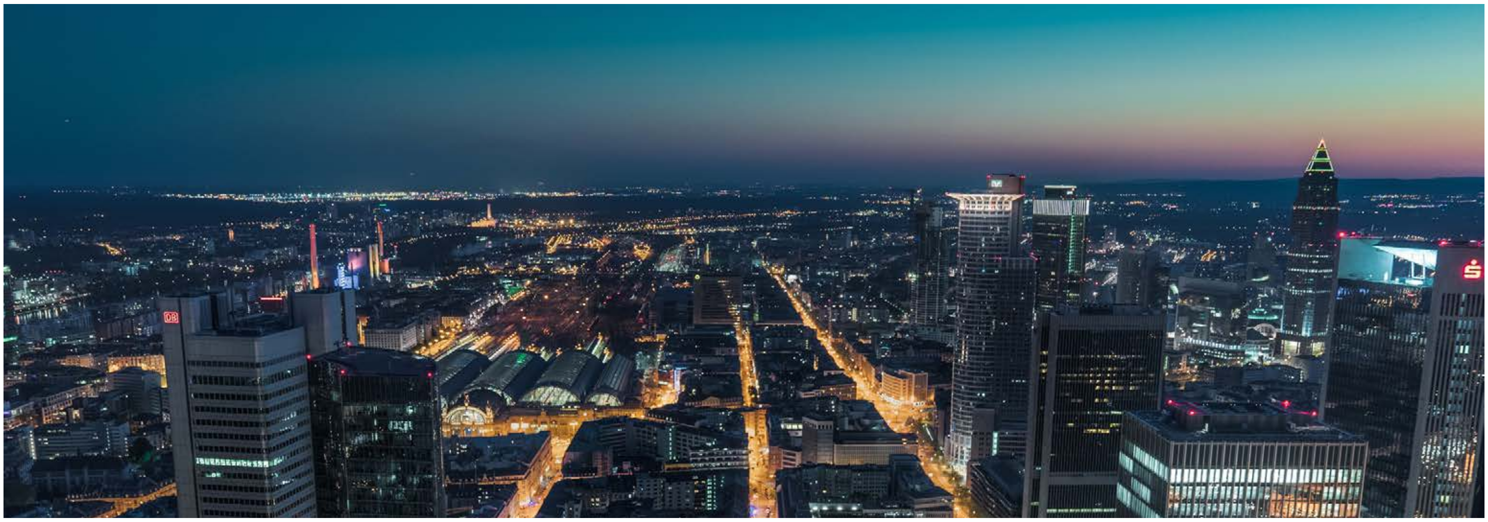
ESG in Engagement	
Financial Materiality Considered	Double Materiality Considered
5/5	2/5

ESG Data	
3rd Party ESG Data Utilized	Proprietary ESG Data Tools
5/5	5/5

Background

Our assessment shows that all five asset managers consider the financial materiality of ESG issues across their fixed-income funds. When impact is mentioned within the context of fixed-income funds, it is primarily done within the context of green bonds and other environmentally-themed investments. Notably, the two European firms explicitly describe when and where double materiality is considered in their fixed-income investment processes.

Firms included in the fixed income sample:	
BlackRock	Allianz
PIMCO	Amundi
Legal & General	



Materiality in the largest asset managers with high fixed-income exposure

All five firms widely and explicitly consider sustainability factors that are material to their holdings' value.

5

firms have ESG integrated portfolios

ESG disclosure

5

firms publish an annual sustainability report

5 firms are PRI members

5 firms report in alignment with TCFD

2 firms report in alignment with the GRI

Sustainable finance strategies

4

firms have ESG integration as their dominant fixed income strategy

Considering double materiality

Overall, double materiality is not yet widely evaluated by asset managers. However, European asset managers are more explicit about when and where they consider impact.

Instances in which double materiality is mentioned provide insight into how asset managers publicly consider their role in contributing to social and environmental impacts. When double materiality is mentioned, it is often done so within the context of:

- Engagement
- Themed funds
  - Specifically, environmentally themed funds

Impact in engagement

Two European firms with high fixed-income exposure, Amundi and Allianz, engage with firms to drive impact. Engagement is directed by themes explicitly and implicitly based on the SDGs.

