CHAPTER

1

Introduction to ESG Investing

LEARNING OUTCOMES

Mastery	The candidate should be able to:	
☐	1.1.1	define ESG investment and different approaches to ESG investing: responsible investment, socially responsible investment, sustainable investment, best-in-class investment, ethical/values-driven investment, thematic investment, green investment, social investment, shareholder engagement
☐	1.1.2	define the following sustainability-based concepts in terms of their strengths and limitations: corporate social responsibility and triple bottom line (TBL) accounting
☐	1.1.3	describe the benefits and challenges of incorporating ESG in decision making, and the linkages between responsible investment and financial system stability
☐	1.1.4	explain the concepts of the financial materiality of ESG integration, double materiality, and dynamic materiality and how they relate to ESG analysis, practices, and reporting
☐	1.1.5	explain different ESG megatrends, their systemic nature, and their potential impact on companies and company practices
☐	1.1.6	explain the three ways in which investors typically reflect ESG considerations in their investment process
☐	1.1.7	explain the aims of key supranational ESG initiatives and organizations and the progress achieved to date

INTRODUCTION

There was a time when environmental, social, and governance (ESG) issues were the niche concern of a select group of ethical or socially responsible investors. That time is long gone.

The consideration of ESG factors is becoming an integral part of investment management. Asset owners and investment managers are developing ways to incorporate ESG criteria into investment analysis and decision-making processes. The emergence of responsible investment proponents, such as the United Nations Principles for Responsible Investment (PRI), has encouraged a fundamental change in investment practices whereby investors explicitly employ ESG factor analysis to enhance returns

and better manage risks. Societal and client pressure and the growing evidence of the direct financial benefits of incorporating ESG analysis have led integration to become more mainstream.

This chapter provides an overview of the concept of ESG investing, as well as the different types of responsible investment and their implications. It highlights the main benefits of integrating ESG factors and identifies ways in which ESG investing is implemented in practice.

ESG investing sits within a broader context of sustainability; this chapter also highlights a number of key initiatives in the business and investment communities that seek to assist all parties to navigate the associated challenges.

2 WHAT IS ESG INVESTING?

☐ **1.1.1** define ESG investment and different approaches to ESG investing: responsible investment, socially responsible investment, sustainable investment, best-in-class investment, ethical/values-driven investment, thematic investment, green investment, social investment, shareholder engagement

ESG investing is an approach to managing assets where investors explicitly incorporate **environmental, social, and governance (ESG)** factors in their investment decisions with the long-term return of an investment portfolio in mind.

Long-Termism and ESG Investing

Many stakeholders of investment, including finance regulators, have recognized the shortfalls of **short-termism** in investment practice and have sought to increase awareness of the value of **long-termism** and encourage this approach.

Short-termism covers a wide range of activities. For the purpose of this topic, the two most relevant ones are

- trading practices, where investors trade based on short-term momentum and price movements rather than long-term value, and
- investors engaging with investee companies in a way that prioritizes maximizing quarterly financials.

These short-term investing strategies might offer rewards but may have consequences for the long term. With its disproportionate focus on quarterly returns, short-termism may leave companies less willing to take on projects (such as research and development) that may take multiple years – and patient capital – to develop. This was indeed confirmed by a review conducted on the UK equity market and long-term decision-making by Professor John Kay for the UK Government in 2012.[1] Instead of productive investment in the real economy, short-termism may promote bubbles, financial instability, and general economic underperformance. Furthermore, short-term investment strategies tend to ignore factors that are generally considered more long term, such as ESG factors. Because of the adverse effects mentioned, regulators are

1 John Kay, "The Kay Review of UK Equity Markets and Long-Term Decision Making: Final Report" (July 2012).

catching up and taking action. For example, the **Shareholder Rights Directive (SRD)** was issued by the European Union (EU) in September 2020, requiring investors to be active owners and to act with a more long-term focus.

In other words, ESG investing aims to correctly identify, evaluate, and price social, environmental, and economic risks and opportunities. ESG factors are defined in Exhibit 1.

Exhibit 1: ESG Factors Defined

	Environmental Factors	Social Factors	Governance Factors
Definition	Factors pertaining to the natural world. These include the use of and interaction with renewable and non-renewable resources (e.g., water, minerals, ecosystems, and biodiversity).	Factors that affect the lives of humans. The category includes the management of human capital, non-human animals, local communities, and clients.	Factors that involve issues tied to countries and/or jurisdictions or are common practice in an industry, as well as the interests of broader stakeholder groups.

The Definition and Scope of ESG Issues

There is currently no universal standard for assigning "E," "S," and "G" issues, and they may overlap with one another. The assignment of these issues depends on the specific properties of investors, businesses, and their stakeholders. **Stakeholders** are members of groups without whose support an organization would cease to exist,[2] as well as communities impacted by companies and regulators.

Examples of the definition and scope of ESG issues can be illustrated by the two widely referenced organizations in Exhibit 2 and Exhibit 3.

Exhibit 2: Examples of ESG Issues

Environmental	Social	Governance
▸ Climate change	▸ Human rights	▸ Bribery and corruption
▸ Resource depletion	▸ Modern slavery	▸ Executive pay
▸ Waste	▸ Child labor	▸ Board diversity and structure
▸ Pollution	▸ Working conditions	▸ Trade association, lobbying, and donations
▸ Deforestation	▸ Employee relations	▸ Tax strategy

Source: PRI, "What Is Responsible Investment? (2020). www.unpri.org/an-introduction-to-responsible-investment/what-is-responsible-investment/4780.article.

2 R. Edward Freeman and David L. Reed, "Stockholders and Stakeholders: A New Perspective on Corporate Governance," *California Management Review* 25 (April 1983): 88–106. www.researchgate.net/publication/238325277_Stockholders_and_Stakeholders_A_New_Perspective_on_Corporate_Governance.

Exhibit 3: Your Guide to ESG Reporting

Source: FTSE Russell, "FTSE Russell Stewardship, Transition and Engagement Program for Change: 2018 STEP Change Report" (2018). https://content.ftserussell.com/sites/default/files/research/ftse_russell_step_change_2018_report.pdf.

3 TYPES OF RESPONSIBLE INVESTMENT

☐ 1.1.2 define the following sustainability-based concepts in terms of their strengths and limitations: corporate social responsibility and triple bottom line (TBL) accounting

ESG investing is part of a group of approaches collectively referred to as **responsible investment**. ESG investing is concerned with how ESG issues can impact the long-term return of assets and securities, whereas other responsible investment approaches can also take into account non-financial value creation and reflect stakeholder values in an investment strategy. There is no standard set of criteria for identifying responsible investment. The main investment approaches are presented in this section to demonstrate the wide spectrum of different types of responsible investment.

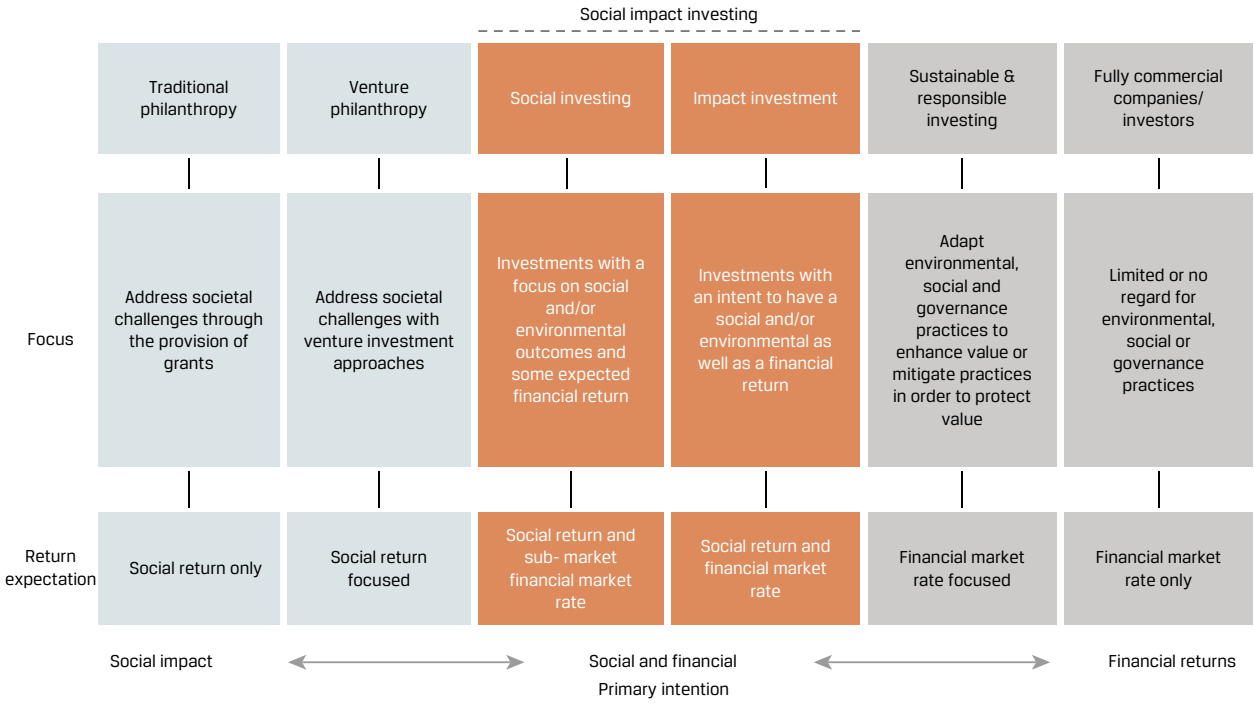
Responsible investment is an umbrella term for the various ways in which investors can consider ESG factors within security selection and portfolio construction. As such, it may combine financial and non-financial outcomes and complements traditional financial analysis and portfolio construction techniques.

All forms of responsible investment except for engagement are ultimately related to portfolio construction (in other words, which securities a fund holds). Engagement, both by equity owners and bond holders, concerns whether and how an investor tries to encourage and influence an issuer's behavior on ESG matters. There is no standard classification in the industry; the types of responsible investment overlap and evolve over time.

Exhibit 4 illustrates some of the conceptual differences between these approaches and how they range from strictly "finance-only" investment, with no consideration of ESG factors, to the other end of the spectrum, where the investor may be prepared to accept below-market returns in exchange for the high positive impact the projects and

companies in the portfolio deliver. As investors move toward the left-hand side of the spectrum, they are increasingly interested in aligning their capital with ESG-related investment opportunities, in order to capture associated financial returns and/or to have a positive impact by financing solutions to societal challenges.

Exhibit 4: A Spectrum of Capital



Source: Organisation for Economic Co-Operation and Development (OECD) (2019), *Social Impact Investment 2019: The Impact Imperative for Sustainable Development*, OECD Publishing, Paris, doi.org/10.1787/9789264311299-en. Used with permission of OECD; permission conveyed through Copyright Clearance Center, Inc.

Note: For illustrative purposes only.

Responsible Investment

Responsible investment is a strategy and practice to incorporate ESG factors into investment decisions and active ownership.[3] It is sometimes used as an umbrella term for some (or all) of the investment approaches mentioned in the following subsections.

At a minimum, responsible investment consists of mitigating risky ESG practices in order to protect value. To this end, it considers both how ESG might influence the risk-adjusted return of an asset and the stability of an economy and how investment in and engagement with assets and investees can impact society and the environment.

Socially Responsible Investment

Socially responsible investment (SRI) refers to approaches that apply social and environmental criteria in evaluating companies. Investors implementing SRI generally score companies using a chosen set of criteria, usually in conjunction with sector-specific

3 PRI, "What Is Responsible Investment?"

weightings. A **hurdle** is established for qualification within the investment universe, based either on the full universe or sector by sector. This information serves as a first screen to create a list of SRI-qualified companies.

SRI ranking can be used in combination with best-in-class investment, thematic funds, high-conviction funds, or quantitative investment strategies.

Best-in-Class Investment

Best-in-class investment (also known as "positive screening") involves selecting only the companies that overcome a **defined ranking hurdle**, established using ESG criteria within each sector or industry.

- Typically, companies are scored on a variety of factors that are weighted according to the sector.
- The portfolio is then assembled from the list of qualified companies.

Bear in mind, though, that not all best-in-class funds are considered "responsible investments."

Due to its all-sector approach, best-in-class investment is commonly used in investment strategies that try to maintain certain characteristics of an index. In these cases, security selection seeks to maintain regional and sectorial diversification along with a similar profile to the parent market-cap index while targeting companies with higher ESG ratings. The tracking error for **MSCI World SRI**, which is designed to represent the performance of companies with high ESG ratings and employs a best-in-class selection approach to target the top 25% companies in each sector, is only 1.79% (see Exhibit 5).

Exhibit 5: Characteristics of an SRI Index Using a Best-in-Class Approach (not tested; for illustration only)

Sector	Parent Index (%)	SRI Index (%)	Region	Parent Index (%)	SRI Index (%)	ESG Rating	Parent Index (%)	SRI Index (%)
Information technology	18.1	19.6	US	63.8	60.7	Leader	24	67
Financials	15.4	14.6		8.1	7.5	Average	65	33
Health care	12.9	13.4	Japan UK	5.3	—	Laggard	10	0
Industrials	11	11.1	Canada	3.4	3.8			
Consumer discretionary	10.3	10.9	France	3.7	4.3			
Consumer staples	8.3	10.0	Other	15.7	19.2			
Communication services	8.5	4.5						
Materials	4.2	4.9						
Energy	4.5	4.4						
Utilities	3.6	3.2						
Real estate	3.3	3.6						

Source: MSCI, "MSCI SRI Indexes" (2020). www.msci.com/msci-sri-indexes.

Sustainable Investment

Sustainable investment refers to the selection of assets that contribute in some way to a sustainable economy—that is, an asset that minimizes natural and social resource depletion.

- It is a broad term, with a broad range of interpretations that may be used for the consideration of typical ESG issues.
- It may include best-in-class and/or **ESG integration**, which considers how ESG issues impact a security's risk and return profile.
- It is further used to describe companies with positive impact or companies that will benefit from sustainable macro-trends.

The term "sustainable investment" can also be used to mean a strategy that screens out activities considered contrary to long-term environmental and social sustainability, such as coal mining or exploring for oil in the Arctic regions.