- Allianz utilizes engagement to reduce carbon emissions in its portfolio. Allianz created a "Climate Engagement with Outcome" approach in March 2021 to target specific and measurable decarbonization targets for top-emitting companies.
  - Notably, Allianz's Climate Engagement with Outcome approach applies across equity, fixed income, and multi-asset strategies at Allianz.
- As mentioned in the section on sustainable finance 3.0 in public equities, Amundi's Responsible Investment Policy states that they engage with companies on topics that are "linked to a dual materiality perspective."
  - For example, Amundi engaged with one of the green bond issuers in their portfolio that was about to sign a loan that would finance the development of the Carmichael thermal coal mine in Australia. According to its Engagement Report, Amundi "expressed deep concern on the environmental and carbon impact of [the thermal coal] project, which in [their] view, would erase the positive impact of the renewable and clean transportation projects financed by their green bond issuances."

    Ultimately, the green bond issuer went ahead with the loan, so Amundi divested its entire holding of the issuer's bonds from the portfolio.

CHALLENGES FOR IMPACT

- Uneven progress

Allianz and Amundi engage on a range of sustainability topics; however, most stewardship activities still revolve around environmental issues. Amundi, for instance, reported 22% more engagements on environmental issues compared to social issues. Perceived challenges with assessing, measuring, comparing, and reporting on social issues appear to be responsible for this.

Spotlight: Engaging issuers on impact reporting at Amundi

Amundi has worked with organizations such as the International Capital Market Association (ICMA) to harmonize frameworks for impact reporting of social bonds to improve consistency and standardize impact indicators. In 2020, Amundi contacted three issuers and asked them to consider the adoption of the Harmonized Framework for Impact Reporting. In 2021, the ICMA and The Green Bond Principles published a Handbook for the Harmonised Framework for Impact Reporting with a diverse working group that included Amundi.

Impacts in themed funds

All five of the asset managers sell thematic funds that are aimed at producing explicit environmental and social outcomes. According to the latest UN PRI reports published by each firm, all five asset managers assess the impact of thematic investments by:

- Requiring issuers to report at least once per year on specific environmental or social impacts resulting from themed investments, and
- Measuring the impact of themed bond investments on specific ESG factors.

Additionally, four out of five asset managers have proprietary measurement systems to assess the environmental or social impacts of their investments (BlackRock, Allianz, Pimco, Amundi).

- Allianz segments its fixed-income sustainable product offerings into more sophisticated groupings than other firms. In addition to the common categories of sustainable finance ("ESG Integrated" and "Impact"), Allianz further breaks down their offerings into "SDG-Aligned" and "Sustainable" (see Figure 2). By creating more buckets of sustainable finance products, Allianz helps customers understand exactly what the funds offer in terms of their financial and double materiality-related objectives. This is significant given the diversity and complexity of some sustainable finance products that are lost in the common groupings of investments as either "ESG integrated" or "impact."

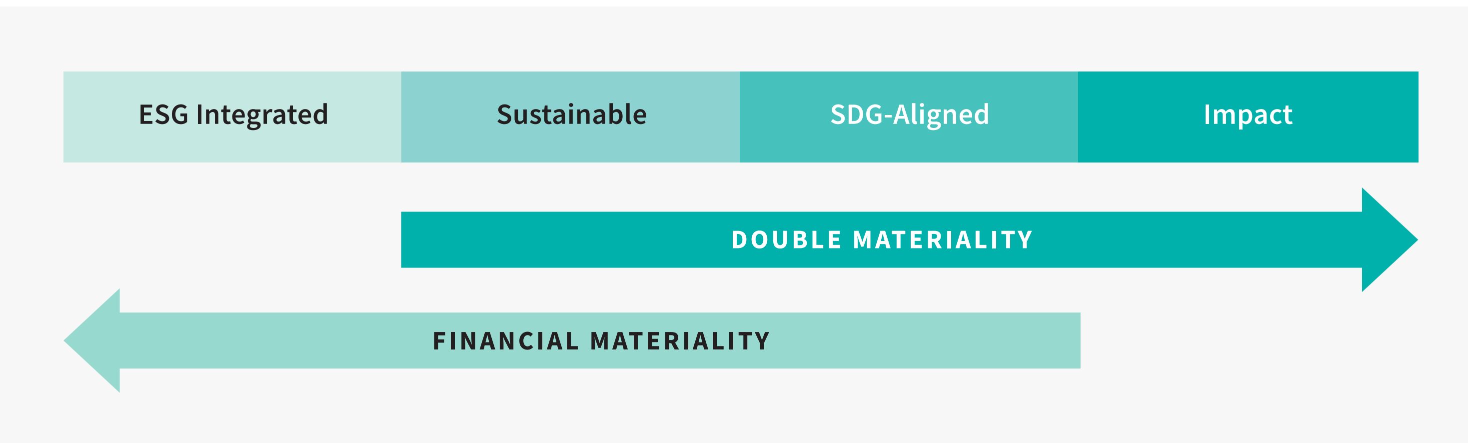


Figure 2. Allianz ESG maturity spectrum for fixed-income products

- All firms in the sample consider impact in sustainability-themed fixed-income products. However, the AUM of these products is small compared to the total AUM. Four of the asset managers have less than 2% of their total AUM invested in thematic fixed-income funds, except for Amundi, which has 35% of fixed-income AUM in screened and themed funds.