Thematic Investment

Thematic investment is investment in themes or assets specifically related to ESG factors, such as clean energy, green technology, sustainable agriculture, gender diversity, or affordable housing. This approach is often based on needs arising from economic or social trends. Two common investment themes focus on increased demand for energy and water and the availability of alternative sources of each. Global economic development has raised the demand for energy at the same time as increased greenhouse gas emissions are widely believed to negatively affect the earth's climate. Similarly, rising global living standards and industrial needs have created a greater demand for water and the need to prevent drought or increase access to clean drinking water in certain regions of the world. While these themes are based on trends related to environmental issues (refer to the following subsection), social issues—such as access to affordable health care and nutrition, especially in the poorest countries in the world—are also of great interest to thematic investors (refer to the subsequent "Social Investment" section.

Bear in mind, though, that not all thematic funds are considered to be responsible investments or best-in-class. Becoming such a fund depends not only on the theme of the fund but also on the ESG characteristics of the investee companies.

Green Investment

Green investment refers to allocating capital to assets that mitigate

- climate change,
- biodiversity loss,
- resource inefficiency, and
- other environmental challenges.

These can include

- low-carbon power generation and vehicles,
- smart grids,
- energy efficiency,
- pollution control,
- recycling,
- waste management and waste of energy, and
- other technologies and processes that contribute to solving particular environmental problems.

Green investment can thus be considered a broad subcategory of thematic investing and/or impact investing. Green bonds, a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects, are commonly used in green investing.

Further details on green investing and green bonds can be found in Chapter 3.

Social Investment

Social investment refers to allocating capital to assets that address social challenges. These can be products that address the **bottom of the pyramid (BOP)**. "BOP" refers to the poorest two-thirds of the economic human pyramid, a group of more than four billion people living in poverty. More broadly, BOP refers to a market-based model of economic development that seeks to simultaneously alleviate poverty while providing growth and profits for businesses serving these communities. Examples include

- micro-finance and micro-insurance,
- access to basic telecommunication,
- access to improved nutrition and health care, and
- access to (clean) energy.

Social investing can also include social impact bonds, which are a mechanism to contract with the public sector. This sector pays for better social outcomes in certain services and passes on part of the savings achieved to investors.

Impact Investment

Impact investing refers to investments made with the specific intent of generating positive, measurable social or environmental impact alongside a financial return (which differentiates it from philanthropy). It is a relatively smaller segment of the broader responsible investing market. Impact investing is usually associated with direct investments, such as in private debt, private equity, and real estate. However, in recent years, impact investing has increasingly become mainstream in the public markets.

Impact investments can be made in both emerging and developed markets. They provide capital to address the world's most pressing challenges. An example is investing in products or services that help achieve one (or more) of the 17 Sustainable Development Goals (SDGs) launched by the United Nations in 2015, such as the following:

- "SDG 6: Clean Water and Sanitation—Ensure availability and sustainable management of water and sanitation for all"
- "SDG 11: Sustainable Cities and Communities—Make cities and human settlements inclusive, safe, resilient and sustainable" [4]

Measurement and tracking of the agreed-upon impact generally lie at the heart of the investment proposition.

Impact investors have diverse financial return expectations. Some intentionally invest for below-market-rate returns in line with their strategic objectives. Others pursue market-competitive and market-beating returns, sometimes required by fiduciary responsibility. The **Global Impact Investing Network (GIIN)** estimated the size of the global impact investing market to be US$502 billion (£361billion); its 2019 annual survey indicated that 66% of investors in impact investing pursue competitive, market-rate returns.[5]

4 https://sdgs.un.org/goals.

5 A. Mudaliar, R. Bass, H. Dithrich, and N. Nova, "2019 Annual Impact Investor Survey". Global Impact Investing Network (19 June 2019). https://thegiin.org/research/publication/impinv-survey-2019.

Ethical (or Value-Driven) and Faith-Based Investment

Ethical and faith-based investment refers to investing in line with certain principles, often using negative screening to avoid investing in companies whose products and services are deemed morally objectionable by the investor or certain religions, international declarations, conventions, or voluntary agreements. Typical exclusions include

- tobacco,
- alcohol,
- pornography,
- weapons, and
- significant breach of agreements, such as the **Universal Declaration of Human Rights** or the **International Labour Organization's Declaration on Fundamental Principles and Rights at Work**.

From religious individuals to large religious organizations, faith-based investors have a history of shareholder activism to improve the conduct of investee companies. Another popular strategy is portfolio building with a focus on screening out the negative; in other words, avoiding "sin stocks" or other assets at odds with their beliefs.

In the following subsections, we cover a few examples of faith-based negative screening.

Christian

Investors wishing to put their money to work in a manner consistent with Christian values seek to avoid, in addition to the activities listed previously, investing in firms that

- facilitate abortion, contraceptives, or embryonic stem-cell research or
- are involved in the production and sale of weapons.

They often favor firms that support human rights, environmental responsibility, and fair employment practices via the support of labor unions.

Shari'a

Investors seeking to follow Islamic religious principles cannot do the following:

- invest in firms that profit from alcohol, pornography, or gambling;
- invest in companies that carry heavy debt loans (and therefore pay interest);
- own investments that pay interest;
- liaise with firms that earn a substantial part of their revenue from interest; or
- invest in pork-related businesses.

Exhibit 6 shows negative screening strategies for various types of funds.

Exhibit 6: Negative Screening Strategies

Negative Screening	Christian Funds	Islamic Funds	SRI Funds
Alcohol	X	X	X
Gambling	X	X	X
Tobacco	X		X
Pornography	X	X	
Pork products		X	
Interest-based financial services		X	

Negative Screening	Christian Funds	Islamic Funds	SRI Funds
High leverage companies		X	
Anti-family entertainment	X		
Marriage lifestyle	X		
Abortion	X		
Human rights	X		X
Workers' rights	X		X
Bioethics	X		
Weapons	X	X	X

Source: Adapted from Inspire Investing, "Faith-Based Investment and Sustainability" (2019). www.inspireinvesting.com/2019/03/26/faith-based-investment-and-sustainability/.

Shareholder Engagement

Shareholder engagement reflects active ownership by investors in which the investor seeks to influence a corporation's decisions on ESG matters, either through dialogue with corporate officers or votes at a shareholder assembly (in the case of equity). It is seen as complementary to the previously mentioned approaches to responsible investment as a way to encourage companies to act more responsibly. Its efficacy usually depends on

- the scale of ownership (of the individual investor or the collective initiative),
- the quality of the engagement dialogue and method used, and
- whether the company has been informed by the investor that divestment is a possible sanction.

For further details on the process of engagement, see Chapter 6.

ESG investing also recognizes that the generation of long-term sustainable returns is dependent on stable, well-functioning and well-governed social, environmental and economic systems. This is the so-called **triple bottom line** coined by business writer John Elkington. However, since its inception, the concept of TBL evolved from a holistic approach to sustainability and further into an accounting tool to narrowly manage trade-offs. Therefore, Elkington "recalled" the term in a 2018 *Harvard Business Review* article.[6]

Ultimately, ESG investing recognizes the dynamic interrelationship between social, environmental, and governance issues and investment. It acknowledges that

- social, environmental, and governance issues may impact the risk, volatility, and long-term return of securities (as well as markets) and
- investments can have both a positive and a negative impact on society and the environment.

Corporate Social Responsibility

The concept of ESG investing is closely related to the concept of investees' **corporate sustainability**. Corporate sustainability is an approach aiming to create long-term stakeholder value through the implementation of a business strategy that focuses on the ethical, social, environmental, cultural, and economic dimensions of doing

6 J. Elkington, "25 Years Ago I Coined the Phrase 'Triple Bottom Line.' Here's Why It's Time to Rethink It," *Harvard Business Review* (25 June 2018). https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it.

business.[7] Related to this approach, **corporate social responsibility (CSR)** is a broad business concept that describes a company's commitment to conducting its business in an ethical way. Throughout the 20th century and until recently, many companies implemented CSR by contributing to society through philanthropy. While such philanthropy may indeed have a positive impact on communities, modern understanding of CSR recognizes that a principles-based behavior approach can play a strategic role in a firm's business model, which led to the theory of TBL.

The TBL accounting theory expands the traditional accounting framework focused only on profit to include two other performance areas: the social and environmental impacts of a company. These three bottom lines are often referred to as the **three P's**:

1. people,
2. planet, and
3. profit.

While the term and concept are useful to know, including for historical reasons, they have been replaced in the industry with a broader framework of sustainability that is not restricted to accounting.

Effective management of the company's sustainability can

- reaffirm the company's license to operate in the eyes of governments and civil society,
- increase efficiency,
- attend to increasing regulatory requirements,
- reduce the probability of fines,
- improve employee satisfaction and productivity, and
- drive innovation and introduce new product lines.

ESG investing recognizes these benefits and aims to consider them in the context of security/asset selection and portfolio construction.

There are many organizations and institutions contributing to the further exploration of interactions between society, environment, governance, and investment. This curriculum focuses on how professionals in the investment industry can better understand, assess, and integrate ESG issues when conducting stock selection, carrying out portfolio construction, and engaging with companies.

MACRO-LEVEL DEBATE ON ESG INTEGRATION 4

☐ **1.1.3** describe the benefits and challenges of incorporating ESG in decision making, and the linkages between responsible investment and financial system stability

There is a range of beliefs about the purpose and value, both to investors and to society more broadly, of integrating ESG considerations into investment decisions. Some of the main reasons for integrating ESG factors are detailed in this section. It starts

7 M. Ashrafi, M. Acciaro, T. R. Walker, G. M. Magnan, and M. Adams, "Corporate Sustainability in Canadian and US Maritime Ports," *Journal of Cleaner Production* 220 (20 May 2019): 386–97. https://doi.org/10.1016/j.jclepro.2019.02.098.

with an overview of some important perspectives in the debate on integrating ESG considerations, financial materiality of integration, and challenges in integrating ESG issues and finishes with integration and financial performance.

Macro-Level Debate on Integrating ESG Considerations

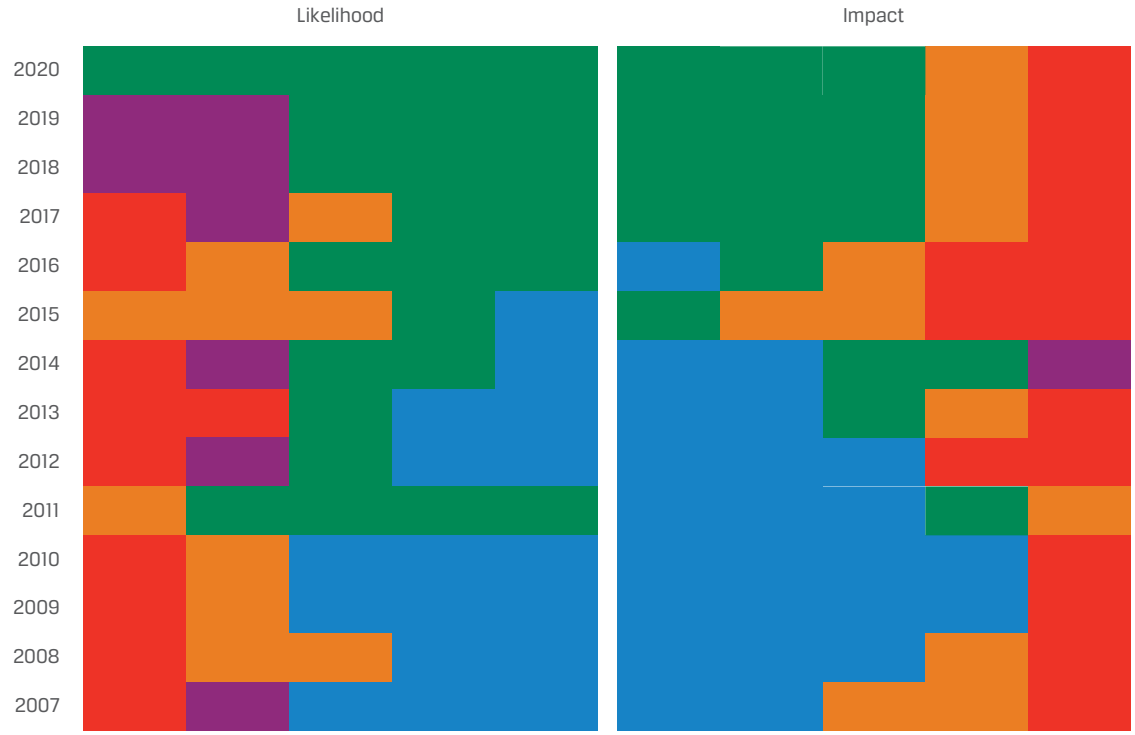
This subsection describes various perspectives from which, over the years, the debate on the purpose and value of integrating ESG factors has been held. These include perspectives of risk, fiduciary duty, economics, impact and ethics, client demand, and regulation.

Risk Perspective

Evidence of the risks current megatrends carry is illustrated by the World Economic Forum's 2020 Global Risk Report, which for many years has highlighted the growing likelihood and impact of extreme weather events and the failure to address climate change.[8] Note that Exhibit 7 highlights how risks related to the environment have been significantly increasing in importance in recent years while classic economic risks have disappeared from the top five risks. Environmental risks are high on the radar. Among all global risks, climate now tops the agenda.

8 World Economic Forum, "The Global Risks Report 2020" (15 January 2020). www.weforum.org/reports/the-global-risks-report-2020.

Exhibit 7: Top Global Risks



Economic

Asset bubble
Critical infrastructure failure
Deflation
Energy price shock
Financial failure
Fiscal crises
Illicit trade
Unemployment
Unmanageable inflation

Environmental

Biodiversity loss
Climate action failure
Extreme weather
Human-made environmental disaster
Natural disasters

Geopolitical

Global governance failure
Interstate conflict
National governance failure
State collapse
Terrorist attacks
Weapons of mass destruction

Societal

Failure of urban planning
Food crises
Infectious diseases
Involuntary migration
Social instability
Water crises

Technological

Adverse technological advances
Cyberattacks
Data fraud or theft
Information infrastructure breakdown

Source: World Economic Forum, "The Global Risks Report 2020" (2020). www.weforum.org/reports/the-global-risks-report-2020.

Recognizing the change in profile of key risks to the economy, in 2015, Mark Carney, then governor of the Bank of England and chairman of the Financial Stability Board (the international body set up by the G20 to monitor risks to the financial system), referred to this challenge in a speech that became a cornerstone for the integration of climate change to financial regulators:

> *Climate change is the tragedy of the horizon. We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors—imposing a cost on future generations that the current generation has no direct incentive to fix. . . . The horizon for monetary policy extends out to two to three years. For financial stability it is a bit longer, but typically only to the outer boundaries of the credit cycle—about a decade. In other words, once climate change becomes a defining issue for financial stability, it may already be too late.*[9]

In line with Carney, in his annual letter to chief executives in 2020,[10] Larry Fink, the CEO of BlackRock, stated that the investment firm would step up its consideration of climate change in its investment considerations because it was reshaping the world's financial system. Concretely, in a parallel letter to its clients, BlackRock committed to divesting from companies that generate more than 25% of their revenues from coal production for its actively managed portfolios and required reporting from investee companies on their climate-related risks and plans for operating under the goals of the Paris Agreement to limit global warming to less than 2°C (3.6°F).[11] As the largest asset manager in the world, BlackRock's decision could represent a new paradigm in the investment industry in which the integration of material ESG factors is mainstream.

Prudent investors are engaging with companies to ask them to disclose not only what they are emitting today but also how they plan to achieve their transition to the net-zero world of the future. There is value in being able to spot winners and losers in a rapidly changing risk landscape. Investors that are attempting to take advantage of this usually operate over a longer time frame than the usual quarterly or one-year time horizon, with the objective of understanding emerging risks and new demands so that they can convert these into above-market performance.

CASE STUDIES

Water Depletion Due to Climate Change

Companies are already experiencing risks in their manufacturing due to water depletion, which has been aggravated by acute impacts of climate change. Water has largely been considered a free raw material and therefore is used inefficiently, but many companies are now experiencing the higher costs of using the resource, as well as suffering an increasing frequency of extreme weather events.

Pacific Gas and Electric Company (PG&E), a listed US utility, was driven to bankruptcy proceedings due to wildfire liabilities.[12] The company's equipment led to more than 1,500 fires between 2014 and 2017. As low humidity and strong winds worsen due to climate change, the fire hazard increases. In 2018, a problem with PG&E equipment was deemed to have led to fires that killed at least 85 people, forced about 180,000 to evacuate from their homes, and razed more than 18,800 structures.

9 M. Carney, "Breaking the Tragedy of the Horizon—Climate Change and Financial Stability," Bank of England, speech given at Lloyd's of London (29 September 2015). www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.

10 L. Fink, "A Fundamental Reshaping of Finance," BlackRock (2020). www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter.

11 BlackRock, "Sustainability as BlackRock's New Standard for Investing" (2020). www.blackrock.com/au/individual/blackrock-client-letter.

12 M. McFall-Johnsen, "Over 1,500 California Fires in the Past 6 Years—Including the Deadliest Ever—Were Caused by One Company: PG&E. Here's What It Could Have Done but Didn't," *Business Insider* (3 November 2019). www.businessinsider.com/pge-caused-california-wildfires-safety-measures-2019-10?r=US&IR=T.

Coca-Cola Company faced a water shortage in India that forced it to shut down one of its plants in 2004. The company has since invested US$2 billion (£1.4 billion) to reduce water use and improve water quality in the communities in which it operates. SABMiller, a multinational brewing and beverage company, has also invested heavily in water conservation, including US$6 million (£4.3 million) to improve equipment at a facility in Tanzania affected by deteriorating water quality.

In extreme cases, assets can become stranded—in other words, obsolete due to regulatory, environmental, or market constraints. In Peru, for example, social conflict related to disruptions to water supplies resulted in the indefinite suspension of US$21.5 billion (£15.5 billion) in mining projects since 2010.

There are many ways in which ESG factors can impact a company's bottom line. Nonetheless, identifying those issues that are genuinely material to a sector and company is one of the most active challenges in ESG investment. Each company is unique and faces its own challenges related to its culture, particular business model, supply chain structure, and so on. So not only are there substantial differences between sectors, but there are also differences between what is most material to individual companies within a single sector.

For further details on how to assess materiality and what tools are available, refer to Chapters 7 and 8.

Fiduciary Duty Perspective

For many years, fiduciary duty was considered a barrier to considering ESG factors in investments. In the modern investment system, financial institutions or individuals, known as fiduciaries, manage money or other assets on behalf of beneficiaries and investors. Fiduciary duties exist to ensure that those who manage other people's money act in their beneficiaries' interests, rather than serving their own.

Beneficiaries and investors rely on these fiduciaries to act in their best interests, which are typically defined exclusively in financial terms. Due to the misconception that ESG factors are not financially material, some investors have used the concept of fiduciary duty as a reason not to incorporate ESG issues.

In 2005, the **United Nations Environment Programme Finance Initiative (UNEP FI)** commissioned the law firm Freshfields Bruckhaus Deringer to publish a report titled "A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment" (commonly referred to as **the Freshfields report**). The authors argued that "integrating ESG considerations into an investment analysis so as to more reliably predict financial performance is clearly permissible and is arguably required in all jurisdictions."[13] Despite the conclusions of the report, many investors continue to point to their fiduciary duties and the need to deliver financial returns to their beneficiaries as reasons why they cannot do more in terms of responsible investment.

However, an increasing number of academic studies and work undertaken over the last decade by progressive investment associations, including the UNEP FI and **Principles for Responsible Investment (PRI)**, on the topic have clarified that financially material ESG factors must be incorporated into investment decision making.

13 Freshfields Bruckhaus Deringer, "A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment," UNEP Finance Initiative (October 2005): p. 13. www.unepfi.org/publications/investment-publications/a-legal-framework-for-the-integration-of-environmental-social-and-governance-issues-into-institutional-investment.

The 2005 UNEP FI report[14] and the more recent report published by the PRI in 2019[15] both argue that failing to consider long-term investment value drivers—which include ESG issues—in investment practice is a failure of fiduciary duty. The 2019 PRI report concluded that modern fiduciary duties require investors to do the following:

- Incorporate financially material ESG factors into their investment decision making, consistent with the time frame of the obligation.
- Understand and incorporate into their decision making the sustainability preferences of beneficiaries or clients, regardless of whether these preferences are financially material.
- Be active owners, encouraging high standards of ESG performance in the companies or other entities in which they are invested.
- Support the stability and resilience of the financial system.
- Disclose their investment approach in a clear and understandable manner, including how preferences are incorporated into the scheme's investment approach.

For further details on fiduciary duty, see Chapter 2.

Economic Perspective

Another reason for implementing ESG stems from the recognition that negative megatrends will, over time, create a drag on economic prosperity as basic inputs (such as water, energy, and land) become increasingly scarce and expensive and that the prevalence of health and income inequalities increase instability both within countries and between the "global north and south." There is an understanding that unless these trends are reversed, economies will be weakened, exposed to sustainability-led bubbles and spikes. While this may not have a significant impact on asset managers whose performance is judged by their ability to provide alpha, it may considerably affect asset owners, who depend on total returns in the long term to pay out pensions and their liabilities.

As mentioned previously, the **Financial Stability Board (FSB)** has already identified climate change as a potential systemic risk, which may also be the case for other issues. The economic implications of these environmental issues (such as climate change, resource scarcity, biodiversity loss, and deforestation) and social challenges (such as poverty, income inequality, and human rights) are increasingly being recognized.

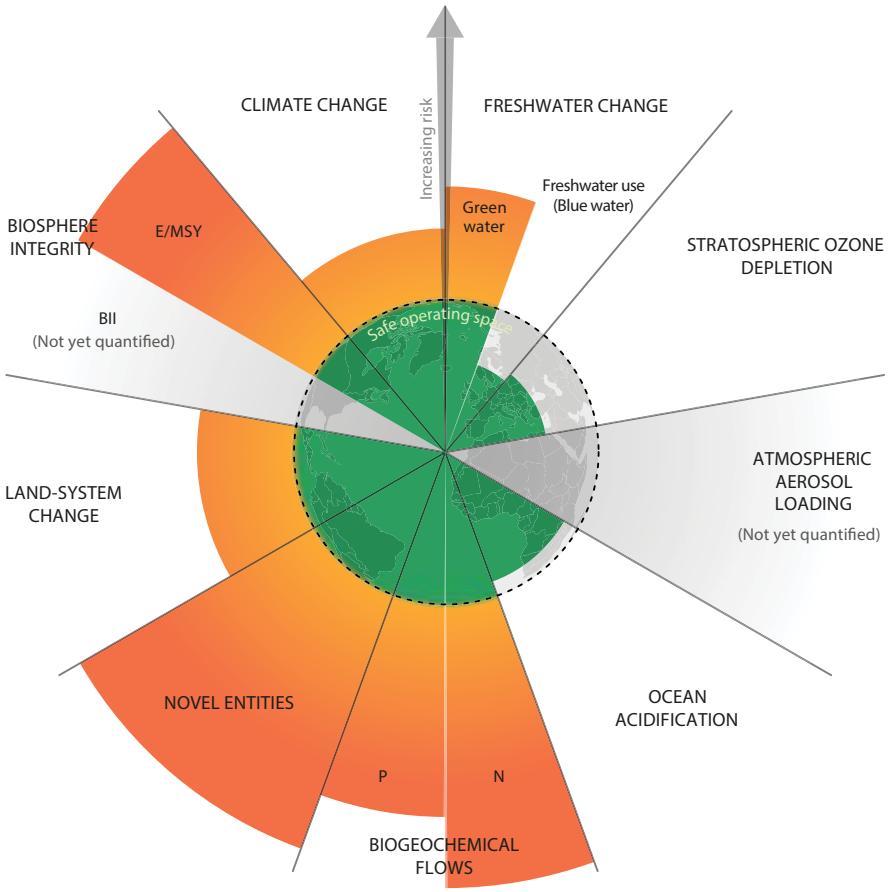
In fact, the **Stockholm Resilience Centre** identified nine "planetary boundaries" (see Exhibit 8) within which humanity can continue to develop and thrive for generations to come[16] and in 2015, it found that four of them—climate change, loss of biosphere integrity, land-system change, and altered biogeochemical cycles (phosphorus and nitrogen)—have been crossed. Two of these—climate change and biosphere integrity—are deemed "core boundaries," for which significant alteration would "drive the Earth System into a new state."

14 Freshfields Bruckhaus Deringer, "A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment."

15 PRI, "Fiduciary Duty in the 21st Century: Executive Summary" (2019). www.unpri.org/fiduciary-duty/fiduciary-duty-in-the-21st-century/244.article.

16 Stockholm Resilience Centre, "The Nine Planetary Boundaries" (2015). www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html.

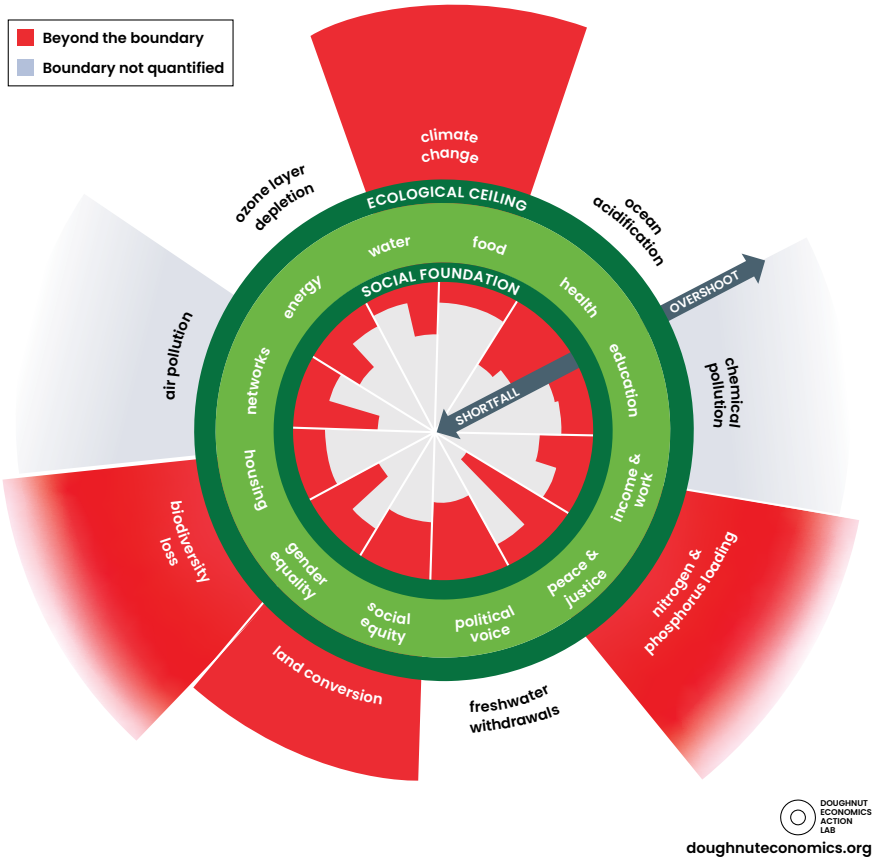
Exhibit 8: Stockholm Resilience Centre's Nine Planetary Boundaries



Source: Stockholm Resilience Centre, "New Assessment Reveals Dramatic Changes to the Global Water Cycle, with Parts of the Amazon Drying Out" (2022). www.stockholmresilience.org/research/research-news/2022-04-26-freshwater-boundary-exceeds-safe-limits.html.

A popular framework that builds on that of "planetary boundaries" is **doughnut economics**. Exhibit 9 shows this visual framework. It is a diagram developed by economist Kate Raworth that combines planetary boundaries with the complementary concept of social boundaries. The name comes from the shape of the diagram, a disc with a hole.

Exhibit 9: Doughnut Economics



Source: K. Raworth, *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist* (White River Junction, VT: Chelsea Green Publishing, 2017).

Social issues are also having a significant impact on the wider economy. Income inequality in OECD countries is at its highest level for 30 years, and Oxfam estimated that as of January 2022, the wealth of the 10 richest billionaires has doubled since the beginning of the COVID-19 pandemic; together, they own as many assets as the 3.8 billion people who make up the poorest half of the planet's population.[17] This significant level of income inequality is creating a number of social stresses, including security-related issues.[18] In 2014, the world spent 9.1% of its gross domestic product (GDP) on costs associated with violence. Undernutrition is also still common in developing economies and has severe economic consequences: The economic cost of undernutrition in Ethiopia alone is just under US$70 million (£50 million) a year. While the number of undernourished people in the world has declined sharply, one out of eight people suffers from chronic malnutrition.