Impacts in environmentally themed funds

Green bonds and climate bonds have grown significantly in recent years due to investor demand and anticipation of regulatory changes. The Climate Bonds Initiative estimates that green bond investment will double and reach USD 1 trillion by the end of the fourth quarter of 2022.

- For PIMCO, green bonds are important because of their double material impact. PIMCO describes green bonds as one way for investors "to align their portfolios with their financial goals and internationally recognized sustainability goals such as The Paris Agreement or UN Sustainable Development Goals (SDG)." PIMCO explains that meaningful green bonds are issued following the International Capital Market Association's Green Bond Principles, which "promote more transparent, unified reporting on bonds' environmental objectives and estimated impact."

Conclusion of sustainable finance 3.0 in public equities, private equity, and fixed income

Overall, impact as a firm-wide investment strategy is still emerging across the asset classes that we examined. When asset managers in the sample discuss impact, it is often done so at a high level to acknowledge that their investments contribute to positive and negative outcomes for people and the planet. Although this is a small first step towards sustainable finance 3.0, it is a landmark shift within the sustainable finance landscape that the world's largest asset managers publicly affirm that their investments contribute to both positive and negative societal outcomes.

The context in which asset managers in the sample discuss impact depends on the asset class. For example, asset managers with high public equities or fixed-income exposure discuss impact within the context of their stewardship activities more than private equity investors who discussed engagement on ESG topics as a risk-reduction mechanism. The growing importance of stewardship as a tool to drive impact can be linked to the increasing view that active ownership is critical for the next phase of sustainable finance, because negative screening and exclusions are "no longer doing enough." With both high public equities and fixed-income exposure, Amundi engages with companies on both ESG and impact, because the sustainability factors that they focus on are "linked to a dual materiality perspective." This is a bold statement that stands out among other descriptions of impact in the sample.

DRIVERS OF IMPACT

- Discontent with ESG

Compared to public equities investors, fixed-income and private equity investors have longer holding periods, and this presents a particular opportunity to deliver impact over time via portfolio companies. However, although longer periods complement the long-termism required for meaningful sustainable investing, our research did not show that the world's largest asset managers in fixed income or private equity were using this structural quality to drive impact within their traditional or ESG funds. This illustrates that although asset classes may have unique features that position them to drive impact, the world's largest investors are not currently using these features as leverage for double materiality.

Spotlight: Impact reporting from Boston Common Asset Management (BCAM)

BCAM's impact report provides quantified, thorough, and thoughtful coverage of their investment activities on societal outcomes. In this notable report, BCAM describes their approach to impact through the four pillars of sustained dialogue, public policy, shareholder resolutions, and thought leadership, providing examples and relevant metrics of the engagement activities and sustainability-themed initiatives. Although BCAM's impact reporting is not aligned with a specific impact framework, which could bolster the disclosure, it provides meaningful information for readers by describing the firm's approach, methods, and outcomes of impact integration into their engagement activities.

Spotlight: Sustainability data tools

Asset managers have created their own sustainability data tools to assist with sustainable investing. The tools largely fall into two buckets:

- **Data aggregator tools –** These tools combine a variety of ESG data sets for users, and
- **Performance measurement –** These tools measure a company's exposure or progress toward specific sustainability factors.