Large institutional investors have holdings that, due to their size, are highly diversified across all sectors, asset classes, and regions. As a result, the portfolios of **universal owners**, as they are known, are sufficiently representative of global capital markets that they effectively hold a slice of the overall market. Their investment

17 A. Ratcliff, "Billionaire Fortunes Grew by $2.5 Billion a Day Last Year As Poorest Saw Their Wealth Fall," Oxfam International (21 January 2019). www.oxfam.org/en/press-releases/billionaire-fortunes-grew-25-billion-day-last-year-poorest-saw-their-wealth-fall.

18 PRI, "The SDG Investment Case—Macro Risks: Universal Ownership" (12 October 2017). www.unpri.org/sdgs/the-sdgs-are-an-unavoidable-consideration-for-universal-owners/306.article.

returns are thus dependent on the continuing good health of the overall economy. Inefficiently allocating capital to companies with high negative externalities can damage the profitability of other portfolio companies and the overall market return. It is in their interests to act to reduce the economic risk presented by sustainability challenges to improve their total, long-term financial performance. There is therefore a growing school of thought that investors should integrate the price of externalities into the investment process and take into account the wider effects of investments by considering the impact on society and environment and in the economy as a whole.

For that reason, investors increasingly call for governments to set policies in line with the fundamental challenges to our future. The UN's **Sustainable Development Goals (SDGs)**,[19] an agreed framework for all UN member state governments to work toward in aligning with global priorities (such as the transition to a low-carbon economy and the elimination of human rights abuses in corporate supply chains), were welcomed by the investment community.

Impact and Ethics Perspective

Yet another reason for practicing responsible investment is some investors' belief that investments can or should serve society alongside providing financial return. This belief translates into focusing on investments with a positive impact and/or avoiding those with a negative impact.

- Those investing for **positive impact** see investment as a means of tackling the world's social and environmental problems through effective deployment of capital. The aim is to put beneficiaries' money to good use rather than to invest it in any activity that could be construed as doing harm—essentially a moral argument. This idea is giving rise to the growing area of impact investment, itself a response to the limits of philanthropy and a recognition of the potential to align returns with positive impacts.
- Those avoiding **negative impact**, at times for religious reasons, usually do not invest (negative screening) in securities from controversial sectors (such as arms, gambling, alcohol, tobacco, and pornography).

Client Demand Perspective

Clients and pension fund beneficiaries (defined in more detail in Chapter 2) are increasingly calling for greater transparency about how and where their money is invested. This effort is driven by the following:

- Growing awareness that ESG factors influence
  - Company value
  - Returns
  - Reputation
- Increasing focus on the environmental and social impacts of the companies they are invested in

Asset owners, such as pension funds and insurers (as defined in Chapter 2), are instrumental for responsible investment because they make the decisions about how their assets, representing on average around 34% of GDP in OECD countries, are

19 United Nations, "Take Action for the Sustainable Development Goals" (2020). www.un.org/sustainabledevelopment/sustainable-development-goals/.

managed.[20] The number of them that are integrating ESG considerations continues to grow. In 2020–2021, 88 asset owners signed on to the PRI for the first time. In 2020, a group of asset owners launched the Net-Zero Asset Owner Alliance under the auspices of the UN, committing to transition their investment portfolios to net-zero greenhouse gas (GHG) emissions by 2050.

Further details on the demand for, and supply of, responsible investment, as well as the market more broadly, are discussed in Chapter 2.

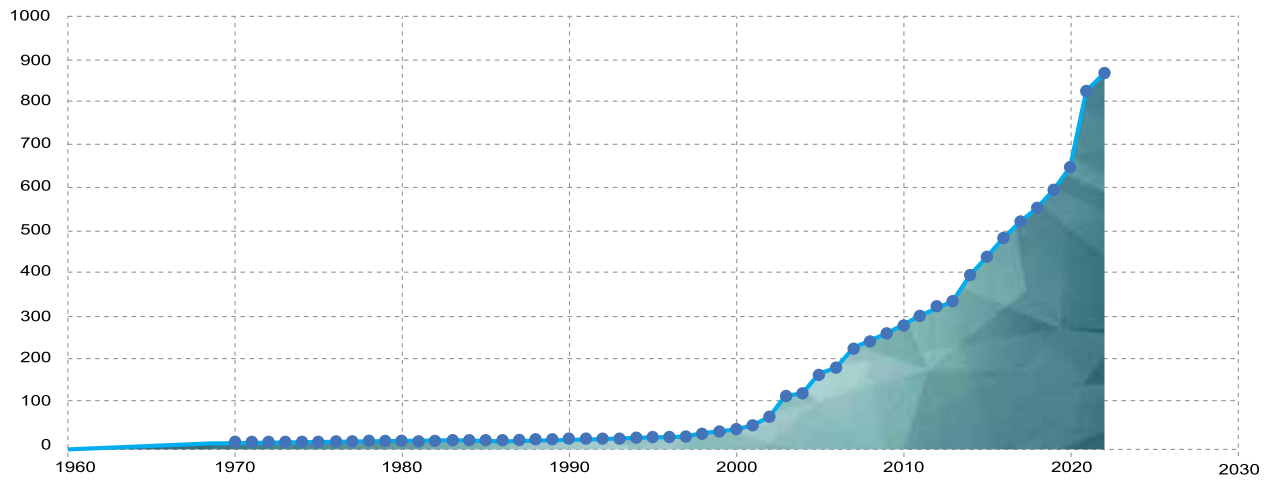
Regulatory Perspective

Finally, regardless of their views or beliefs, some investors are being required to increasingly consider ESG matters. Since the mid-1990s, responsible investment regulation has increased significantly, with a particular surge in policy interventions since the 2008 financial crisis. Regulatory change has also been driven by a realization among national and international regulators that the financial sector can play an important role in meeting global challenges, such as combating climate change, modern slavery, and tax avoidance.

Among the world's 50 largest economies, the PRI found that 48 have some form of policy designed to help investors consider sustainability risks, opportunities, or outcomes. In fact, among these economies, there have been over 730 hard and soft law policy revisions that encourage or require investors to consider long-term value drivers, including ESG factors. Hard laws are actual binding legal instruments and laws. Soft laws are quasi-legal instruments that do not have legally binding force or whose binding force is somewhat weaker than the binding force of traditional law. Soft law over time may become hard law.

For further details on how regulation has played a key role in increased demand for responsible investment, refer to Chapter 2.

Exhibit 10: Cumulative Number of Policy Interventions per Year



Source: PRI, "Regulation Database" (updated April 2022). www.unpri.org/sustainable-markets/regulation-map.

20 R. Sievänen, H. Rita, and B. Scholtens, "The Drivers of Responsible Investment: The Case of European Pension Funds," *Journal of Business Ethics* 117 (September 2012): 137–51. www.researchgate.net/publication/236667333_The_Drivers_of_Responsible_Investment_The_Case_of_European_Pension_Funds.

FINANCIAL MATERIALITY OF ESG INTEGRATION 5

☐ **1.1.4** explain the concepts of the financial materiality of ESG integration, double materiality, and dynamic materiality and how they relate to ESG analysis, practices, and reporting

☐ **1.1.5** explain different ESG megatrends, their systemic nature, and their potential impact on companies and company practices

One of the main reasons for ESG integration is recognizing that ESG investing can reduce risk and enhance returns because it considers additional risks and injects new and forward-looking insights into the investment process. ESG integration may therefore lead to

1. reduced cost and increased efficiency,
2. reduced risk of fines and state intervention,
3. reduced negative externalities, and
4. improved ability to benefit from sustainability megatrends.

Each of these outcomes is described in greater detail in the following subsections

Efficiency and Productivity

Sustainable business practices build efficiencies by

- conserving resources,
- reducing costs, and
- enhancing productivity.

Sustainability was once perceived by businesses and investors as requiring sacrifices, but the perception today is very different. Significant cost reductions can result from improving operational efficiency through better management of natural resources, such as water and energy, as well as from minimizing waste.

Research conducted by McKinsey & Company found that resource efficiency can affect operating profits by as much as 60% and that more broadly, resource efficiency of companies across various sectors is significantly correlated with the companies' financial performance.[21] A study analyzing data from the global climate database provided by **CDP** (formerly, the Climate Disclosure Project) estimated that companies experience an average internal rate of return of 27%–80% on their low-carbon investments.[22]

A strong ESG proposition can help companies attract and retain quality employees and enhance employee motivation and productivity overall. Employee satisfaction is positively correlated with shareholder returns. The London Business School's Alex Edmans found that the companies that made Fortune's 100 Best Companies to Work For list generated 2.3%–3.8% higher stock returns a year than their peers over a horizon of longer than 25 years.[23]

21 W. Henisz, T. Koller, and R. Nuttall, "Five Ways That ESG Creates Value," *McKinsey Quarterly* (November 2019). www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/five-ways-that-esg-creates-value?cid=soc-web.

22 We Mean Business Coalition, "The Climate Has Changed," (21 September 2014). www.weme anbusinesscoalition.org/blog/the-climate-has-changed/.

23 A. Edmans, "Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices," *Journal of Financial Economics* 101 (September 2011): 621–40. www.sciencedirect.com/science/article/abs/pii/S0304405X11000869.

CASE STUDIES

Savings from Efficiency Measures

The Dow Chemical Company

Between 1994 and 2010, The Dow Chemical Company invested nearly US$2 billion (£1.4 billion) in improving resource efficiency and saved US$9.8 billion (£7 billion) from reduced energy and wastewater consumption in manufacturing.[24] The company's long-established focus on resource efficiency cost reductions enabled it to achieve savings of US$31 million (£22.3 million) on its raw materials alone, compared to a net income of approximately US$4 billion (£2.9 billion), in 2018.

General Electric

In 2013, General Electric reduced its GHG emissions by 32% and water use by 45% compared to the 2004 and 2006 baselines, respectively. This resulted in savings of US$300 million (£215.7 million).[25]

Aeon Group

Between 2015 and 2018, the Japanese retail group Aeon achieved a decrease of 9.7% in food waste, which was equal to 32.14 kg or ¥1 million (£6,826) in net sales.[26]

Walmart

Within 10 years, Walmart improved the fuel efficiency of its fleet by approximately 87% through better routing, cargo loading, and driver training. In 2014 alone, these improvements resulted in avoiding 15,000 metric tons of CO_2 emissions and savings of nearly US$11 million (£7.9 million).[27]

Nike

Almost half (40%) of Nike's footwear manufacturing waste is generated by cutting scraps from materials such as textiles, leather, synthetic leather, and foams. In 2018, modern cutting equipment, which can achieve smaller gaps between cut parts than traditional die-cutting can, was deployed to various factories. The estimated value of savings was US$12 million (£8.6 million), compared to its net income of US$1.1 billion (£0.8 billion), and nearly 1.2 million kilograms of material for that fiscal year.[28]

Reduced Risk of Fines and State Intervention

With all the discussion regarding climate change, dwindling energy resources, and environmental impact, it is no surprise that state and federal government agencies are enacting regulations to protect the environment. Integrating sustainability into a business will position it to anticipate changing regulations in a timely manner. For

24 T. Whelan and C. Fink, "The Comprehensive Business Case for Sustainability," *Harvard Business Review* (21 October 2016). https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability.
25 GE, "GE Works: 2013 Annual Report," letter to shareowners (2014). www.ge.com/jp/sites/www.ge.com.jp/files/GE_AR13.pdf.
26 Aeon, "Aeon Sustainability Data Book 2019" (2019). www.aeon.info/export/sites/default/common/images/en/environment/report/e_2019pdf/19_data_en_a4.pdf.
27 T. Whelan and C. Fink, "The Comprehensive Business Case for Sustainability."
28 M. Parker, "Letter to Shareholders," NIKE, Inc. (24 July 2018). https://s1.q4cdn.com/806093406/files/doc_financials/2018/ar/docs/nike-shareholders-letter-2018.pdf.

example, a 2019 UN Environment Programme report found that there has been a 38-fold increase in environmental laws put in place since 1972.[29] It also found that enforcement remains weak today but that significant events indeed result in fines. It concluded that the level of enforcement could quickly change with little notice to investors.

Analysis conducted by McKinsey & Company showed that, typically, one-third of corporate profits are at risk from state intervention (not only fines).[30] For pharmaceuticals, the profits at stake are about 25%–30%, and for the automotive, banking, and technology sectors, where government subsidies (among other forms of intervention) are prevalent, the value at stake can reach 60% (see Exhibit 11).

Exhibit 11: Estimated Share of EBITDA at Stake

Estimated Share of EBITDA at Stake		Examples
Banks	50%–60%	Capital requirements, systemic regulation ("too big to fail"), and consumer protection
Automotive, aerospace and defense, technology	50%–60%	Government subsidies, renewable regulation, and carbon-emissions regulation
Transport, logistics, infrastructure	45%–55%	Pricing regulation and liberalization of sector
Telecom and media	40%–50%	Tariff regulation, interconnection, fiber deployment, spectrum and data privacy
Energy and materials	35%–45%	Tariff regulation, renewables subsidies, interconnection, and access rights
Resources	30%–40%	Resource nationalism, mineral taxes, land-access rights, community reach and reputation
Consumer goods	25%–30%	Obesity, sustainability, food safety, health and wellness, and labeling
Pharmaceuticals and health care	25%–30%	Market access, regulation of generic drugs, pricing, innovation funding, and clinical trials

Source: W. Henisz, T. Koller, and R. Nuttall, "Five Ways That ESG Creates Value," *McKinsey Quarterly* (November 2019). www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/five-ways-that-esg-creates-value?cid=soc-web. Copyright (c) 2021 McKinsey & Company. All rights reserved. Reprinted by permission.

CASE STUDIES

Major Fines

BP and Deepwater Horizon

The biggest corporate fine to date was levied against BP in the wake of the 2010 Deepwater Horizon oil spill in the Gulf of Mexico, the largest in history. BP settled with the US Department of Justice for US$20.8 billion (£15 billion) in 2016;[31] total compensation ultimately paid out by the company reportedly exceeded US$65 billion (£46.7 billion).

29 UN Environment Programme, "Environmental Rule of Law: First Global Report" (24 January 2019). www.unenvironment.org/resources/assessment/environmental-rule-law-first-global-report.
30 W. Henisz, T. Koller, and R. Nuttall, "Five Ways That ESG Creates Value."
31 D. Rushe, "BP Set to Pay Largest Environmental Fine in US History for Gulf Oil Spill," *Guardian* (2 July 2015). www.theguardian.com/environment/2015/jul/02/bp-will-pay-largest-environmental-fine-in-us-history-for-gulf-oil-spill.

Financial Crisis and the Bank of America

Several of the largest fines have hit the financial services industry, a direct result of the scrutiny facing banks in the wake of the financial crisis. These include the second highest fine (US$16.65 billion, or £12 billion), which was paid by Bank of America in 2014 for its role in the subprime loan crisis.[32] Just two years before that, the bank agreed to a US$11.8 billion (£8.5 billion) settlement with the US federal government over foreclosure abuses.

Volkswagen's Emissions Scandal

The third largest fine was paid by Volkswagen, which, in 2016, faced US$14.7 billion (£11.5 billion) in civil and criminal penalties from the United States in the wake of its scandal over emissions cheating.[33] The scandal dampened the hype of diesel as a fuel for the future. Today, most major automotive companies are directing their current (and future) investments toward electric cars while striving to meet increasingly aggressive emission targets.

Reduced Negative Externalities

The term **externalities** refers to situations where the production or consumption of goods and services creates costs or benefits for others that are not reflected in the prices charged for them. In other words, externalities include the consumption, production, and investment decisions of firms (and individuals) that affect people not directly involved in the transactions. Externalities can be either negative or positive.

The concept of externality, though central to the concept of sustainability and responsible investment, dates back to 1920, having been introduced by Cambridge professor Arthur Pigou in his book *The Economics of Welfare*. Externalities often occur when the production or consumption of a product's or service's private price equilibrium cannot reflect the true costs or benefits of that product or service for society as a whole.

Example Pollution

In the case of pollution, a polluter makes decisions based only on the direct cost and profit opportunity associated with production and does not consider the indirect costs to those harmed by the pollution. These indirect costs—which are not borne by the producer or user—may include decreased quality of life, higher health care costs, and forgone production opportunities (for example, when pollution harms activities, such as tourism).

Professor William Nordhaus, who was recently awarded the Nobel Prize for his work on the externality of climate change, developed a model to measure the impact of environmental degradation on economic growth and thus created a price for carbon pollution. However, externalities can also be due to social factors—for example, when companies fail to pay a living wage or submit their employees to poor working conditions.

In short, when externalities are *negative*, private costs are lower than societal costs, resulting in market outcomes that may not be efficient or, in other words, leading to "market failures."

32 "Bank of America and the Financial Crisis," *New York Time*s (21 August 2014). www.nytimes.com/interactive/2014/06/10/business/dealbook/11bank-timelime.html.
33 "VW in $14.7bn US Deal over Rigged Cars," *Financial Times* (27 June 2016).

For that reason, externalities are among the main reasons why governments intervene in the economic sphere.[34] As far back as the 1920s, British economist Arthur Pigou suggested that governments should tax polluters an amount equivalent to the cost of the harm incurred by others. Such a tax would yield the market outcome that would have prevailed with adequate **internalization** of all costs by polluters. Internalization refers to all measures (public or private) to ensure that externalities become reflected in the prices of commercial goods and services.[35] As environmental and social regulation and taxation become more common, it is expected that an increasing proportion of this cost might be forced into companies' accounts.

In the social sphere, recent developments in the interpretation of the **OECD Guidelines for Multinational Enterprises**[36] and the **UN Guiding Principles for Business and Human Rights**[37]—clarifying that these instruments apply to investors and give rise to responsibility for conducting human rights due diligence on investments—are in effect paving the way for more formal internalization of social costs in hard law.[38]

Internalization can happen in various ways. In regard to the transportation industry, for example, internalization can happen through

- market-based instruments (e.g., charges, taxes, and tradable permits);
- regulatory instruments (e.g., vehicle emission and safety standards, traffic restrictions); or
- voluntary instruments (e.g., agreements with the car industry to reduce CO_2 emissions from new passenger cars).

Understanding the risks posed by "externalized" environmental and social costs in the real economy is central to the practice of investment, because the internalization of these externalities could significantly impact the costs and profits of companies' products and services, affecting their bottom line. The uncertainty surrounding the timing and extent of internalization is a critical component of the overall risk landscape facing investors.

Beyond affecting companies' financial performance, these externalities can also have a drag on the wider economy, potentially affecting the total return investors may achieve in the long term. A study by an environmental consulting company found that the top 3,000 publicly traded companies were responsible for US$2.15 trillion (£1.6 trillion) worth of environmental damage in 2008 and that global environmental damage would cost an estimated US$28 trillion (£20 trillion) by 2050.[39] Environmental harm was found to be a material risk that could significantly affect the value of capital markets and global economic growth.

34 T. Helbling, "What Are Externalities?" *Finance & Development* 47 (December 2010). www.imf.org/external/pubs/ft/fandd/2010/12/basics.htm.

35 H. Ding, M. He, and C. Deng, "Lifecycle Approach to Assessing Environmental Friendly Product Project with Internalizing Environmental Externality," *Journal of Cleaner Production* 66 (1 March 2014): 128–38. www.sciencedirect.com/science/article/abs/pii/S0959652613006811.

36 OECD, "OECD Guidelines for Multinational Enterprises" (2018). www.oecd.org/corporate/mne/.

37 UNGC, "Guiding Principles Business on Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework" (2011). www.unglobalcompact.org/library/2

38 See, for example, F. Marotta, "Subject: Request from the Chair of the OECD Working Party on Responsible Business Conduct" (27 November 2013). www.ohchr.org/Documents/Issues/Business/LetterOECD.pdf.

See also Norwegian National Contact Point for the OECD Guidelines for Multinational Enterprises, "Final Statement: Complaint from Lok Shakti Abhiyan, Korean Transnational Corporations Watch, Fair Green and Global Alliance and Forum for Environment and Development vs. Posco (South Korea), ABP/ APG (Netherlands) and NBIM (Norway)" (27 May 2013). https://vdocuments.mx/final-statement-nettsteder-for-final-statement-complaint-from-lok-shakti-abhiyan.html?page=1.

39 S. Wainwright, "Putting a Price on Global Environmental Damage," *Trucost News* (5 October 2010).

CASE STUDIES

Air Travel and Carbon Emissions

Before the COVID-19 pandemic, air travel was the source of around 2.5% of global CO_2 emissions, but it is estimated to grow by 300% by 2050. For that reason, the European Commission (EC) has for many years been assessing and advocating for the internalization of externalities associated with transportation.

In 2010, the European Union (EU) expanded the scope of its **Emissions Trading System (ETS)** to include aviation.[40] The EU's ETS for aviation requires all non-commercial operators who travel into, out of, and between EU and European Economic Area (EEA) member states to monitor their CO_2 flight emissions and purchase carbon allowances equal to the emissions on intra-EU flights when emitting more than 1,000 tonnes of CO_2 under the full scope (in, out of, and within the EU).

In 2019, the ministers of finance of the Netherlands, Germany, France, Sweden, Italy, Belgium, Luxembourg, Denmark, and Bulgaria asked the EC to introduce a measure to offset the CO_2 emissions of planes.

A report from the independent research and consultancy organization CE Delft[41] showed that tax exemptions for the aviation sector lead to

- higher passenger demand,
- aviation sector growth (in terms of both jobs and value added), and
- more flights.

The report also shows that a tax could result in a 10% increase in average ticket price and an 11% decline in passenger demand but that CO_2 emissions would decrease by 11%.

	Current Situation	Abolition of Ticket Tax		Introducing VAT on All Tickets (19%)		Introducing Fuel Excise Duty	
Impacts in the aviation sector	**Value**	**Value**	**Change**	**Value**	**Change**	**Value**	**Change**
Passenger demand (millions)	691.5	718.5	+4%	570.4	−18%	616.0	−11%
Average ticket price (€)	304	293	−4%	358	+17%	333	+10%
Number of flights and connectivity			+4%		−18%		−11%
Employment (1,000 FTE)	362	376	+4%	296	−18%	321	−11%
Value added (€ billions)	43.4	45.1	+4%	35.6	−18%	38.5	−11%
CO_2 emissions (metric ton)	149.5	155.3	+4%	123.3	−18%	133.1	−11%
People affected by noise (thousands)	2,851.5	2,919.8	+2%	2,495.9	−12%	2,637.1	−8%
Aviation-related fiscal revenue (€ billions)	10.0	2.6	−74%	39.9	+297%	26.9	+168%

Sweden and France have acted unilaterally:[42] Sweden introduced a SEK60–SEK400 (£5–£34) carbon tax for all airline passengers in April 2018, and France introduced a levy of €1.50 (£1.31) to be charged on domestic and intra-European flights. In addition, France will charge €3 (£2.62) on flights outside the EU. Starting

40 European Commission, "Aircraft Operators and Their Administering Countries" (2019). https://ec.europa.eu/clima/policies/ets/monitoring/operators_en.
41 CE Delft and Directorate-General for Mobility and Transport, "Taxes in the Field of Aviation and Their Impact: Final Report" (2019). https://op.europa.eu/s/oarR.
42 C. Stokel-Walker, "Only Extreme Eco-taxes on Flights Will Change Our Flying Habits," *Wired* (12 July 2019). www.wired.co.uk/article/plane-tax-eco-france-sweden.

in 2020, a business class seat on a flight in the EU includes a €9 (£7.85) eco-charge, while a longer flight in business class includes a €18 (£15.70) eco-charge. The French government estimated that the "eco-tax" will raise €180 million (£151 million) a year from flights, which will be invested in other forms of transport, such as trains, according to the transport ministry.

Air France expects the eco-tax to cost the company an extra €60 million (£52 million) a year, which is believed to have encouraged it to buy more efficient planes in order to negotiate with the government.[43] Price sensitivity for passengers is relatively low, however, and the tax is deemed more of a symbolic first step. It is a practice used in the past by governments to start environment-related taxes low and get people used to the idea before increasing them. For example, the United Kingdom's landfill tax, introduced in 1996, started at £7 per tonne of waste deposited but now stands at £91.35 per tonne, an effective deterrent.[44]

In 2021, French lawmakers voted in favor of a bill to end routes where the same journey could be made by train in under two and a half hours. France is not the first country to replace flights with train rides. In 2020, Austrian Airlines replaced a flight route between Vienna and Salzburg with an increased train service, after receiving a government bailout with provisions to cut its carbon footprint.

Improved Ability to Benefit from Sustainability Megatrends

There is a multitude of implications from the so-called sustainability megatrends. Being able to integrate a response to these trends into business operations can be a success factor for an investee firm. From the investor perspective, these megatrends can be part of a successful portfolio construction strategy.

For this reason, business leaders, investors, economists, and governments are increasingly recognizing the economic implications of

- social challenges (such as increasing income inequality, poverty, and human and labor rights abuses) and
- environmental issues (such as climate change, biodiversity loss, and resource scarcity).

These factors have interacted with

- the aftermath of the 2007–08 financial crisis,
- aging populations,
- the rise of emerging economies, and
- rapid technological changes.

This interaction increases the complexity and the impact that social and environmental challenges have on the growth and profitability of sectors and businesses.

There is no agreement about what these megatrends are and how many of them exist. Four megatrends, which are widely recognized across governments and businesses, are discussed in the following subsections.

43 C. Stokel-Walker, "Only Extreme Eco-taxes on Flights Will Change Our Flying Habits."
44 C. Stokel-Walker, "Only Extreme Eco-taxes on Flights Will Change Our Flying Habits."

Emerging Markets and Urbanization

The locus of economic activity and dynamism is shifting to emerging markets and to cities within those markets, which are going through industrial and urban revolutions simultaneously. Until recently, 97% of the Fortune Global 500 were headquartered in developed economies, but nearly half of the world's large companies are expected to be headquartered in emerging markets by 2025. Nearly half of global GDP growth between 2010 and 2025 will come from 440 cities in emerging markets—95% of them small and medium-size cities.[45] This change will impact not only where headquarters are located but also supply chains, their workforces, and the expectation of the local communities, as well as where new consumers come from.

Technological Innovation

Technology has always had the power to change behavior and expectations. What is new is the speed of change. It took 76 years for the telephone to penetrate half of all US households. The smartphone has achieved the same in less than a decade.[46] Accelerated adoption invites accelerated innovation. By 2014, seven years after the iPhone's launch, the number of applications created had hit 1.2 million and users had downloaded more than 75 billion total apps, more than 10 for every person on the planet.[47]

Social media is the new social fabric and acts as a platform for both crowd intelligence and influence. Its influence stretches far beyond its initial use as a means to stay connected with people and now reaches into corporate risk management and geopolitics. Its capacity both to mobilize online crowds and to lead people into narrow filter bubbles has had major repercussions in recent years, including civil strife. Furthermore, issues around human rights, including free speech, and tensions between big social media companies and sovereign nation states have led to headlines and point in the direction of a possible new ordering of societal power, the outcome of which remains to be seen.

Artificial intelligence—namely, computer systems able to perform tasks normally requiring human intelligence—is poised to change and grow at an exponential speed beyond the power of human intuition to anticipate. It is being used by the health industry to track patients' data and medication intake, by businesses to automate customer service and robotize manufacturing, by energy companies' smart grids to forecast energy supply and demand, and by self-driving cars to optimize routes. Gartner (an IT research firm) estimated that one-third of jobs will soon be replaced by smart machines and robots, and Google estimated that robots will attain the level of the human intelligence by 2029. It has significantly impacted most sectors.

Demographic Changes and Wealth Inequality

By 2030, the world's population is projected to rise by more than 1 billion. At the same time, the population is getting older. Germany's population is expected to shrink by one-fifth, and the number of people of working age could fall from 54 million in 2010 to 36 million in 2060. China's labor force peaked in 2012. Today, about 60% of the world's population lives in countries with fertility rates below the replacement rate.[48]

45 McKinsey & Company, "McKinsey Special Collections: Trends and Global Forces" (April 2017). www.mckinsey.com/~/media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Strategy%20and%20corporate%20finance%20special%20collection/Final%20PDFs/McKinsey-Special-Collections_Trends-and-global-forces.ashx.