Data Aggregator Tools		Performance Measurement Tools	
Public Equity		*Public Equity*	
Goldman Sachs' ESG Scorecard	Standardized framework for stock level due diligence and baseline assessments of a company's ESG characteristics relative to peers	**Schroders's CarbonVar**	Measures a company's exposure to the risks associated with the transition to a low carbon world (e.g., carbon pricing scenarios)
Legal & General's ESG Scores	Combines an 'E' score, a 'S' score and a 'G' score of companies from a total of 28 indicators obtained from various 3rd party data providers	**Schroders's SustainEx**	Measures, quantifies, and values (in dollar terms) the positive or negative social and environmental impacts of companies, which enables impact to be communicated in standardized, financial terms
Private Equity		*Private Equity*	
Schroder's CONTEXT	Determines key ESG trends by sector for analysis of sustainability risk for a company's business model	**TPG Capital's Impact Multiple of Money (IMM)**	Measures, quantifies, and values (in dollar terms) the positive or negative social and environmental impacts of a company (only for impact investments)
Fixed Income		*Public Equity & Fixed Income*	
Schroder's Municipal US Sustainability (MUSE)	Examines and assesses regional, state and local issuers based on over 40 unique factors across four E, S, and G factors from a variety of sources	**State Street's truView**	End-to-end risk solution that uses historic revaluation methodologies to help with stress testing, macroeconomic sensitivity analyses, and ESG analytics
Public Equity & Fixed Income		**BlackRock's Carbon Beta**	Carbon pricing scenario tool that uncovers risks and investment opportunities within portfolios
BlackRock's Aladdin Sustainability	Suite of data and tools that includes ESG metrics from leading data providers and on climate risk exposure	**JP Morgan Chase's Carbon Compass**	Evaluation of relative performance and progress towards decarbonization aligned with the Paris Agreement
State Street's R-Factor™	ESG scoring system that leverages and aligns multiple data sources	*All Three Asset Classes*	
Russel Investments' Explorer	Provides holdings-based ESG reports that include ESG risk data from Sustainalytics and carbon footprint data from MSCI	**Neuberger Berman's NB ESG Quotient**	Highlights ESG considerations with potentially material impacts on results at both company and portfolio level in the form of ESG ratings
Legal & General's Climate Impact Pledge ratings	Combines quantitative and qualitative indicators from a range of data providers to measure companies' performance against 40 indicators derived from TCFD recommendations		

Tools with double materiality considerations are highlighted in **red**. Tools that measure impact with double materiality consideration are highlighted in **green**.

Section Three: What's Next? Tools and Innovations to Enable Sustainable Finance 3.0

It's clear that the world's largest asset managers are starting to consider and publicly discuss how their investments impact people and the planet. Although it is uncertain whether investors will actively finance a better world, it was unthinkable just a few years ago that asset managers would publicly discuss double materiality.

The future of sustainable finance 3.0 will depend upon investor-friendly impact data and methodologies. Fortunately, some of the tools needed to implement sustainable finance 3.0 have either been developed or are currently under development at the time of writing this publication. This section will:

- Compare metrics used for sustainable finance 2.0 (ESG) and sustainable finance 3.0 (impact)
- Highlight key developments on double materiality-inclusive reporting
- Explain existing impact measurement frameworks
- Provide an overview of the third-party impact data landscape.

From input and output to outcome and impact data

Sustainable finance 2.0 is focused on the inputs and outputs of business activities. However, sustainable finance 3.0 requires outputs to be linked to impacts (see Figure 3). As a result, impact reporting will involve a shift from disclosing "What resources have been used for business activities?" (inputs) and "What activities have been done?" (outputs) to "What has changed because of the business activities?" (outcomes) and "How does the outcome affect society?" (impact). Corporate impact disclosure is critical for sustainable finance 3.0.

Companies that currently disclose output metrics for ESG reporting can also report on impact to a degree. This is because much of the data needed to report on impact is generated through existing non-financial reporting frameworks. Many of the financially material metrics included in SASB and GRI disclosures are also applicable to metrics for double materiality (e.g., water withdrawal, GHG emissions, and employee diversity). As mentioned in Section I, existing resources for impact reporting are widely available, and frameworks like IWAI use some output metrics from SASB to measure impact. However, companies that undertake impact measurement and management quickly realize the gaps in existing ESG data for impact reporting. Current ESG reporting frameworks and datasets are by no means inclusive of all the data points needed to comprehensively report on impact. For investors, the implications of additional metrics required for impact reporting and analysis will ultimately be a challenge for themselves and third-party data providers to solve.