46 PWC, "Technological Breakthroughs" (2020). www.pwc.co.uk/issues/megatrends/technological-breakthroughs.html.

47 McKinsey & Company, "McKinsey Special Collections."

48 McKinsey & Company, "McKinsey Special Collections."

A smaller workforce will place a greater onus on productivity for driving growth and may cause economists to rethink the economy's potential. Caring for large numbers of elderly people has already started to reshape industries and put severe pressure on government finances. At the same time, the rise in population overall will only increase the demand for and stress on renewable and non-renewable resources. A growing global population is expected to demand 35% more food by 2030. Finally, increasing concentration of wealth and rising inequality have already led to increasing social strain. This increase in inequality happens across and within countries, contributing to depressed economic growth, criminal behavior, and undermined educational opportunities.[49]

Climate Change and Resource Scarcity

As the world becomes more populous, urbanized, and prosperous, the demand for energy, food, and water will rise. But the Earth has a finite amount of natural resources to satisfy this demand. Without significant global action, average temperatures are predicted to increase by more than 1.5°C (2.7°F), a threshold at which scientists believe significant and potentially irreversible environmental changes will occur. The interconnectivity between trends in climate change and resource scarcity is amplifying the impact: climate change could reduce agricultural productivity by up to a third across large parts of Africa over the next 60 years. Globally, demand for water will increase by 40% and demand for energy by 50%.

In short, the world's current economic model is pushing beyond the limits of the planet's ability to cope.

Evolution of Materiality: From Static to Dynamic

Recent movements (such as #MeToo and Black Lives Matter), recent events (such as the COVID-19 pandemic), and their implications, including regulation, highlight that priority issues can suddenly present new, previously unaccounted for risks for corporations and their investors. These require agile responses not only from corporations but also from capital providers to mitigate the quickly emerging risks that can impact the financials of a business. This concept—that what is financially material to a company not only can but most likely does change—has been defined as *dynamic materiality*. For investors, it means that the understanding of what is financially material for a company must be constantly in review to reflect the quickly evolving nature of ESG factors.

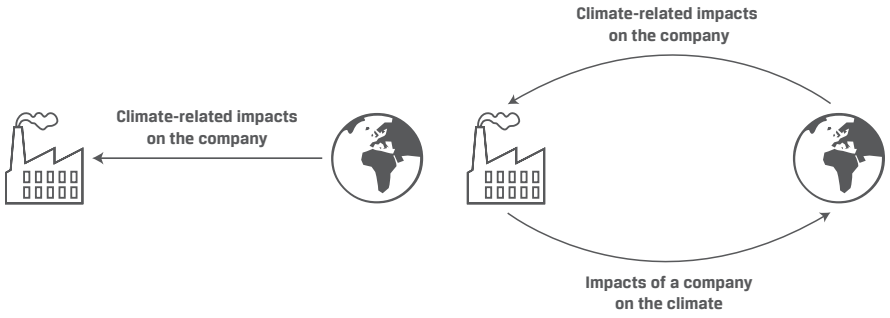
Double Materiality

Double materiality is an extension of the accounting concept of financial materiality. Information on a company is material and should therefore be disclosed if a reasonable person would consider the information important. As illustrated in the previous section, because ESG factors, especially climate, can be material for a company, they have now been widely accepted in financial markets as potentially financially material, therefore requiring disclosure.

The concept of double materiality takes this notion one step further: It is not just climate-related impacts on the company that can be material but also impacts of a company on the climate—or any other ESG factor. For further detail, see Exhibit 12. In 2019, the European Commission was the first to formally describe the concept of double materiality in the context of sustainability reporting and the need to get a full picture of a company's impacts. This means in practice that both companies and investors are increasingly identifying, monitoring, and managing the most significant impact that companies and investment portfolios have on society and the environment.

49 Max Lawson, Anam Parvez Butt, Rowan Harvey, Diana Sarosi, Clare Coffey, Kim Piaget, and Julie Thekkudan, "Time to Care: Unpaid and Underpaid Care Work and the Global Inequality Crisis," Oxfam International (20 January 2020). www.oxfam.org/en/research/time-care.

Exhibit 12: The Concept of Double Materiality



Source: Ecochain.

6 CHALLENGES IN INTEGRATING ESG FACTORS

ESG investing has seen rapid development in recent years, but challenges to its further growth remain. Challenges to taking a more proactive approach to ESG investing exist across the whole of the investment decision-making process.

Prior to wishing to implement ESG investing:

- The perception that implementing ESG investing may have a negative impact on investment performance
- The interpretation that fiduciary duty prevents investors from integrating ESG factors
- The advice given by investment consultants and retail financial advisers many times not having been supportive of products that integrate ESG factors

Once the decision has been made to implement ESG investing:

- The lack of understanding of how to build an investment mandate that effectively promotes ESG investing or lack of understanding of what are the needs of asset owners regarding ESG investing.
- The impression that significant resources, which may be lacking in the market or may be expensive, are needed—including human resources, technical capability, data, and tools.
- The gap between marketing, commitment, and delivery of funds regarding their ESG performance

Some investors still question whether considering ESG issues can add value to investment decision making despite wide dissemination of research that demonstrates that ESG integration can help limit volatility and enhance returns. Interviews conducted by the PRI show that investment professionals place a greater weight on experience from their own careers than they do on third-party evidence.[50] It can thus be helpful for an internal evidence base to be built or to engage with direct peers on ESG processes and investment benefits.

50 PRI, "How Asset Owners Can Drive Responsible Investment: Beliefs, Strategies and Mandates" (2016). www.unpri.org/download?ac=1398.

Interpretations of fiduciary duty are partially related to perception of the impact on ESG investing on risk-adjusted returns. Despite regulators in various jurisdictions clarifying a modern interpretation of fiduciary duty, contrasting views remain as to how ESG integration fits with institutional investors' duties. Some institutional investors remain reluctant to adapt their governance processes because they see a conflict between their responsibility to protect the financial interests of their beneficiaries and the consideration of ESG factors.

The challenge pertains not only to the impact of ESG investing on portfolio returns. Screening, divestment, and thematic investment strategies involve "tilting" the portfolio toward desired ESG characteristics by over- or underweighting sectors or companies that perform either well or poorly in those areas. Institutional investors may feel that this conflicts with their obligation to invest prudently, because it involves straying from established market benchmarks. This increases the tracking error, a key measure of active risk widely used in the industry that is due to active management decisions versus the benchmark made by the portfolio manager.

For further details on the challenges of portfolio construction, refer to Chapter 8.

The barriers mentioned earlier, together with other reasons, may explain why investment consultants and retail financial advisers have offered advice that is not seen as supportive of ESG investing. Consultants and advisers often base their advice on a very narrow interpretation of investment objectives. What they perceive as a lack of interest by asset owners in responsible investment has also contributed to them being less willing to integrate ESG investing into their mainstream offerings. Asset owners and individual retail investors can ensure ESG factors are standing items in meetings and ask how consultants and advisers integrate ESG factors into their advice. Investor-led initiatives can also increase engagement with these actors to enhance their understanding of ESG investing and address barriers to its consideration in investment advice.

Even once an investor has decided to consider ESG factors in investment decision making, various barriers remain. Some asset owners believe they do not have the scale or capacity to influence the products offered by fund managers. Others are unsure of how to integrate ESG factors in requests for proposals or mandates. The absence of clear signals from asset owners that they are interested in ESG investing means that investment managers have limited understanding of what asset owners expect on that matter and reduced incentive to develop such products. As a result, asset owners have fewer options for ESG investing products in the market to choose from. There are investor-led initiatives that hope to address this problem. The International Corporate Governance Network (ICGN) established a **Model Mandate Initiative**, the University of Cambridge Institute for Sustainability Leadership developed a toolkit for establishing long-term, sustainable mandates, and the PRI published numerous guidance documents to support asset owners in incorporating ESG investing into manager selection and investment mandates.

For further details on mandates, refer to Chapter 9.

The challenge of resources is especially prominent for asset owners who have funding constraints or investors who see ESG investing as separate from the core investment process (e.g., marketing or compliance). In addition to the costs of building or buying expertise in ESG investing, investors may face other costs for items, such as research, data, monitoring, and reporting. The European Fund and Asset Management Association estimated the average total price of external data for an investor to be €100,000 (£87,237).[51]

51 EFAMA, "EFAMA Reply to EC Consultation on Long-Term and Sustainable Investment" (23 March 2016). www.efama.org/newsroom/news/efama-reply-ec-consultation-long-term-and-sustainable-investment.

Even when financial resources are available, investors still have difficulty identifying or creating technical resources, such as high-quality, standardized datasets, modelling capability, and valuation techniques. Without such resources, it is not always straightforward to understand the effects of ESG risks and opportunities at the investee company level. This is because these risks and opportunities will be invisibly incorporated into the investee's overall financial performance and, therefore, before their materialization, will be invisible in the investor's (non-ESG) financial models.

- Data availability: Although ESG data from investees are increasingly available from specialized providers, disclosure is still a significant challenge, especially in asset classes other than listed equities. Investment analysis thus remains limited by corporate disclosure, which varies in quality and scope. It is also limited by investors' understanding of those data and which metrics are financially material. There is considerable effort by the private sector and policymakers to reach a consensus on what degree and type of corporate disclosure is needed, but no single standard is universally implemented.
- Modeling: It can be challenging to integrate ESG factors into traditional financial models, because they do not always have a short-term financial impact. Furthermore, most financial analysts' models extrapolate from historical data, which may be less relevant for forecasting future ESG-related outcomes. For example, measuring a company's past and current carbon footprint does not give as much information about its future valuation as understanding its strategy for reducing its carbon intensity. Similarly, it is hard to estimate the viability or impact of a breakthrough technological innovation based on historical patterns. Notably, a lot of ESG models focus on risks, and there are fewer tools for assessing positive ESG performance.
- Valuation techniques: Equity investors can adjust corporate valuations for ESG factors in a number of ways. Investors could vary the discount rate applied to future corporate cash flows, which raises the question of how much of a discount should be applied to various kinds of ESG risk. Alternatively, they could apply higher or lower multiples to valuation ratios (such as price-to-earnings or book value), which might lead to double-counting if ESG factors are already partially priced by the market.

As a result of these difficulties, ESG analysis often takes the form of a qualitative input that is used alongside traditional quantitative models. The portfolio manager might use the quality score just for information or might set a hurdle for a stock to be included in the portfolio. These types of risk metrics are less respected by portfolio managers than financial analysis because quantifying the input and its impact is generally a challenge.

For further details on financial materiality, data suppliers, and integrating ESG factors in valuation techniques, refer to Chapter 7.

A growing challenge for the industry is greenwashing. Greenwashing originally described misleading claims about environmental practices, performance, or products but has been used more widely to incorporate ESG factors more broadly. The phenomenon is not restricted to the investment industry, but with the rise of a plethora of new ESG-type funds, including impact funds, the challenge of how to spot and avoid greenwashing has become more prevalent. Asset owners, as well as individual retail investors, have questioned why certain stocks, either involved in significant controversies or with controversial activities, are part of the top holdings of ESG funds, which has at times impacted the credibility of responsible investment efforts. Part of the frustration comes from the lack of a better standard in the industry to differentiate between an investment lens based on ESG integration, which concerns the financial materiality of ESG matters, and those based on impact or ethics. While

a fund can incorporate both lenses, some funds incorporate only one or the other; effective disclosure and education are required in order to properly manage investors' expectations regarding these different approaches to responsible investment.

The EU has recently launched various initiatives to standardize claims around the green and ESG credential of funds and indexes, which will contribute to a clampdown on greenwashing. Further advancements from the governments of other jurisdictions, as well as voluntary action and initiatives of investors themselves, would contribute to maintaining and enhancing the implementation and credibility of responsible investment.

ESG FACTORS' INFLUENCE ON FINANCIAL PERFORMANCE 7

There is growing recognition in the financial industry and in academia that ESG factors indeed influence financial performance. An analysis of over 2,000 academic studies on how ESG factors affect corporate financial performance found "an overwhelming share of positive results," with just 1 in 10 showing a negative relationship.[52] Various studies also indicate that engaging with companies on ESG issues can create value for both investors and companies, by encouraging better ESG risk management and more sustainable business practices.[53] These studies provide evidence that ESG issues can be financially material to companies' performance and potentially to alpha.

Mounting evidence shows that sustainable business practices deliver better financial performance. The topic has not only been the focus of various individual studies but also the subject of **meta-analysis**, which is a research process used to merge the findings of single, independent studies to reach an overall conclusion.

In summary, these **meta-studies** suggest that in most research papers, there was a positive correlation between ESG performance and corporate financial performance, including stock prices. These findings provide academic evidence for the financial materiality of ESG factors. This correlation, however, does not hold for fund performance, suggesting that the asset management industry in general has not been consistently able to translate ESG analysis into alpha.

CASE STUDIES

Meta-Data Studies

One of the first meta-data studies, in 2012, was conducted by Deutsche Bank,[54] assessing over 100 studies. The vast majority (89%) of studies showed that companies highly rated for ESG factors outperformed the market, while 85% demonstrated outperformance in terms of business performance. These results were strongest over the medium to long term. Deutsche Bank found weaker

52 Global Research Institute, "Digging Deeper into the ESG-Corporate Financial-Performance-Relationship" (September 2018). https://download.dws.com/download?elib-assetguid=714aed4c2e83471787d1ca0f1b559006.

53 PRI, "How ESG Engagement Creates Value for Investors and Companies: Executive Summary" (26 April 2018). www.unpri.org/academic-research/how-esg-engagement-creates-value-for-investors-and-companies/3054.article.

Elroy Dimson, Oğuzhan Karakaş, and Xi Li, "Local Leads, Backed by Global Scale: The Drivers of Successful Engagement," *RI Quarterly Vol. 12: Highlights from the Academic Network Conference and PRI in Person 2017* (19 September 2017). www.unpri.org/academic-research/local-leads-backed-by-global-scale-the-drivers-of-successful-engagement/537.article.

54 M. Fulton, B. Kahn, and C. Sharples, "Sustainable Investing: Establishing Long-Term Value and Performance," DB Climate Change Advisors (June 2012).

results with respect to the influence of ESG factors on investment funds. They concluded that companies with good ESG factors outperform but that investors were not always good at capturing that outperformance.

The University of Oxford and asset manager Arabesque in 2014 reviewed the academic literature on sustainability and corporate performance and found that out of the 200 studies analyzed,

- 90% concluded that good ESG standards lower the cost of capital,
- 88% showed that good ESG practices result in better operational performance, and
- 80% showed that stock price performance is positively correlated with good sustainability practices.[55]

Another study, conducted in 2015, combined the findings of around 2,200 individual studies (35 times larger than the average sample of previous meta-analyses) and thus claimed to be the most exhaustive overview of the academic evidence on ESG factors and performance.[56] In this case, about 90% of studies demonstrated a relationship between ESG factors and financial performance that was not negative (i.e., positive or neutral performance), with the large majority showing positive correlation between ESG factors and performance across equity, fixed income, and property, as well as in aggregate.

The meta-study showed a significant difference between the impact of ESG factors on corporate financial performance, at the asset-class level, and on investment fund performance:

- 15% of the studies on portfolio-level impact were positive and
- 11% were negative.

The authors suggested three reasons why the results differ:

1. The alpha from ESG factors might be captured elsewhere in factor studies (and thus is "drowned out by noise").
2. The impacts of different ESG approaches in the various studies might cancel each other out.
3. The costs of implementation consume the available alpha.

Finally, a February 2021 meta-study conducted by the NYU Stern Center for Sustainable Business and Rockefeller Asset Management examined the relationship between ESG factors and financial performance in more than 1,000 research papers from 2015 to 2020.[57] They conducted the research differently from previous meta-studies. They divided the articles into those focused on corporate financial performance (e.g., operating metrics, such as ROE, ROA, or stock performance for a company or group of companies) and those focused on investment performance (from the perspective of an investor, generally measures of alpha or such metrics as the Sharpe ratio on a portfolio of stocks).

55 G. L. Clark, A. Feiner, and M. Viehs, "From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance" (2015). https://ssrn.com/abstract=2508281.
56 G. Friede, T. Busch, and A. Bassen, "ESG and Financial Performance: Aggregated Evidence from More Than 2000 Empirical Studies," *Journal of Sustainable Finance & Investment* 5 (15 December 2015): 210–33. https://doi.org/10.1080/20430795.2015.1118917.
57 Tensie Whelan, Ulrich Atz, Tracy Van Holt, and Casey Clark, "ESG and Financial Performance: Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015–2020" (10 February 2021). https://rcm.rockco.com/insights_item/esg-and-financial-performance.

They found a positive relationship between ESG and financial performance for 58% of the "corporate" studies focused on operational metrics, such as ROE, ROA, or stock price, with 13% showing neutral impact, 21% with mixed results (the same study finding a positive, neutral, or negative results), and only 8% showing a negative relationship. For investment studies typically focused on risk-adjusted attributes, such as alpha or the Sharpe ratio on a portfolio of stocks, 59% showed similar or better performance relative to conventional investment approaches, while only 14% found negative results. They also found positive results when they reviewed 59 climate change or low-carbon studies related to financial performance. On the corporate side, 57% arrived at a positive conclusion, 29% found a neutral impact, 9% had mixed results, and 6% were negative. Looking at investor studies, 65% showed positive or neutral performance compared to conventional investments, with only 13% indicating negative findings.

PUTTING ESG INVESTING INTO PRACTICE

8

☐ **1.1.6** explain the three ways in which investors typically reflect ESG considerations in their investment process

ESG investing is a strategy and practice related to incorporating ESG factors in investment decisions and active ownership. Institutional investors typically reflect ESG considerations in three ways:

1. incorporating ESG factors into investment decision-making,
2. through corporate engagement, and
3. through policy engagement.

Different institutions take different approaches and blend these elements differently, reflecting their culture and investment style.

Investment Decisions

Incorporating ESG factors into investment decision making can happen throughout the investment value chain:

- Asset owners
  - can include ESG factors in their requests for proposal and consider them in their appointment process,
  - are often supported by investment consultants, who can factor in asset managers' ESG policy, implementation, and outcomes in their selection process, and
  - can reassure themselves that their views on ESG issues are implemented by integrating them into investment mandates and monitoring processes.
- Asset owners and some asset managers can embed ESG considerations into **strategic asset allocation (SAA)**. SAA is the process in which an investor chooses to allocate capital across asset classes, sectors, and regions based on their need for return and income and their risk appetite.

- Asset managers and asset owners who invest directly can incorporate ESG issues into their security selection process. This can be done by
  - using ratings to apply a filter or threshold, which rules potential investments in or out of the investment universe,
  - integrating ESG issues in their financial and risk analysis, or
  - using ESG criteria to identify investment opportunities through a thematic approach (e.g., a water fund, impact investing).

For further details on this process, see Chapters 7 and 8.

Shareholder Engagement

Investors can encourage investees to improve their ESG practices via a company's annual general meeting (AGM) by formally expressing their views through voting on resolutions. Engagement can also happen outside this process (with an investment firm, individually, or through a collective initiative), discussing ESG issues with an investee company's board or management.

For further details on this process, see Chapter 6.

Policy Engagement

The proper functioning of the market and thus public policy, such as the EU's taxonomy for sustainable activities, critically affects the ability of institutional investors to generate sustainable returns and create value. Policy engagement by institutional investors is therefore a natural extension of an investor's responsibilities and fiduciary duties to the interests of beneficiaries.

Investors can work with regulators, standard setters, and other parties (e.g., consultants and stock exchanges) to design a financial system that

- is more sound and stable,
- levels the playing field, and
- brings ESG factors more effectively into financial decision making.

Investors can

- respond to policy consultations,
- participate in collective initiatives, and
- make recommendations to policymakers.

Further details on this process are discussed in Chapter 6.

9 KEY INITIATIVES

☐ **1.1.7** explain the aims of key supranational ESG initiatives and organizations and the progress achieved to date

Various initiatives have contributed to increasing the investment industry's awareness of ESG issues, as well as enhancing its ability and capacity to integrate ESG factors into the investment process.

United Nations Initiatives

The United Nations (UN) has played a critical role in the advancement of sustainability and specifically responsible investment in the past 30 years. Three of its initiatives are of particular interest to investors.

United Nations Global Compact

Chief among the supranational initiatives, the **United Nations Global Compact (UNGC)** was launched in 2000 as a collaboration between leading companies and the UN. It has since gained remarkable traction and now claims to be the largest corporate sustainability initiative in the world, with over 8,000 corporate signatories spanning the globe. These signatories agree to adhere to the 10 principles, derived from broader global standards, such as the **Universal Declaration of Human Rights** and the **International Labour Organization's Declaration on Fundamental Principles and Rights at Work**. The 10 principles of the UNGC cover the areas of human rights, labor, environment, and anti-corruption. It has provided investors with a helpful set of principles to assess and engage with companies, as well as directly aided companies in becoming more sustainable.

United Nations Environment Programme Finance Initiative (UNEP FI)

UNEP FI is a partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development.

UNEP FI started in 1992 with a few banking institutions, and today it works with over 300 members—banks, insurers, and investors—to catalyze integration of sustainability into financial market practice. The frameworks UNEP FI has established or cocreated include the following:

- The Principles for Responsible Investment, established in 2006 by UNEP FI and the UN Global Compact, now applied by more than half the world's institutional investors (US$103.4 trillion, or £74 trillion)
- The Principles for Sustainable Insurance (PSI), established in 2012 by UNEP FI and today applied by more than one-quarter of the world's insurers (more than 25% of world premium volume)
- The Principles for Responsible Banking (PRB): As of April 2021, more than 220 banks have signed up to the PRB, representing US$57 trillion (£41 trillion) in total assets, or more than one-third of the global banking sector.

Principles for Responsible Investment

The PRI comprises a UN-supported international network of investors—signatories working together toward a common goal to understand the implications of ESG factors for investment and ownership decisions and ownership practices.

The PRI provides support in four main areas:

1. The PRI provides a broad range of tools and reports on best practices for asset owners, asset managers, consultants, and data suppliers, supporting the implementation of the principles across all asset classes and providing insights into ESG issues.
2. It hosts a collaborative engagement platform, by which it leads engagements and also enables like-minded institutions to coordinate and take forward engagement with individual companies and sectors.

3. The PRI reviews, analyzes, and responds to responsible investment-related policies and consultations. It also provides a policy map to investors and facilitates communication between investors and their regulators on the topic of responsible investment.
4. The PRI Academy develops, aggregates, and disseminates academic studies on responsible investment-related themes.

The PRI developed six voluntary principles that provide overarching guidance on actions members can take to incorporate ESG issues into investment practice. The six principles are as follows:[58]

1. We will incorporate ESG issues into investment analysis and decision-making processes.
2. We will be active owners and incorporate ESG issues into our ownership policies and practices.
3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4. We will promote acceptance and implementation of the principles within the investment industry.
5. We will work together to enhance our effectiveness in implementing the principles.
6. We will each report on our activities and progress towards implementing the principles.

The PRI also leads or establishes partnerships with other organizations to develop initiatives, such as a review of fiduciary duty around the world and the establishment and implementation of the **Sustainable Stock Exchanges Initiative**. Many of its workstreams and initiatives are supported by committees made of members, which is a key way for investors to gain further insight and contribute to the development of knowledge and the further implementation of responsible investment across the industry.

For some in the investment industry, membership in the PRI has become a badge for being a responsible investor. The PRI does require members to report annually on their responsible investment practices, which are assessed by the PRI. The report is made available to the public, while the assessment is private to the member, which can then decide whether and with whom it shares the assessment (e.g., asset managers share the report with an existing or prospective client asset owner). Amid criticism that despite the assessment, there were no minimum requirements to become a member beyond payment of the membership fees, the PRI implemented minimum requirements in 2018. The three requirements are as follows:

1. Investment policy that covers the firm's responsible investment approach, covering >50% of assets under management (AUM)
2. Internal or external staff responsibility for implementing responsible investment policy
3. Senior-level commitment and accountability mechanisms for responsible investment implementation

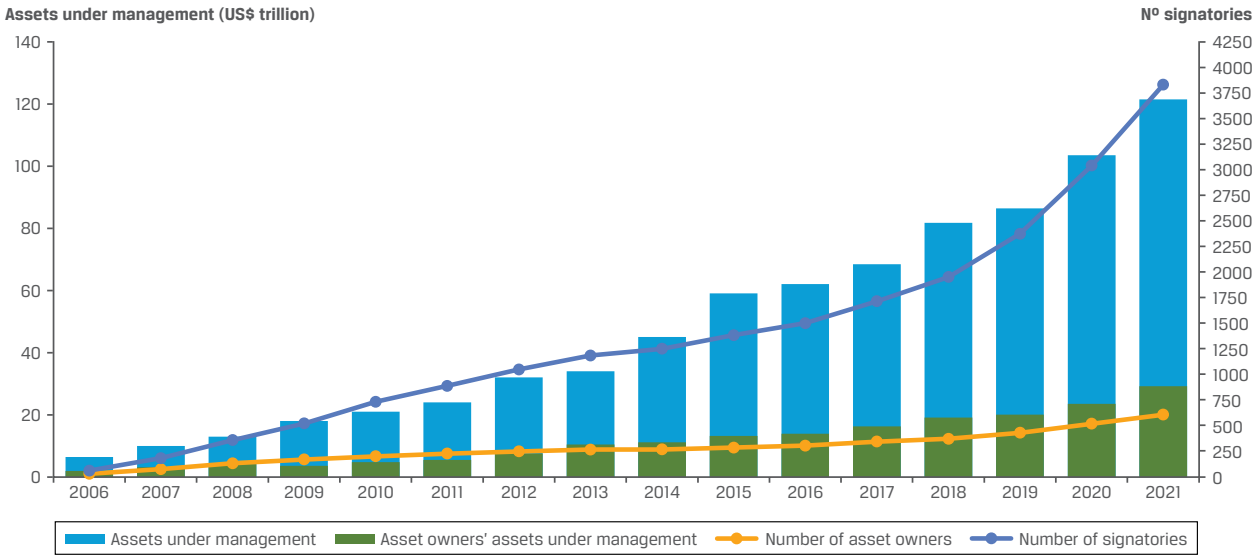
In recent years, the growth of the ESG market and the increased use of the term "ESG" has been highly correlated to the growth in PRI membership. This relationship may be linked to the fact that the principles are designed to be compatible with a wide

58 www.unpri.org/about-us/what-are-the-principles-for-responsible-investment.

range of investment styles that operate within a traditional fiduciary framework. PRI signatories have grown about 30% a year since 2006. This growth rate demonstrates the overall market opportunity for ESG investing.

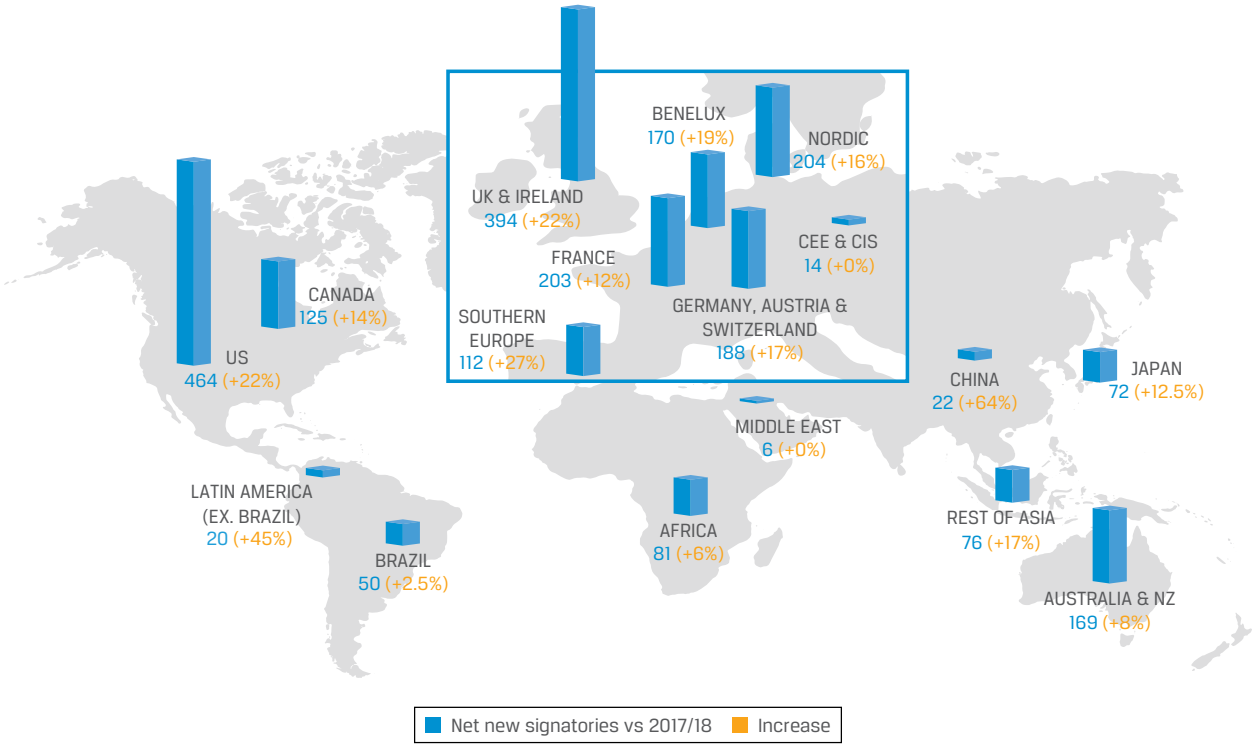
Exhibit 13 shows the growth in PRI signatories, in terms of both membership numbers and assets under management, for the period April 2006 to March 2020, inclusive. Exhibit 14 shows the number of signatories worldwide in 2019.