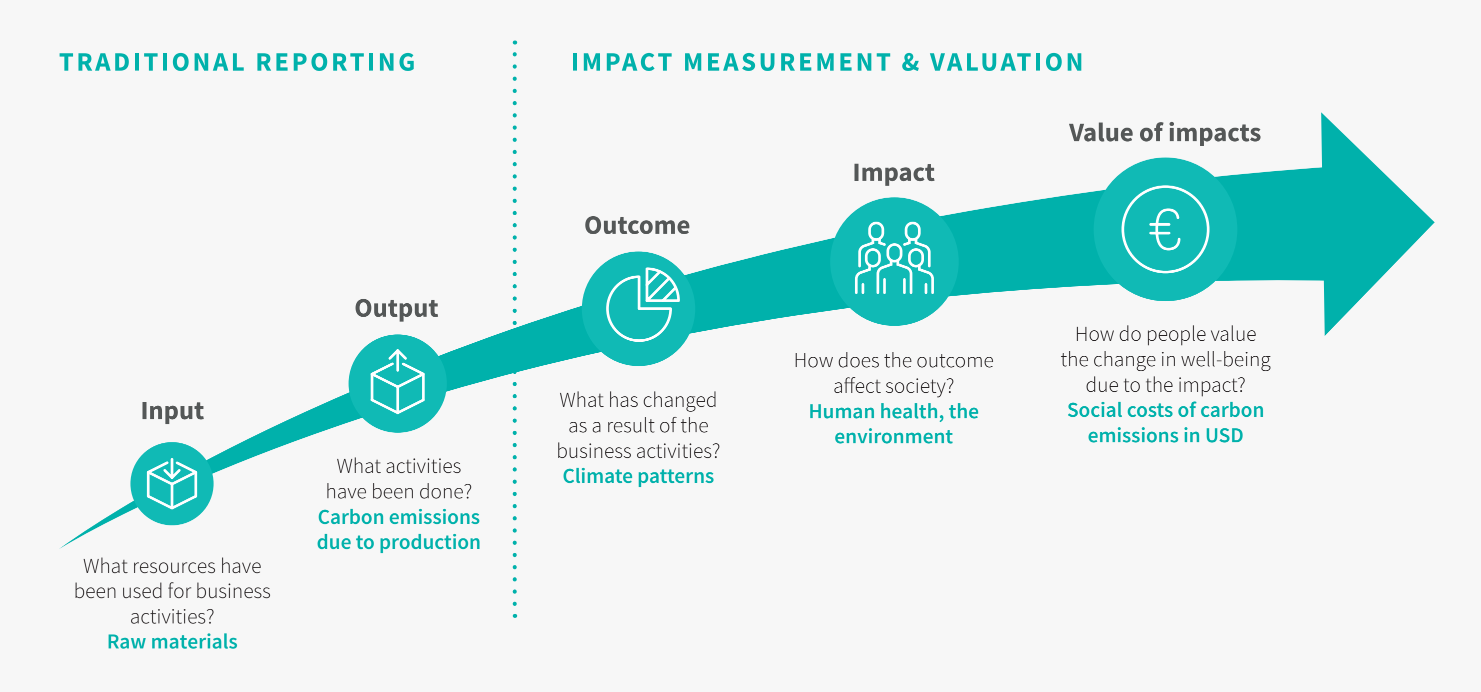


Figure 3. Comparing traditional non-financial reporting to impact. *Source: Value Balancing Alliance*

Impact reporting

Effective corporate reporting that supports sustainable finance 3.0 will need to be grounded in double materiality. To date, first developments to drive outward impact-inclusive disclosures can be observed both on the public regulatory and market self-regulatory fronts.

Europe is currently leading the way, with the EU's Corporate Sustainability Reporting Directive (CSRD) enshrining a double materiality perspective into law, which is expected to drive a fundamental shift in corporate reporting for nearly 50,000 companies doing business on the continent. The CSRD is closely tied to the investor-targeted Sustainable Finance Disclosure Regulation (SFDR), which mandates the consideration of double materiality for asset managers. In other parts of the world, however, few other regulators have set plans to follow suit.

Market-driven initiatives have also recently made moves to incorporate double materiality into sustainability reporting. A significant development on this front is the International Sustainability Standards Board's (ISSB) recently announced intent to coordinate their work programs and standard-setting activities with the Global Reporting Initiative (GRI).

The GRI Standards are the world's most widely used for sustainability reporting and incorporate double materiality considerations. The GRI is aware of their role in advocating double materiality and influence in changing baseline corporate disclosures, but has expressed doubt that the ISSB "has the ambition to arrive at true impact reporting," due to their exclusive focus on financial materiality. The metrics covered in the GRI Standards will be critical to filling data gaps that exist for comprehensive impact measurement.

AT COP26, the IFRS Foundation announced the establishment of the ISSB to "develop a comprehensive global baseline of investor-focused sustainability disclosures for the capital markets." The ISSB will consolidate the Climate Disclosure Standards Board (CDSB) and the Value Reporting Foundation (VRF), which was formed earlier in 2021 after a merger between the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB).

Impact measurement and management (IMM) frameworks

Context

All investments create positive and negative societal impacts. IMM is the process of assessing how much environmental and social impact has occurred because of an organization's actions. IMM was initially developed for use in philanthropic impact investing and is increasingly used for impact investing aimed at market rate or better returns. Most impact measurement frameworks were designed for companies to calculate their impacts. This is a disadvantage for investors given the lack of available third-party impact data. However, the Impact Management Platform, which was founded with a purpose to mainstream impact reporting, said it will release investor-specific guidance on impact measurement in 2022.

Overview of three leading impact measurement frameworks

As mentioned in the section entitled "Drivers towards the next phase," several impact measurement frameworks and standards have been developed. Based on research from the Banking for Impact working group, we selected three notable frameworks based on their high ratings of specificity, neutrality, and robustness compared to other approaches (please refer to the Appendix for more details on impact measurement approaches).

DRIVERS OF IMPACT

- Existing frameworks and standards

Notably, each of these frameworks also monetizes impact via valuation methods. The goal of monetization is to calculate societal costs and benefits in financial terms, because dollars are a common language and a meaningful signal to corporates and investors about the scale of sustainability issues that are otherwise difficult for them to compare.

Impact-Weighted Accounts Initiative (IWAI) – IWAI was started at Harvard Business School (HBS) by Professor of Business Administration George Serafeim.[2] Serafeim designed impact-weighted accounts to measure and monetize a company's impacts and capture its overall value to society. The IWAI approach is aimed at creating large-scale data that will be useful for research, corporates, and investors. At the time of publication, impact-weighted accounts have primarily been applied to undisclosed companies in a series of white papers published by HBS. However, a few companies have published impact-weighted accounts, including Eisai, a Japanese pharmaceutical company, and Acciona, a Spanish infrastructure and energy conglomerate.

Value Balancing Alliance (VBA) – The VBA was initially founded as a non-profit organization of allied multinational companies. Like IWAI, the VBA monetizes social and environmental outcomes to communicate impact in financial terms. While the VBA differs from IWAI in that it was designed from an industry and practitioner perspective rather than an

2. Professor George Serafeim is the co-Founder of KKS Advisors

academic one, both share "fundamental principles." In a joint statement released in 2021, the VBA and IWAI announced their collaboration to co-develop areas of standardized methodologies to harmonize both approaches. In 2020, 11 VBA members participated in the first pilot study, which successfully tested the methodology for feasibility, scalability, and robustness. Since the pilot, the World Economic Forum and the International Business Council have agreed to support the project as the VBA continues to further develop and refine its methodology.

Capitals Coalition – The coalition was formed as a global collaboration aimed at helping organizations understand their interconnections with natural capital, social capital, human capital, and produced capital. The Capitals Coalition has published two "decision-making frameworks," the Natural Capital Protocol and the Social & Human Capital Protocol. The protocols enable companies to identify, measure, and value their impacts for themselves and investors.

The Capitals Coalition's protocols predate the VBA and IWAI methodologies and their approach differs from the approaches of the VBA and IWAI primarily because it was informed by ecological economics, which acknowledges the interconnected stocks and flows of four "types" of capital: natural capital, social capital, human capital, and produced capital. In contrast, IWAI categorizes impact into employment impact, environmental impact, and product impact. The Coalition's approach was developed from a systems view of interconnected environmental and social flows, whereas the approaches of IWAI and VBA were developed from a financial accounting perspective.

Overview of the third-party impact data landscape

The growth of sustainable finance 3.0 will rely upon third-party data providers. At the time of publication, there was limited third-party impact data available. Additionally, three out of the four impact data providers on the market do not align or standardize their products with leading impact reporting frameworks.

Available impact data at the time of publication can be categorized into three types:

- **Impact insights platforms –** These data providers source data from a variety of mostly undisclosed sources and combine them to create what they call "impact insights."
- **Product impact data –** This type of niche data is focused on product impacts, defined as outcomes that result from using a good or service once it has been sold.
- **Geospatial data –** Geospatial data uses images from satellites, drones, and other earth observation machines to capture changes to landscapes and physical assets over time.

Impact insights platforms

The impact-related products offered by these data providers vary greatly. Some data providers rely on relative revenue exposure to sustainability themes to map impact areas while others aggregate data from a variety of publicly available sources, including company reports and macroeconomic data, to inform their impact insights. Notably, none of the impact insight data providers align with impact reporting frameworks such as the VBA, IWAI, and the Capitals Coalition.

Additionally, none of the data providers disclose the sources of their impact data. The impact insights data market is just beginning and as the market matures, vendors could and should disclose their data sources.

- MSCI Impact Solutions offers "impact metrics and data" that cover general social and environmental impact themes among over 10,300 companies. The service measures the revenue exposure of an investor's portfolio to sustainable impact themes and compares it to a benchmark. However, the service does not measure impact in a manner that supports sustainable finance 3.0 as outlined in this report, because it does not capture the quantifiable outcomes and impacts of a company on people and the planet. It uses relative qualitative alignment factors of relative revenue generation to map alignment with their predetermined sustainability themes. Our view is that this mapping technique does not relate to or measure impact.

CHALLENGES FOR IMPACT

- Inadequate data

- Proof of Impact is a seed-stage start-up that generates "impact platforms" using raw data from a variety of data sources and translates it "into meaningful impact, ESG, and financial insights." Proof of Impact uses data intelligence for real-time data collection and analysis. According to their website, "[Proof of Impact] believes the market will transition to the next generation of digital-first, impact-embedded investments." It is unclear what data Proof of Impact uses or how the company uses the data to form its insights.

Spotlight: Measuring stakeholder capitalism - World Economic Forum (WEF)

At the 2020 Annual Meeting in Davos, over one hundred of the largest global companies agreed that a common set of ESG metrics and disclosures were essential for investors and stakeholders. In response, the WEF's Measuring Stakeholder Capitalism report defined a set of "core" and "expanded" non-financial metrics. Of additional interest is that several sections of the report explain the opportunity for these metrics to be used for environmental impact measurement and monetization. The report stated, "Valuation of environmental impacts is increasingly recognized as the most efficient and effective way of incorporating as much relevant information as possible to provide estimates of actual impact, rather than simply measures of outputs as is the case with most quantitative environmental metrics."

- OpenInvest is a sustainability data provider focused on outcomes and values-based reporting. OpenInvest explains that its data focuses on the impacts that occur post-portfolio construction and uses "much of the same underlying data sources as traditional ESG data." It advertises causes such as "divesting from the Prisoner Industrial Complex" and "defunding pipelines on indigenous land" as investment objectives that their values-based service can support. JP Morgan acquired OpenInvest in 2021. It will retain its brand and its offerings will be integrated into JP Morgan's Private Bank and Wealth Management services.

DRIVERS OF IMPACT

- Demand for meaningful sustainable investments

- Clarity AI offers a fully customizable dashboard suited for ESG data needs related to risk, compliance, climate, and impact. Their impact data products include those related to SDG scoring and quantified impact metrics. Clarity AI's Real-world Impact Insights tool generates an impact highlights report of a user's portfolio by translating company-reported outputs into tangible sustainability outcomes (e.g., investing £1 million in a Sustainable Portfolio is equivalent to reducing waste equivalent to 240 trashcans, increasing employment growth by 8%). In 2021, Environmental Finance magazine named Clarity AI the impact investing platform of the year.

Product impact data

The start-up Richmond Global Sciences (RGS) provides the first monetized environmental and social impact data at the product level.[3] Product impact consists of both positive and negative impacts that occur when a good or service is used. For example, the product impact of a diesel car could be the positive social impact of mobility and the negative environmental impact of GHG emissions.

RGS data aligns with the IWAI framework, the UN SDGs, and the European Union taxonomy. At the time of writing this publication, RGS offers a beta version of its data.

Geospatial data

Geospatial data is starting to be applied to sustainable finance. Information collected by satellites, aerial devices, and drones is used to directly measure firms' impacts on environmental factors like GHG emissions and deforestation. Notably, this information can be used on an asset, corporate, or sovereign level. Additional benefits include:

- The ability to collect sustainability information that is not self-reported by companies,
- Neutral, unbiased, and consistent data, and
- The ability to collect sustainability information more frequently.

However, there are some limitations for geospatial data as it emerges into the mainstream. The Geospatial ESG Report from the World Wildlife Fund cites many positives about the data, but notes two key drawbacks: (1) There are no universal frameworks or metrics for defining the environmental impact of various asset classes, and (2) Geospatial ESG relies on open-source data which has gaps, but is improving year on year with support from intergovernmental initiatives.

There are very few providers of geospatial data for use in sustainable finance. One is OxEO, short for Oxford Earth Observations, which uses "machine learning to reduce forty years of earth observation records to insights into water, emissions, land use, and biodiversity risk" and produces forward-looking perspectives on environmental risks using the latest climate science. OxEO was founded by academics at the University of Oxford but is aimed at providing a commercial solution. At the time of writing this publication, OxEO did not have a beta version available.

3. Professor George Serafeim and Sakis Kotsantonis are the co-Founders of both KKS Advisors and Richmond Global Sciences.

Section Four : Conclusion

Deadlines to reach the SDGs by 2030 and key targets of the Paris Agreement are fast approaching. In theory, sustainable finance 3.0, if underpinned by rigorous impact measurement and management, has the potential to drive progress towards these global goals. In practice, the uptake of impact measurement and management by the world's largest asset managers is not happening at scale. However, the world's largest asset managers are publicly discussing the role that impact plays in their investment processes and stewardship. Consultants and allocators are increasingly requesting information on impact, incentivizing managers to take action and shift their asset flows. This is a positive development and demonstrates a maturing view of sustainable finance in capital markets.

In addition to stakeholders, governments also have a shared interest in sustainable finance 3.0. Governments need capital markets to assist with contributing to positive societal outcomes because they do not have sufficient public capital to do so, especially within the time frames required to avoid the most acute dangers of climate change, biodiversity loss, and social unrest. Despite these drivers, conventional investor attitudes towards fiduciary duty and shareholder capitalism, combined with a lack of will and inadequate data, threaten progress towards sustainable finance 3.0. Yet, it seems more likely than not that the rise of stakeholder capitalism and the momentum of self-regulatory initiatives will drive the penetration of impact further into capital markets.

Maintaining the status quo in sustainable finance requires actively accepting that capital markets contribute to a measurable level of negative societal outcomes. Ultimately, the future of sustainable finance 3.0 in capital markets depends upon investors' will to act. Although investors say they are up to the challenge, there is a large gap between rhetoric and delivery, especially in the absence of global accountability mechanisms and growing nationalism. It is uncertain whether investment managers will support the mobilization of capital at scale and in a timely enough manner to deliver positive societal outcomes. What seems more likely is uneven progress towards regional sustainability goals that are driven by cultural values or political motives depending on the country context.

Niche investment firms, specialist consultancies, and stakeholders may push for impact to be mainstreamed, but it will require the largest market players to challenge the status quo of ESG and mobilize capital towards impact. If progress on climate change is indicative of the investment community's response to other environmental and social problems, it's safe to say scalable solutions likely won't happen in time to avoid the worst devastation. However, there is still time to act. It is imperative that asset managers embrace impact and widely use it as an investment strategy. To expedite this, stakeholders and regulators will need to push for the investment community to finance a just transition.

Section Five : Appendix

Details of data collection

Data collection took place between November and December of 2021. Data sources included annual reports, ESG/sustainability reports, 10-Ks, company websites (e.g., stewardship and sustainable investment policies and approaches), and UN PRI Signatory Reports. The data collection templates were tailored to the three asset classes evaluated (public equities, private equity, and fixed income). Each template contained 55+ questions. Examples of questions in the data collection are included in the table below.

Selection of questions from data collection templates		
Asset class	**Category**	**Question**
Public equities	Approach to stewardship	Does the engagement strategy target sustainability outcomes?
Public equities	Approach to stewardship	Does the firm measure the sustainability outcomes of their proxy voting?
Private equity	Reporting	Does the firm report on the sustainability outcomes of their investments?
Private equity	Reporting	Does the firm ask investee companies to report on non-financial disclosure frameworks?
Fixed income	Approach to sustainable investing	How does the firm incorporate ESG factors into fixed-income investment and/or management processes and strategies?
Fixed income	ESG data and tools	Does the firm have any proprietary ESG data or tools?

Impact measurement approaches

In the Banking for Impact paper, impact experts evaluated a selection of impact measurement and valuation approaches to assess effectiveness and credibility. They examined the approaches using the following three criteria:

- **Specificity:** the degree to which an initiative is specific in providing insight into an actual process instead of a high-level overview
- **Robustness:** the degree to which the presented method is based on price discovery methodologies and academic/scientific approaches
- **Neutrality:** the degree to which an initiative is free from the influence of a political or special interest group's preferred pricing

Shortlist of impact measurement and valuation approaches			
Approach	**Specificity**	**Robustness**	**Neutrality**
Impact-Weighted Accounts	High	High	High
Value Balancing Alliance	High	High	Medium
Capitals Coalition	Medium	High	High
Sustainability Accounting Standards Board (SASB)	Medium	Medium	High
Global Reporting Initiative (GRI)	Medium	Medium	High
Taskforce on Climate-related Financial Disclosures (TCFD)	Medium	Low	High

Source: *Banking for Impact*

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