Exhibit 13: Growth in Number of PRI Signatories and Size of Assets Managed



Source: PRI, "About the PRI" (2020). www.unpri.org/pri/about-the-pri.

Exhibit 14: PRI Signatories Worldwide, 2019



Source: PRI, "Annual Report 2019" (9 August 2019). www.unpri.org/about-the-pri/annual-report-2019/4742.article.

In April 2021, PRI asset owner signatories numbered 606 and managed aggregate assets of over US$31.2 trillion (£22.4 trillion). The total number of signatories was 3,811, with assets of about US$110 trillion (£79.1 trillion).

United Nations Framework Convention on Climate Change

Climate change has been a focus to the UN and more recently, of investors as well. The **United Nations Framework Convention on Climate Change (UNFCCC)**, launched at the Rio de Janeiro Earth Summit in 1992, aims to stabilize GHG emissions to limit man-made climate change.

The UNFCCC hosts annual Conference of the Parties (COP) meetings, which seek to advance member states' voluntary agreements on limiting climate change.

The following are the two COPs of particular importance:

1. The COP3 meeting in Kyoto in 1997, which created the **Kyoto Protocol**. This commits industrialized countries to limit and reduce their GHG emissions in accordance with agreed individual targets.
2. The COP21 meeting in Paris in 2015, which led to the **Paris Agreement**. This commits developed and emerging economies to strengthen the response to the threat of climate change by keeping a global temperature rise this century well below 2°C (3.6°F) above pre-industrial levels.

The Paris Agreement had a significant impact on investors, including government and civil societies' expectations of them. This has led to investor-led initiatives to understand how to become aligned with the Paris Agreement, as well as various organizations engaging with investors on the topic.

UN Sustainable Development Goals

The Sustainable Development Goals (SDGs), agreed to by all UN members in 2015 in replacement of the **UN Millennial Goals**, are the UN's blueprint to address key global challenges, including those related to poverty, inequality, climate change, environmental degradation, peace, and justice. The 17 goals are interconnected and particularly aimed at governments. The Paris Agreement, though negotiated in parallel to the SDGs, became one of its goals.

Despite the goals and subsequent targets not being directly applicable to businesses and investors, the SDGs have become a powerful framework for these groups, with some investors already reporting against their impact on the SDGs and allocating capital to contribute to their achievement. Exhibit 15 provides an illustration of the SDGs.

Exhibit 15: UN Sustainable Development Goals

Note from UN: The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States.

Source: United Nations, "Take Action for the Sustainable Development Goals" (2020). www.un.org/sustainabledevelopment/sustainable-development-goals/.

Glasgow Financial Alliance for Net Zero (GFANZ)

GFANZ brings together existing and new net-zero finance initiatives across banking, insurance, and asset management in one sector-wide coalition. It provides a forum for its 450 members responsible for assets of over $130 trillion to accelerate the transition to a net-zero global economy. GFANZ was launched in 2021 by Mark Carney, UN Special Envoy for Climate Action and Finance and UK Prime Minister Johnson's

Finance Adviser for COP26, and the COP26 Private Finance Hub in partnership with the UNFCCC Climate Action Champions, the Race to Zero campaign, and the COP26 Presidency.

Race to Zero is the UN-backed global campaign rallying non-state actors—including companies, cities, regions, and financial and educational institutions—to take rigorous and immediate action to halve global GHG emissions by 2030. All members are committed to the same overarching goal: reducing GHG emissions across all scopes swiftly and fairly in line with the Paris Agreement, with transparent action plans and robust near-term targets.

Reporting Initiatives

Currently, there is a lack of standardization in sustainability reporting because there are multiple competing frameworks and methodologies. This situation has repercussions for the integrity of ESG data.

ESG-Related Initiatives

Global Reporting Initiative

The **Global Reporting Initiative (GRI)** publishes the GRI Standards, which provide guidance on disclosure across environmental, social, and economic factors for all stakeholders, including investors, whereas the other major frameworks are primarily investor focused. Several thousand organizations worldwide use the GRI framework, which is among the most well known and is the standard for the United Nations Global Compact. The framework covers the most categories of sustainability activity and encourages anecdotes and further prose to help contextualization.

Value Reporting Foundation

The Value Reporting Foundation (VRF) was formed upon the merger of the **International Integrated Reporting Council (IIRC)** and the **Sustainability Accounting Standards Board (SASB)**, two well-known global reporting initiatives. The objective of the VRF is to provide investors and corporations with a comprehensive corporate reporting framework across the full range of enterprise value drivers and standards. Before the merger, the IIRC developed the **Integrated Reporting Framework (IRF)** and the SASB issued the SASB Standards. IRF encouraged companies to integrate sustainability into their strategy and risk assessment by integrating it into the traditional annual report. The aim of the integrated report was to make it easier for investors to review such information as part of normal research processes and thus increase the likelihood that sustainability information is material to investment decisions. The SASB Standards were focused on key material sustainability issues, which affect 70-plus industry categories and were developed along with the SASB materiality maps. The SASB products were particularly helpful for investors determining what is material for reporting, and they aid more standardized benchmarking. The product suites of the two merging organizations are expected to be combined into one portfolio of offerings.

International Business Council ESG Disclosure Framework

The **ESG Disclosure Framework (EDF)** of the **International Business Council (IBC)** aims to bring greater consistency and comparability to sustainability reporting by establishing common metrics for company disclosure. The framework encourages disclosure on a "comply or explain" basis, with materiality, confidentiality, and legal constraints listed as acceptable reasons for not disclosing to a particular disclosure metric. Reporting is encouraged via annual reports or proxy statements to help ensure board oversight and participation of sustainability disclosure.

International Sustainability Standards Board (ISSB)

In 2021, the IFRS Foundation Trustees announced the creation of a new standard-setting board—the ISSB. The intention is for the ISSB to deliver a comprehensive global baseline of sustainability-related disclosure standards that provide investors and other capital market participants with information about companies' sustainability-related risks and opportunities to help them make informed decisions. The ISSB's proposals build on the work of the Climate Disclosure Standards Board, the International Accounting Standards Board, the Value Reporting Foundation (which houses Integrated Reporting and SASB Standards), the TCFD, and the World Economic Forum.

Corporate Sustainability Reporting Directive (CSRD)

Due to go live in 2023, the CSRD will replace the Non-Financial Reporting Directive (NFRD), the previous regulation that required many EU corporations to report against the ESG metrics. The CSRD will cover nearly five times more corporations (50,000) and will be more prescriptive on the format and standards.

Climate-Related Initiatives

Task Force on Climate-Related Financial Disclosures

The Financial Stability Board **Task Force on Climate-Related Financial Disclosures (TCFD)** takes the Paris Agreement's target of staying well under 2°C (3.6°F), with the ambition of staying under 1.5°C (2.7°F), and tries to operationalize it for the business world. Its June 2017 Final Report urges companies to disclose against the following:

- *Governance*—the organization's governance around climate-related risks and opportunities
- *Strategy*—the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning
- *Risk management*—the processes used by the organization to identify, assess, and manage climate-related risks
- *Metrics and targets*—the metrics and targets used to assess and manage relevant climate-related risks and opportunities

The TCFD recommends that these disclosures are provided as part of the mainstream financial filings. For many, the emphasis that the TCFD puts on climate change as a board-level issue is its greatest contribution, both in terms of enhancing disclosure and in helping to ensure that this crucial issue is actively considered at the top of organizations. It should also drive a substantial advance in disclosures by seeking transparency about realistic scenario planning, particularly around the physical impacts of climate change.

CDP (Formerly, the Carbon Disclosure Project)

CDP is a non-governmental organization (NGO) that supports companies, financial institutions, and cities to disclose and manage their environmental impact. It runs a global environmental disclosure system in which nearly 10,000 companies, cities, states, and regions report on their risks and opportunities on climate change, water security, and deforestation.

Climate Disclosure Standards Board

The **Climate Disclosure Standards Board (CDSB)** is an international consortium of business and environmental NGOs with the mission to create the enabling conditions for material climate change and natural capital information to be integrated into mainstream reporting.

Other Initiatives

Asia Investor Group on Climate Change

The Asia Investor Group on Climate Change (AIGCC) is an initiative to create awareness among Asia's asset owners and financial institutions about the risks and opportunities associated with climate change and low-carbon investing. AIGCC provides capacity for investors to share best practices and to collaborate on investment activity, credit analysis, risk management, engagement, and policy.

AIGCC was founded to represent the Asian investor perspective in the evolving global discussions on climate change and the transition to a greener economy.

Global Impact Investing Network

The **Global Impact Investing Network (GIIN)** focuses on reducing barriers to impact investment by building critical infrastructure and developing activities, education, and research that help accelerate the development of a coherent impact investing industry. It does the following:

- facilitates knowledge exchange,
- highlights innovative investment approaches,
- builds the evidence base for impact investing, and
- produces tools and resources.

Of note are its databases IRIS+ (of metrics for measuring and managing impact) and ImpactBase (of impact investing funds).

Global Sustainable Investment Alliance

Many countries have a national forum for responsible investment. The **Global Sustainable Investment Alliance (GSIA)** is an international collaboration of these membership-based sustainable investment organizations. It is a forum itself for advancing ESG investing across all regions and asset classes.

Core members of the GSIA include representatives from the regional responsible investment forums of Europe, the United States, Canada, Japan, Australia, and New Zealand. The GSIA reports draw on in-depth regional and national reports and work from GSIA members.

International Corporate Governance Network

The **International Corporate Governance Network (ICGN)** is an investor-led organization established in 1995 to promote effective standards of corporate governance and investor stewardship to advance efficient markets. Of note, the ICGN developed two key guidance documents for investors: one on stewardship and another on investment mandates.

The EU's Sustainable Finance Disclosure Regulation

In 2021, the European Union's Sustainable Finance Disclosure Regulation (SFDR) came into force. The SFDR is designed to support institutional asset owners and retail clients to compare, select, and monitor the sustainability characteristics of investment funds by standardizing sustainability disclosures. The disclosures are about the integration of sustainability risks, the consideration of adverse sustainability impacts, the promotion of environmental or social factors, and sustainable investment objectives. The SFDR is one of the building blocks of the EU's Sustainable Finance Action Plan. It applies to all financial advisers and financial market participants that construct financial products and/or provide investment advice or insurance advice in the European Economic Area (the EU member states plus Iceland, Liechtenstein, and Norway). The SFDR stipulates areas of mandatory disclosure at two levels: that of the investment firm and that of the product. Further, it introduces a new concept into the EU's regulatory environment:

Principal Adverse Impacts (PAIs). PAIs are the negative effects from an investment on sustainability factors. These PAIs go into great detail and consist of 18 indicators for which disclosure is obligatory and 46 voluntary disclosure indicators. Further, the SFDR defines two categories of sustainable financial products: Article 8 products that *promote sustainability characteristics* and the more strictly defined Article 9 products that have stringent primary objectives for positive sustainability outcomes.

CFA Institute Global ESG Disclosure Standards for Investment Products

In 2021, CFA Institute published the Global ESG Disclosure Standards for Investment Products, the first global voluntary standards for disclosing how an investment product considers ESG issues in its objectives, investment process, and stewardship activities.

KEY FACTS

1. ESG investing is an approach to managing assets where investors explicitly acknowledge the relevance of environmental, social, and governance (ESG) factors in their investment decisions, as well as their own role as owners and creditors. ESG investing also recognizes that the generation of long-term sustainable returns is dependent on stable, well-functioning and well-governed social, environmental, and economic systems.
2. The concept of ESG investing is closely related to the concept of investees' corporate sustainability. Related to this, corporate social responsibility (CSR) is a broad business concept that describes a company's commitment to conducting its business in an ethical way.
3. All forms of responsible investment except for engagement are ultimately related to portfolio construction (in other words, which securities a fund holds). Some focus more on improving financial returns using financially material ESG factors, while others combine robust returns with optimizing the impact the investment has on society and the environment. Engagement, both by equity owners and bond holders, concerns whether and how a fund tries to encourage and influence an issuer's behavior on ESG matters.
4. One of the main reasons for ESG integration is that responsible investment can reduce risk and enhance returns. Financial materiality can be due to
    a. reduced cost and increased efficiency,
    b. reduced risk of fines,
    c. reduced externalities, and
    d. improved adaptability to sustainability megatrends.
5. Evidence of the risks that ESG megatrends carry is illustrated by the World Economic Forum's Global Risks Report,[59] which for many years now has highlighted the growing likelihood and impact of extreme weather events and the failure to address climate change.
6. For many years, fiduciary duty was considered a barrier to considering ESG factors in investments. The modern interpretation of fiduciary duty, put forward in the Freshfields report,[60] recognizes that failing to consider long-term investment value drivers—which include ESG issues—in investment practice is a failure of fiduciary duty.
7. Large institutional investors, known as universal owners, have holdings that are highly diversified across all sectors, asset classes, and regions. Their investment returns are thus dependent on the overall economy. A reason for implementing ESG stems from the recognition that negative megatrends will, over time, create a drag on economic prosperity and may increase instability both within countries and between the "global north and south."
8. A reason for practicing responsible investment is the belief that some investors have that investments can or even should serve society alongside providing financial return. The UN Sustainable Development Goals (SDGs), a framework agreed by all UN member state governments to work toward aligning with global priorities, has been adapted by some of the investment community to manage and improve the impact of their investments.

59 World Economic Forum, "The Global Risks Report 2020."
60 Freshfields Bruckhaus Deringer, "A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment."