CONSCIOUS BUSINESS EDUCATION

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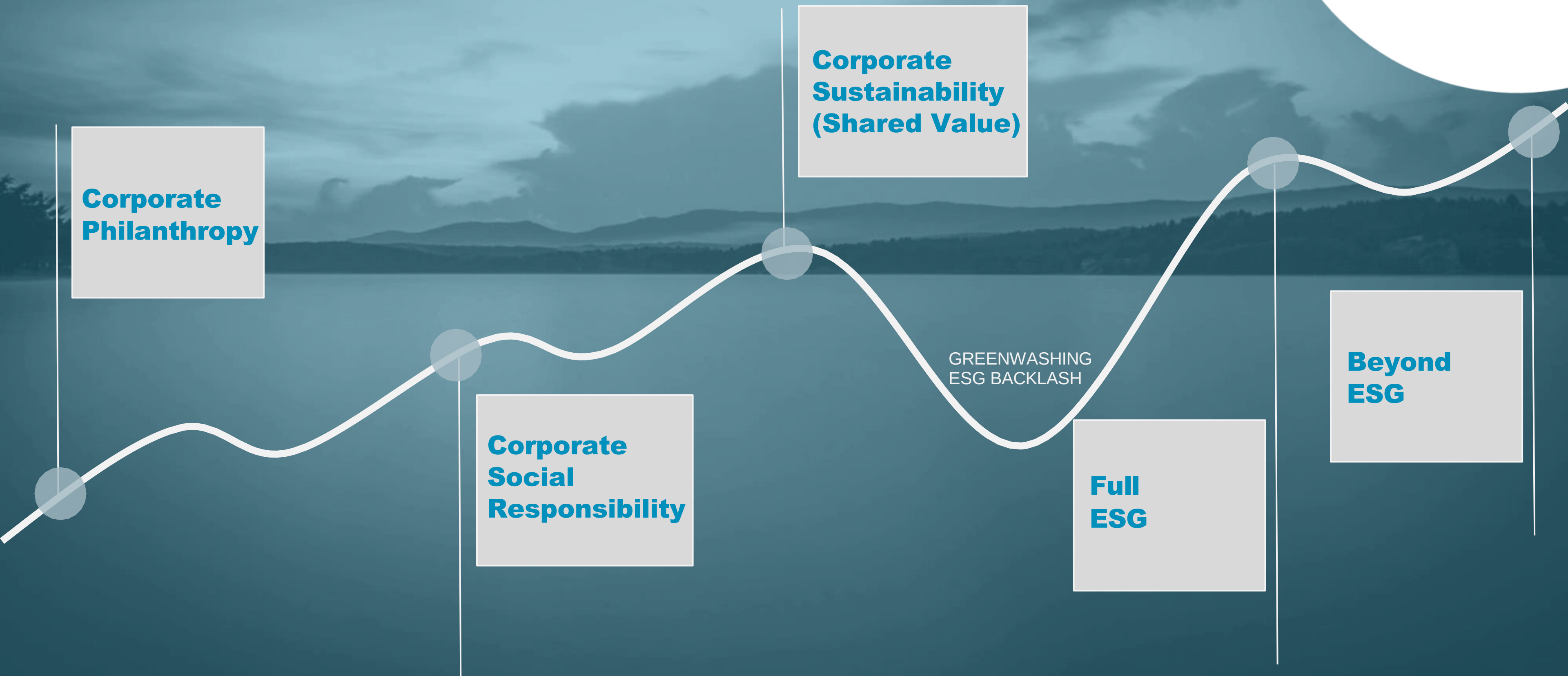
Introduction to Sustainable Finance

SUSTAINABLE FINANCE

NOVA SCHOOL OF BUSINESS & ECONOMICS

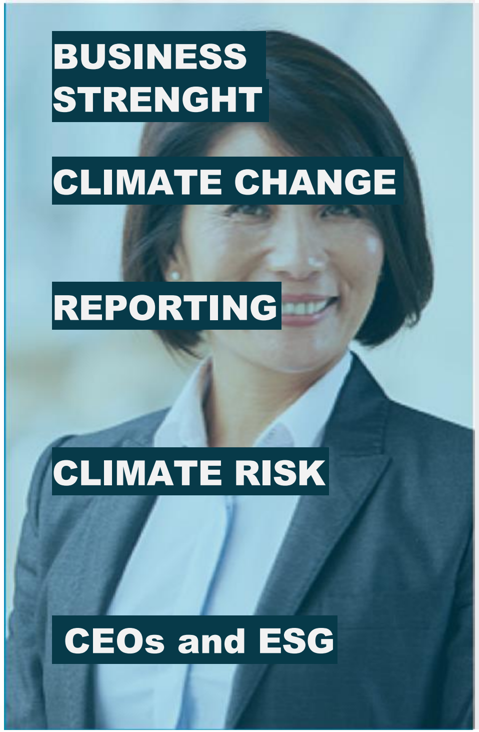
Evolution of corporate sustainability practices

Sustainability evolution - companies



The global corporate sustainability market

Companies are embracing sustainability…



83% of CEOs believe that focusing on ESG makes a business better and 43% have embedded ESG in their business strategy (KPMG ESG Survey, 2022).

A majority of global CEOs expect some degree of impact from climate change in the next 12 months—primarily in their cost profiles (where approximately 50% expect a moderate, large or very large impact) and their supply chains (42%). Fewer (24%) are worried about climate-related damage to their physical assets (PwC Annual Global CEO Survey, 2023).

96% of G250 (world's top 250 companies by revenue) report on sustainability or ESG matters and 71% of N100 (top 100 companies by revenue in 58 countries) identify material ESG topics (KPMG, Survey of Sustainability Reporting 2022).

Climate change risk is considered the fifth biggest risk to growth over the next 3 years (KPMG 2021 CEO Outlook Pulse Survey). 69% of CEOs surveyed globally reported that they their businesses are being highly or moderately impacted by climate change (Accenture and the United Nations Global Compact, 2022).

98% of CEOs believe it is the role of a CEO to make a business more sustainable and 63% are launching new sustainable products or service offerings (Accenture and the United Nations Global Compact, 2022).

The business case of corporate sustainability

Sustainability can….

- Increase efficiency and help reduce costs
- Uplift productivity and employee satisfaction
- Drive innovation and introduce new product lines
- Reduce the probability of fines
- Attend to increasing regulatory requirements
- Improve a company’s capacity to identify and manage external risks
- Pave the way for lower cost of capital
- Foster better corporate governance
- Improve reputation and branding
- Enhance and expand the client base

⇱ Sustainability is no longer just a compliance requirement or a public relations tool. It’s a business opportunity

Sustainability can
increase efficiency and help reduce costs

Concepts

- Sustainability practices induce changes around the efficiency and effectiveness of the resources we use. **It unlocks opportunities for process and logistics savings, waste management, water reduction, energy conservation, and reuse of materials.** Companies may use less to produce more while causing less negative impact.
- **Sustainable companies also incur in lower environmental costs.** They earn insurance premiums, are more resilient to physical costs associated with weather-related disasters, may take advantage of carbon pricing, and pay lower environmental taxes.

Surveys and Data

- The required resource efficient investment may offer a **rate of return greater than 10 per cent per year** and an investment of USD 900 billion may potentially generate 9 million to 25 million jobs (UN Environment, 2018)
- Research shows that of companies focused on product-level sustainability, **64% significantly reduce costs across logistics and supply chains** (Pure Strategies, 2014).
- Resource efficiency can **affect operating profits by as much as 60%** (McKinsey Quarterly, 2019).
- A study analyzing data from CDP (formerly Climate Disclosure Project) estimated that companies experience an average internal **rate of return of 27% to 80% on their low-carbon investments** (We Mean Business, 2014).

Academia

Mioara Borza (2014), **"The Connection between Efficiency and Sustainability – A Theoretical Approach"** in Procedia Economics and Finance, Vol. 15.

A case study
Galp - Portuguese energy company

Expenses, investments and savings/cost avoidance

(M€/year)	2015	2016	2017	2018	2019	2020	2021
Investments	8.34	11.18	9.06	26.93	61.16	30.78	23.94
Operational expenses	5.35	4.62	5.13	6.20	5.55	5.35	5.97
Total expenses	13.68	15.80	14.19	33.13	66.71	36.13	29.92
Savings and cost avoidance	30.37	24.06	15.75	39.81	76.85	17.48	0.76
% of operations covered	100	100	100	100	100	100	100

Dow Jones Sustainability Indexes

Sustainability Award
Gold Class 2022
S&P Global

Source: Galp, 2023

Galp is ranked #1 in the Dow Jones Sustainability Indices (DJSI) (2021 and 2022). As of December 2022, it achieved the highest score in the Oil & Gas Upstream & Integrated Sector in the S&P Global Corporate Sustainability Assessment

- The savings and avoided costs have remained at levels considerably above the total expenses (in capital investment and operational expenses) incurred in improving the operational eco-efficiency (with the exception of 2020 and 2021). This means that the investments have been effective and generated return, which confirms the success of the strategic decisions taken, enabling medium and long-term benefits.
- The operational expenses related to the environmental management systems at the refineries have been reduced since 2012, due to the improvements resulting from the eco-efficiency strategy. The investments made in 2012 and 2013 were based on the BATs, as part of the refinery conversion project.

Source: Galp, 2023

Sustainability can
improve the company's capacity to identify and manage external risks

Concepts

- **Companies may be affected by un-priced ESG systemic risks, long-term trends and intangibles in a meaningful way (resource depletion, climate change, risks in supply chain).** More sustainable companies show more resilience in case of sudden changes within the business' operating environment. This could include the mitigation of insurance costs and liabilities resulting from extreme weather events, as well as the mitigation of potential increases in costs of production due to reducing availability of resources and materials.

- **Climate risk** is both systemic and local. It threatens the financial system and the global means of production as much as it poses risk on a more localised level for specific regions, sectors and companies. Its potential physical risks will manifest in both acute, event-driven forms (such as extreme weather) and longer-term, chronic shifts driven by the effects of elevated temperatures and rising sea levels.

Surveys and Data

- More than 200 of the world's largest listed companies forecast that climate change could cost them a combined total of almost $1 trillion, with much of the cost due in the next five years (CDP, 2019).

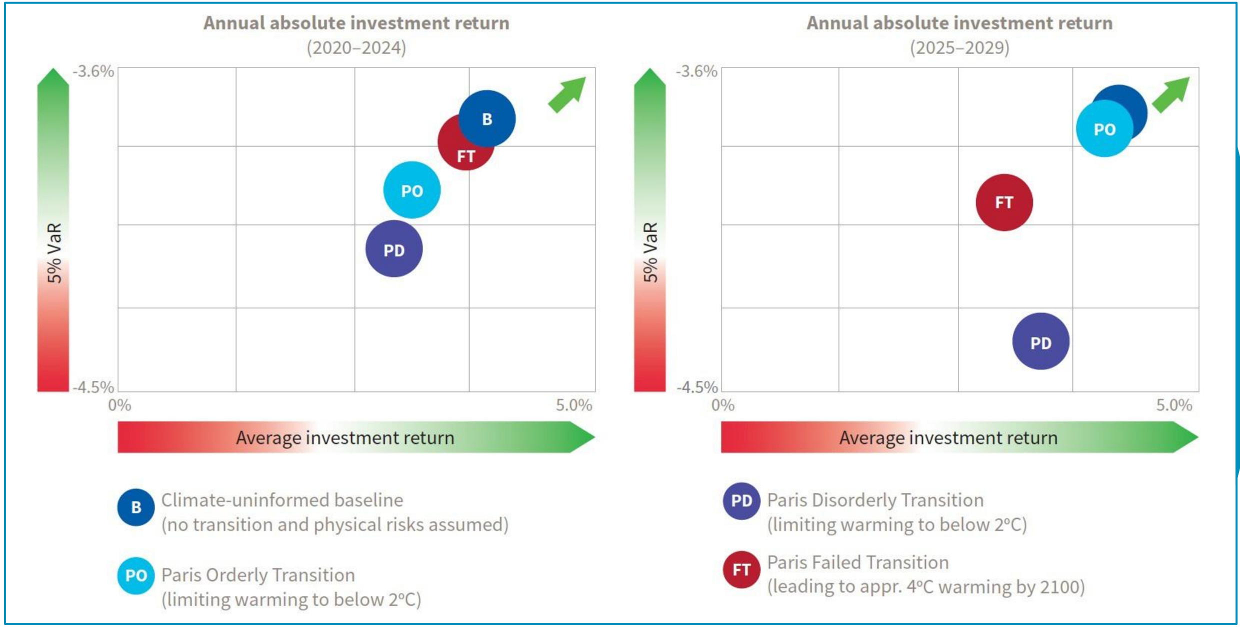
Academia

- Eccles, Robert G; Krzus, Michael P (2018), **"Why Companies Should Report Financial Risks From Climate Change"** in MIT Sloan Management Review, Vol. 59.

- Yongping Sun, Ying Yang, Nan Huang, Xin Zou (2020), **"The impacts of climate change risks on financial performance of mining industry: Evidence from listed companies in China"** Resources Policy, Vol. 69

A case study
Climate change impact on an institutional investor portfolio

**INVESTMENT RETURN OF A REPRESENTATIVE PENSION FUND'S PORTFOLIO
IN DIFFERENT CLIMATE PATHWAYS AND TIME BUCKETS (STYLISED RISK–RETURN PROJECTIONS)**



In the **nearer-term simulation (2020–2024)**, climate transition risks point to lower expected investment returns relative to the Paris-aligned pathways (Orderly and Disorderly). While a **Paris Orderly Transition** gradually prices in lower earnings expectations across the 2020-2024 period, a **Paris Disorderly Transition** represents an earnings correction that produces a shock in 2024 and higher subsequent volatility.

In the **later-term simulation (2025–2029)**, the average investment return in an orderly transition is similar to the climate-uninformed baseline where transition risk and physical risks are not modelled. In contrast, both the Paris Disorderly and Failed Transitions point to lower expected investment returns.

Source: Ortec Finance

Sustainability can
pave the way for lower cost of capital

Concepts

- **Less sustainable companies are likely to face higher refinancing costs for both loans and bonds if they receive lower credit ratings from banks and rating agencies**, respectively. This will not only increase funding costs but also constrain access to sufficient funding sources in times of financial distress.

Surveys and Data

- In the MSCI World Index, **the average cost of capital* of the highest-ESG-scored quintile was 6.16%, compared to 6.55% for the lowest-ESG-scored quintile**; the differential was even higher for MSCI EM (MSCI, 2020).

- The average cost of debt of high-ESG-rated companies was lower than that of low-ESG-rated companies. This was in line with expectations, as the corporate-governance standard, one of the pillars of ESG, is known to reduce a firm's default risk, which directly impacts its cost of debt (MSCI, 2020).

Academia

- Höck, A., Klein, C., Landau, A. et al. (2020), "**The effect of environmental sustainability on credit risk"** in Journal of Asset Management, Vol. 21.

- Yasser Eliwa, Ahmed Aboud, Ahmed Saleh (2021), **"ESG practices and the cost of debt: Evidence from EU countries"** in Critical Perspectives on Accounting, Vol. 79.

- Maaloul, A., Zéghal, D., Ben Amar, W. et al. (2021), "**The Effect of Environmental, Social, and Governance (ESG) Performance and Disclosure on Cost of Debt: The Mediating Effect of Corporate Reputation**" in Corporate Reputation Review.

* The weighted average of the cost of equity, debt (after tax) and preferred stock.

A case study

ESG scores are related to a company's cost of capital

Monthly averages were reported over the period from Dec. 31, 2015, to Nov. 29, 2019. The average number of companies in the MSCI World Index and MSCI Emerging Markets Index over the analysis period was 1,552 and 960, respectively.

Difference in cost of capital (in %) between high- and low-scoring (Q1 – Q5) companies by GICS sector

GICS Sectors	MSCI World	MSCI Emerging Markets
Energy	0.38	0.59
Materials	0.23	0.90
Industrials	0.39	1.03
Consumer discretionary	0.43	1.00
Consumer staples	0.39	0.69
Health care	0.35	0.61
Financials	0.39	1.06
Information technology	0.46	1.14
Telecommunication services	0.41	0.75
Utilities	0.55	0.73
Real estate	0.43	0.46

Source: MSCI (2020), "ESG and the cost of capital"

All these factors....

Sustainability can...

- Increase efficiency and help reduce costs
- Uplift productivity and employee satisfaction
- Drive innovation and introduce new product lines
- Reduce the probability of fines
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Contribute to better business and financial performance

The sustainability business case - research

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Morgan Stanley	"Investing in sustainability has usually met, and often exceeded, the performance of comparable traditional investments. This is on both an absolute and a risk-adjusted basis, across asset classes and over time" (*Sustainable Reality: Understanding the Performance of Sustainable Investment Strategies*, 2015)
Amundi ASSET MANAGEMENT	A performance analysis of 1,700 companies conducted between 2010 to 2017 concluded that buying the top 20 percent best-ranked ESG stocks and selling the 20 percent worst ranked ESG stocks would have generated annualized returns of 3.3 percent in North America and 6.6 percent in the Eurozone *(The Alpha and Beta of ESG Investing, 2019)*
Bank of America Merrill Lynch	A study on the ESG scores of companies that declared bankruptcy between 2008 and 2016 found that "an investor who held stocks with above average-ranks on both Environmental and Social scores would have avoided 15 of the 17 bankruptcies we have seen since 2008" *(Equity Strategy Focus Point: ESG Part II: A Deeper Dive, 2017)*
Granito Group IMPACT ECONOMY; ie BUSINESS SCHOOL	"ESG companies show lower stock return volatility in comparison to non-ESG companies on average by 28.67 percentage points less. And the positive effect on equity return is 6.12 percentage points higher for ESG companies on average" *(Journal of Sustainable Finance and Investment, 2016)*
Wharton UNIVERSITY of PENNSYLVANIA	"53 private equity impact funds from around the world, that demonstrated market-rate-seeking impact funds, could indeed achieve targeted returns and successful, mission-aligned exits" *(Great Expectations, 2015)*
BCG THE BOSTON CONSULTING GROUP	An analysis of more than 300 pharmaceutical, consumer goods, oil and gas, banking and tech companies found that those with more ethical operations made bigger profits and tend to be valued more highly than their competitors *(Total Societal Impact: A New Lens for Strategy, 2017)*

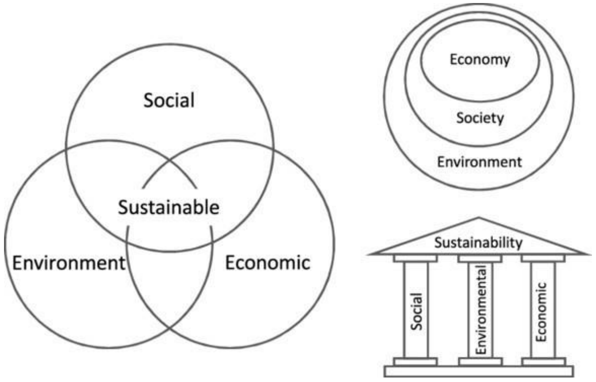
Definitions

Sustainable development

”Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs”.

Brundtland Report, 1987

The concept of sustainable development has a focus on **economic development**, **social development** and **environmental protection** for future generations.



SDGs

The **Sustainable Development Goals (SDGs)** or Global Goals are a collection of 17 interlinked **objectives** designed to serve as a ”shared blueprint for peace and prosperity for people and the planet now and into the future”

The SDGs were formulated in **2015** by the United Nations General Assembly (UNGA) to succeed the Millennium Development Goals, which ended that year. They were formally articulated and adopted in a UNGA Resolution called the **2030 Agenda.**

Corporate sustainability

Corporate sustainability is a **business approach aiming to create long-term stakeholder value through the alignment of the economic mandate of a company with sustainability practices.**

The more sustainable a company is, the higher its capacity to maximize ESG opportunities and positive externalities and minimize ESG risks and negative externalities.

The double nature of corporate sustainability

> Internal corporate sustainability

> Impact of companies' products and services
> Impact-driven sectors (renewables, healthcare, education etc.)

HOW COMPANIES ACT

WHAT COMPANIES DO

Sustainable finance in one sentence

“Sustainable finance is a new paradigm that entails the blending of **pure financial** with **environmental, social and governance (ESG)** data in investment and credit decisions to minimize risk, maximize risk-adjusted returns or generate positive social and environmental impacts.”

What is Sustainable Finance?

Financial data

"Fundamental analysis:" the quantitative (by looking at revenue, risk, expenses, assets, liabilities and other financial statements) and qualitative assessment of an asset (considering industry growth, regulations, competition or business cycles).

Sustainable finance is about **adding more i**nputs into investment and credit decision-making to take **more precise decisions** and account for a **larger set of stakeholders**.

Better Risk Management
Higher Returns
Positive Impact

ESG data

A set of environmental, social and corporate governance (ESG) information used in investments and credit.

Corporate sustainability and sustainable finance are mutually dependent

While investing in companies, **asset managers and asset owners** integrate ESG considerations in their decision-making to better manage risk, to avoid negative impacts and externalities, to improve investment returns and unlock new value-generating opportunities or to generate positive social/environmental impacts.

Investors dissect company's credentials on ESG issues and engage with them to improve performance.

ESG

- Environmental, Social and Governance (ESG) criteria or information is a set of issues and indicators that investors and lenders use to screen potential investments and loans.
- **ESG issues can manifest at global, regional, national, industry and company level**.
- **At company level, ESG issues impact strategy, operations, products, stakeholders and governance**.

How ESG manifests itself at a company level

Environmental

The ***E*** in ESG, *environmental criteria*, includes the energy a company takes in and the waste it discharges, the resources it needs, and the consequences for living beings as a result. Not least, *E* encompasses carbon emissions and climate change. Every company uses energy and resources; every company affects, and is affected by, the environment.

Social

S, *social criteria*, addresses the relationships a company has and the reputation it fosters with people and institutions in the communities where it does business. *S* includes labor relations and diversity and inclusion. Every company operates within a broader, diverse society.

Governance

G, *governance*, is the internal system of practices, controls, and procedures a company adopts in order to govern itself, make effective decisions, comply with the law, and meet the needs of external stakeholders. Every company, which is itself a legal creation, requires governance.

The global sustainable finance market

Sustainability is also one of the most talked about issues in the finance press

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Banks worth $47T adopt UN-backed responsible banking principles

22 September 2019
UN Principles for Responsible Banking are a guide for the global banking industry to respond to, drive and benefit from a sustainable development economy. 132 Founding Signatories

The year capitalism went cuddly

Business world keen to recast itself as a constructive social actor

Financial Times, 2019

Big investors push UK to go further on green finance

Chancellor's proposals must be robust and pave way for net-zero economy, say asset managers

Financial Times, 2020

ESG accelerates into the investment mainstream

Financial Times, 2019

To Be A Smart Investor, Be An ESG Investor

Forbes, 2019

ESG funds approach $2trn as majority of European flows turn green

ESG ETF flows could double record

Investment Weekly, May 2021

How big is the sustainable finance market?

Source: Global Sustainable Investment Alliance 2021, PwC, BCG

1

□ Sustainable Finance 36%

64%

□ Non-sustainable finance

GLOBAL SUSTAINABLE INVESTMENT ALLIANCE

2

Assets under management in global sustainable funds hit nearly $2.5trn at the end of December 2022. ”

Morningstar’s Global Sustainable Fund Flows: Q4 2022

MORNINGSTAR®

Trends indicate uptake growth by financial market players

56% of family offices globally have ESG allocations. Of those family offices that still don't invest sustainably, more than a quarter (27%) point to lack of standard definitions of sustainability as a barrier to investing *(UBS, The Global Family Office Report 2022).*

85% of asset managers (300 investment fund companies in the U.S. and Europe) reported that over the past year, ESG has become more of a priority within their company's overall investment offering or strategy *(Annual ESG Global Survey of Asset Managers, Index Industry Association (IIA), 2022).*

60% of investors say that sustainability considerations play a 'major role' in manager selection, with large institutions and European investors continuing to lead the way. This figure has risen from 41% in 2018 *(bfinance, 2021).*

67% of bans plan to purchase assets in carbon markets to meet ESG goals, and 50% say setting achievable ESG goals and reporting compliance are priorities *(KPMG, ESG: 2022 Banking Industry Survey).*

84% of millennials agree that social or environmental impact is important to investment decisions, compared with 71% of Generation X and 55% of baby boomers *(US Trust Bank, 2018).*

Evolution of sustainable finance practices

For detailed information, see Annex I

Timeline

The beginnings

1500 BC-1700s

Judaism, Islam, Christianity (Methodists and Quakers) – laid out principles associated to responsible investments

The modern era

1920s-2000s

1928. Amundi's Pioneer Fund– first ESG fund in Europe

1962. Pilgram's Fund Board – first Islamic investing fund (Malaysia)

1971. Pax World Fund – first ESG fund in the USA

1990. Domini 400 Social Index – first ESG Index

1992. The Seven Pillars of Corporate Social Performance and Responsibility (CSP/CSR) – first ESG rating system

1999. Launch of The Dow Jones Sustainability Indices (DJSI)

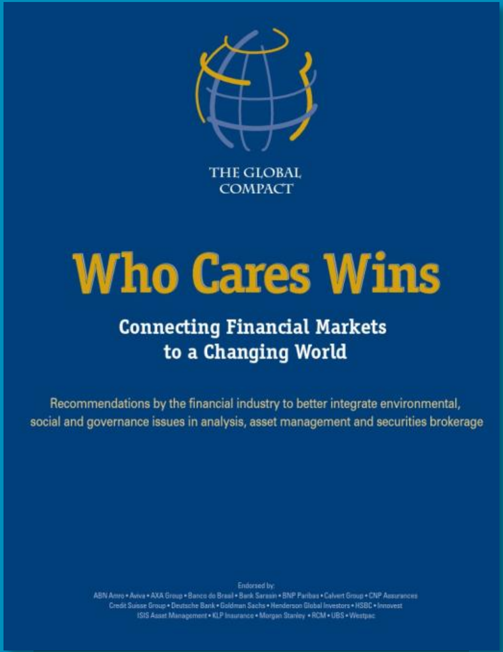
2000. Launch of UN Global Compact

2002. European Commission High-Level Group of Company Law Experts – first ESG regulations.

2002. The Johannesburg Stock Exchange becomes the world's first exchange to require listed companies to report on sustainability.

The boom

2000-2022



The future

2022-

Scenario 1: A consistent but slow growth

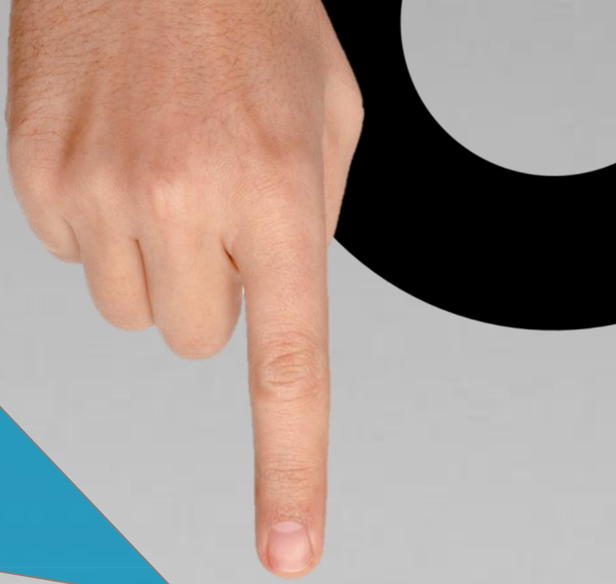
Scenario 2: The merging of sustainable finance and traditional finance

All financial assets globally will be managed through ESG lenses in the next 10-15 years (Deutsche Bank Equity Research, May 2018)

Why financial markets consider sustainability?

Financial players integrate ESG factors:

- To meet fiduciary duties
- To better manage risk
- To avoid negative impacts and externalities
- To improve investment returns and unlock new value-generating opportunities
- To improve the quality of engagement and stewardship activities
- To generate positive social/environmental impacts
- To enhance reputation
- To respond to client demand
- To attend to increasing regulatory requirement

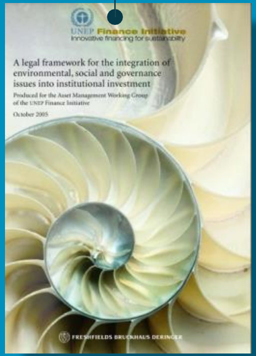


⇱ ESG is no longer just a compliance requirement or a public relations tool. It's a business opportunity

To meet fiduciary duties

RATIONALE

- Fiduciary duty is the spinal cord of financial markets. The 2005 landmark report *A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment* (commonly referred to as the Freshfields report) states 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."



- **Failing to consider long-term investment value drivers – which include ESG issues – in investment practice may be regarded a failure of fiduciary duty.**

According to CFA and the PRI, to meet their duties financial players should:

- 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.

To better manage risk

RATIONALE

- **Many investors seek to integrate ESG into investment processes to better understand and lower investment risk.** But there are many ways in which ESG risks can impact a company's bottom line. Identifying those issues which are genuinely material to a sector and company is one of the most active challenges within ESG investment. Each company is unique and faces its own challenges related to its culture, particular business model, supply chain structure, etc. So not only are there substantial differences between sectors, there are also differences between what is most material to individual companies within a single sector.

- Of the many issues concerning ESG, climate change has gained particular attention in the eyes of governments, regulators, businesses and investors. **The 2006 Stern Review on the Economics of Climate Change concluded that climate change is the greatest and widest-ranging market failure ever seen**, presenting a unique challenge for economics and that early action far outweighs the costs of not acting. According to the report, without action, the overall costs of climate change would be equivalent to losing at least 5% of global gross domestic product (GDP) each year, now and forever.

From economic to environmental. Environmental risks now top the risks agenda, while the economy has disappeared from the top five

Global Risks Report 2023

WORLD ECONOMIC FORUM

Top 10 Risks

"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period"

	2 years		10 years
1	Cost of living crisis	1	Failure to mitigate climate change
2	Natural disasters and extreme weather events	2	Failure of climate-change adaption
3	Geoeconomic confrontation	3	Natural disasters and extreme weather events
4	Failure to mitigate climate change	4	Biodiversity loss and ecosystem collapse
5	Erosion of social cohesion and societal polarization	5	Large-scale involuntary migration
6	Large-scale environmental damage incidents	6	Natural resource crises
7	Failure of climate-change adaption	7	Erosion of social cohesion and societal polarization
8	Widespread cybercrime and cyber insecurity	8	Widespread cybercrime and cyber insecurity
9	Natural resource crises	9	Geoeconomic confrontation
10	Large-scale involuntary migration	10	Large-scale environmental damage incidents

Risk categories

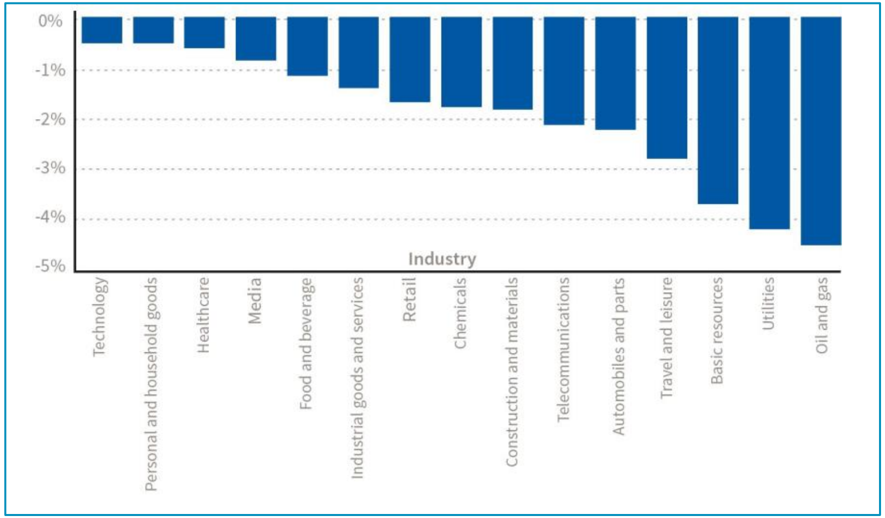
Economic Environmental Geopolitical Societal Technological

Source: World Economic Forum, Global Risks Perception Survey 2022-2023

Source: World Economic Forum, 2023

To better manage risk

ENTERPRISE VALUE ADJUSTMENT FOR PHYSICAL CLIMATE RISK BY INDUSTRY



Source: Schroders

An illustration of how environmental risk (in this case caused by physical climate change) affects different industries. This shows the potential costs to some companies of insuring their assets against the impact of physical climate change. The sector exposures analyzed tend to vary according to the capital intensity of the business.

In 2015, Mark Carney, then Governor of the Bank of England and chairman of the Financial Stability Board, stated famously:

"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****."*

To avoid negative impacts and externalities

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RATIONALE

- **Investors may rule out investments in companies, sector or countries based on ESG criteria** such as risk exposures (e.g., companies with high exposure and low resilience to ESG risks), product categories (e.g., weapons, tobacco, gambling), corporate activities and practices (e.g., animal testing, child labor, poor corporate sustainability standards), jurisdictions/countries (e.g., countries facing UN sanctions), industry sectors (e.g., oil & gas), or companies that generate adverse impacts to the environment, communities and other stakeholders. **Banned securities are often called "sin stocks."**

- Other investors do not exclude companies, sectors or countries, but **monitor and try to mitigate the adverse impacts of their investments on sustainability**. These impacts are defined by the EU as "negative, material, or likely to be material effects on sustainability factors that are caused, compounded by, or directly linked to investment decisions and advice performed by the legal entity."

Norway's $1tn wealth fund set to cut oil and gas stocks

Big groups reprieved as government recommends divestment from upstream producers

Financial Times, 2019

Risk September 19, 2019

University of California Endowment, Pension to Divest All Fossil Fuels

Chief Investment Officer, 2019

To improve investment returns and unlock value-generating opportunities

NOVA SCHOOL OF BUSINESS & ECONOMICS

RATIONALE

- The inclusion of ESG factors in an investment process does not typically come at the cost of weaker risk-adjusted returns. Instead, academic studies have indicated that ESG strategies may outperform benchmarks and therefore some investors seek to enhance returns via ESG by seeking higher alpha.
- Outperformance is not taken for granted, however, as it depends on time horizons, asset classes, geographies, asset allocation strategies, size of companies, data quality, the ESG maturity of companies, among several other factors.
- ESG is also a powerful tool for investors to identify and unlock opportunities to generate financial value by improving the sustainability credentials of portfolio companies (mainly for active investors).

NYU STERN Center for Sustainable Business

ROCKEFELLER ASSET MANAGEMENT

Meta-study on the relationship between ESG and financial performance

"**We 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% 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."

Tensie Whelan, Ulrich Atz, Tracy Van Holt and Casey Clark (2021), "ESG and Financial Performance: Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015 – 2020"

Comparing Sustainable Investing Performance (Returns and Risk) - Indices

	ANNUALIZED GROSS RETURNS (as of 31 January 2022)			
	1y	3y	5y	10y
FTSE USA	20.9	20.8	16.8	-
FTSE4Good US Index	25.6 (+4.7)	24.0 (+3.2)	19.1 (+2.3)	-
MSCI Emerging Markets	-6.94	7.56	8.68	4.53
MSCI EM ESG Leaders	-8.41 (-1.47)	8.89 (+1.33)	10.03 (+1.35)	7.21 (+2.68)
MSCI Europe Index	22.74	12.25	8.51	9.50
MSCI Europe SRI Index	20.85 (-1.89)	14.87 (+2.62)	11.11 (+2.6)	11.59 (+2.09)
MSCI ACWI	13.70	15.98	13.21	11.24
MSCI ACWI ESG Leaders	14.66 (+0.96)	16.79 (+0.81)	13.70 (+0.49)	11.68 (+0.44)

	ANNUALIZED RISK (as of 31 January 2022)			
	1y	3y	5y	10y
FTSE USA	13.4	19.7	16.0	-
FTSE4Good US Select Index	13.8 (+0.4)	19.5 (-0.2)	15.9 (-0.1)	-
MSCI Emerging Markets	-	18.10	16.55	16.03
MSCI EM ESG Leaders	-	18.14 (+0.04)	16.72 (+0.17)	15.62 (-0.41)
MSCI Europe Index	-	16.45	14.34	13.10
MSCI Europe SRI Index	-	15.66 (-0.79)	13.76 (-0.58)	12.73 (-0.37)
MSCI ACWI	-	17.08	15.07	13.23
MSCI ACWI ESG Leaders	-	16.57 (-0.51)	14.69 (-0.38)	12.94 (-0.29)

The **FTSE4Good US Select Index** is a socially responsible investment (SRI) index of US stocks that excludes companies with certain business activities such as weapons, tobacco, gambling, alcohol, nuclear power, and adult entertainment. Additionally, in order to be included companies must meet a series of stringent environmental and social criteria in areas including environmental management, labor rights, human rights, health and safety, and diversity.

The **MSCI Emerging Markets (EM) ESG Leaders Index**, is a capitalization weighted index that provides exposure to companies with high ESG performance relative to their sector peers. MSCI EM ESG Leaders Index consists of large and mid cap companies across 24 Emerging Markets (EM) countries

The **MSCI Europe SRI Index** includes large and mid cap stocks across 15 Developed Markets (DM) countries in Europe. The index is a capitalization weighted index that provides exposure to companies with outstanding Environmental, Social and Governance (ESG) ratings and excludes companies whose products have negative social or environmental impacts

The **MSCI ACWI ESG Leaders In**dex is a capitalization weighted index that provides exposure to companies with high ESG performance relative to their sector peers. MSCI ACWI ESG Leaders Index consists of large and mid cap companies across 23 Developed Markets (DM) and 24 Emerging Markets (EM) countries.

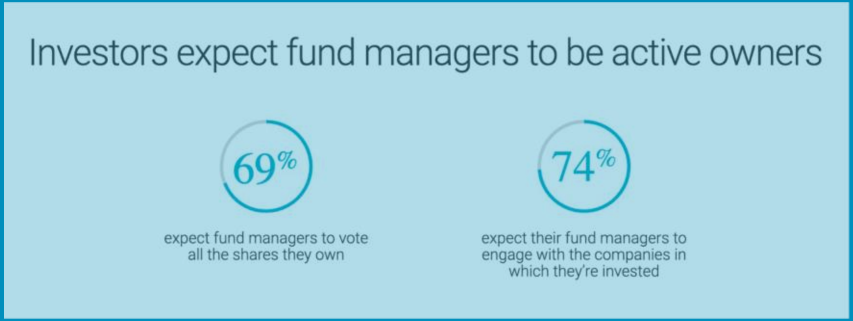
* Risk is defined as standard deviation calculated based on total returns using monthly values.

To improve the quality of engagement and stewardship activities

RATIONALE

- "Active engagement" is the use of shareholder power to influence corporate behavior, including through **direct corporate engagement** (i.e., communicating with senior management and/or boards of companies), **filing or co-filing shareholder proposals**, and **voting at the Annual General Meeting**, that is guided by comprehensive ESG guidelines.

- Investors also engage with portfolio companies to detect sources of risk and identify opportunities to unlock financial value.



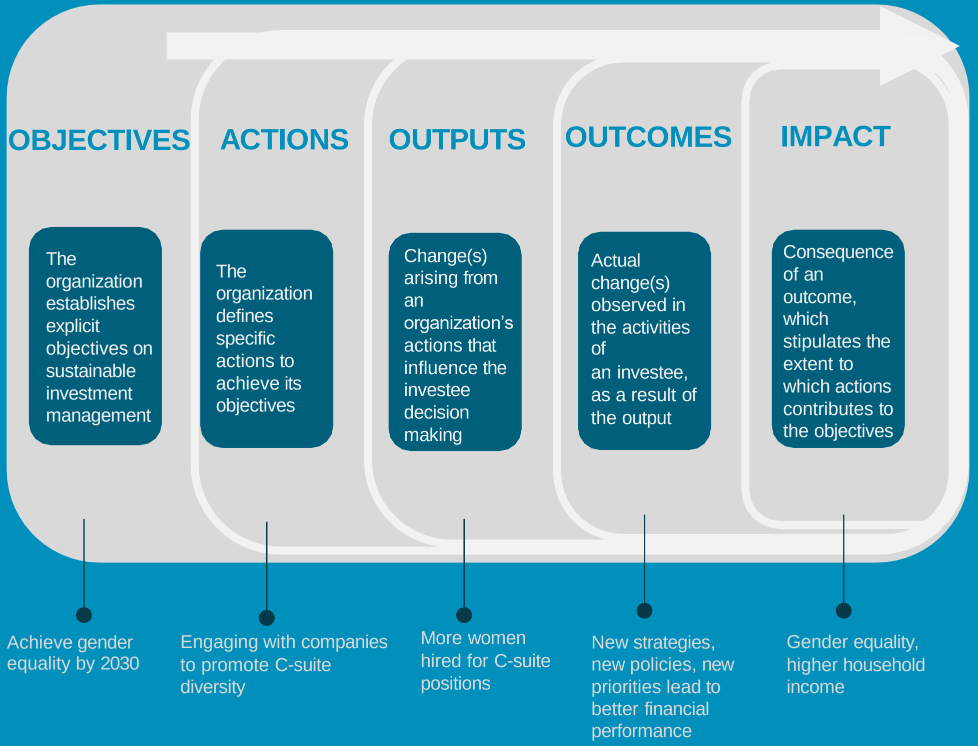
Source: 2021 Natixis Global Survey of Individual Investors

To generate social/environmental impacts

RATIONALE

- 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.
- According to Bloomberg New Energy Finance (BNEF), in 2020, total investment in the low-carbon energy transition worldwide was US$501bn (£360bn), with China as the largest investor, followed by the USA.212 The largest area of funding in 2020 was renewable energy, followed by electrified transport and heat.

Impact investments are guided by a Theory of Change



To enhance reputation

RATIONALE

- Asset managers may view ESG integration as necessary to ensure a strong reputation and limit reputational risk with stakeholders. **Managing ESG risks and opportunities therefore becomes an important part of managing brand and reputational value.**

Motivations to embrace ESG investments

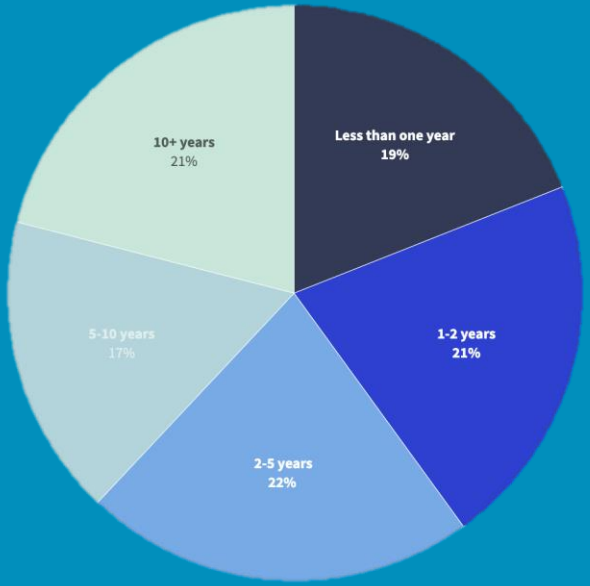
Souce: BNP Paribas, The Global ESG Survey 2021

To respond to client demand

RATIONALE

- Global ESG assets may reach $50 trillion by 2025, one-third of the projected total assets under management globally. This trend continues the rise of ESG assets after they surpassed $35 trillion in 2020 (Bloomberg Intelligence).

62% of ESG investors took up investing in ESG-related products only within the last five years



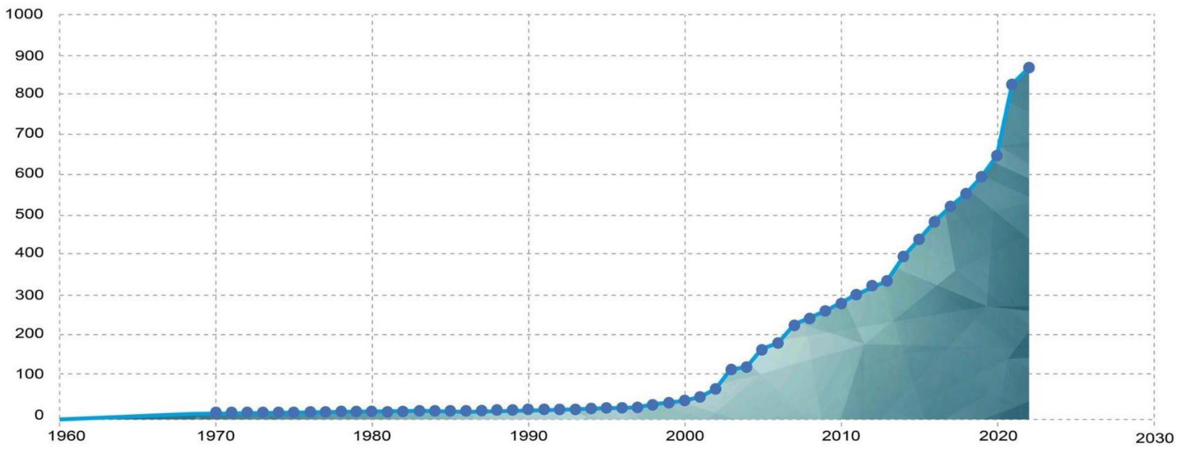
Source: Investopedia + Treehugger Survey, 2021

To attend to increasing regulatory requirement

RATIONALE

PRI's regulation database documents existing and in progress sustainable finance policies around the world. It covers **868 policy tools and guidance** and more than 300 policy revisions which support, encourage or require **investors** to consider all long-term value drivers, including environmental, social and governance (ESG) fact

Cumulative number of ESG policy interventions per year



Source: PRI Regulation Database (https://www.unpri.org/policy/regulation-database)

Regulatory requirement in the banking sector

“Banks in Europe need to prepare for the biggest set of regulatory changes since the aftermath of the 2008 global financial crisis. They’ll soon have to comply with sweeping sustainability rules drafted by national governments and financial services regulators.”

(Accenture, 2022)

Key sustainability regulatory frameworks

EU SFDR

- The **Sustainable Finance Disclosure Regulation (SFDR)** imposes mandatory ESG disclosure obligations for asset managers and other financial markets participants with substantive provisions of the regulation effective from **10 March 2021**.

- The SFDR contains ESG-specific transparency requirements to be disclosed to (potential) investors via various channels, i.e. website, pre-contractual documents (e.g. prospectus), periodic reports. **The transparency requirements contain disclosure obligations on an entity and product level** and apply to entities manufacturing financial products (Financial Market Participants) or providing investment or insurance advice (Financial Advisors).

- Asset managers need to disclose information on **websites, in prospectuses, and in periodic reports**.

- The disclosures to be made require a strategic positioning of all asset managers regarding their sustainable finance approaches as they will be required to be transparent about the following three topics: i) Sustainability risks, ii) Principle adverse impacts (PAI), and iii) ESG approach positioning (e.g., exclusions, norms-based screening, best-in-class, ESG integration, thematic and impact related approaches)

- Investment funds may fall into the categories of **Article 6** (no relation with ESG), **Article 8** (i.e. promoting ESG characteristics) or **Article 9** (with sustainable objectives).

EU Taxonomy

The **Paris Agreement**, approved in 2015, obliges signatory countries to cut their greenhouse gas emissions. Virtually every industry has a part to play in contributing to the transition towards decarbonization.

In July 2020, the European Union launched a Taxonomy — **a classification system designed to outline what constitutes a sustainable activity under the EU,** exactly defining when a company or enterprise is operating sustainably or environmentally friendly. It is a technical document that was developed after consultations with over 200 industry specialists and scientists.

The taxonomy has established **six environmental goals**: climate change mitigation; adaption; the protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems.

To claim alignment with the Taxonomy, economic activities need to substantially **contribute to one of 6 environmental objectives, do not significantly harm any other, and meet 'minimum safeguards' such as the UN Guiding Principles on Business and Human Rights** to not have a negative social impact.

Thus far it only defines the economic activities that substantially contribute to the **first two goals**, mitigation of and adaptation to climate change, for a very large number of activities within different sectors such as among others transport, construction and real estate, manufacturing and energy. The Technical Screening Criteria (TSC) for the other four objectives are still under development and are set to be published in the coming years.

The Taxonomy was developed by a **technical expert group** set up by the European Commission.

Taxonomy regulation **applies** to companies subject to Corporate Sustainability Reporting Directive (**CSRD**), financial market participants offering financial products in the EU, and the European Union and EU Member States

Corporate Sustainability Reporting Directive (CSRD)

- On 21 April 2021 the European Commission put forward a legislative proposal for a Corporate Sustainability Reporting Directive (CSRD) which would oblige companies under scope to report in compliance with European sustainability reporting standards.
- Adopted by the European Parliament on 11 Nov. 2022 (525 votes in favor, 60 votes against and 28 abstentions). The Council adopted the proposal on 28 Nov. 2022. The directive entered into force on 5 January 2023, 20 days after publication in the Official Journal.
- Member States must bring into force the laws, regulations and administrative provisions necessary to comply with Articles 1 to 3 of the directive by 6 July 2024.
- Companied need to report according to European Sustainability Reporting Standards. They are tailored to EU policies, while building on and contributing to international standardization initiatives. They are being prepared by the European Financial Reporting Advisory Group (EFRAG), an independent body gathering various stakeholders (first draft was released in Nov. 2022 and final version expected by mid-2023).

Corporate Sustainability Reporting Directive (CSRD)

(cont.)

The rules will start applying between 2024 and 2028:

- **From 1 January 2024** for large public-interest companies (with over 500 employees) already subject to the non-financial reporting directive, with reports due in 2025;
- **From 1 January 2025** for large companies that are not presently subject to the non-financial reporting directive (with more than 250 employees and/or €40 million in turnover and/or €20 million in total assets), with reports due in 2026;
- **From 1 January 2026** for listed SMEs and other undertakings, with reports due in 2027. SMEs can opt-out until 2028.

The rules introduced by the Non-Financial Reporting Directive (NFRD) remain in force until companies have to apply the new rules of the CSRD.

ECB’s expectations on banks and climate change

STEP 1

The ECB expects banks to adequately **categorize climate and environmental risks** and to conduct a full assessment of their impact on the banks’ activities by March 2023 at the latest.

STEP 2

The ECB expects banks to **include climate and environmental risks in their governance, strategy and risk management** by the end of 2023.

STEP 3

By the end of 2024, banks are expected to meet all remaining supervisory expectations on climate and environmental risks outlined in 2020, including full integration in the Internal Capital Adequacy Assessment Process (ICAAP) and stress testing. **ECB expects banks to be able to fully manage their climate-related and environmental risks.**

The deadlines will be closely monitored and, if necessary, enforcement action will be taken. Supervisors are already including bank-specific climate and environmental findings in the Supervisory Review and Evaluation Process (SREP).

ECB’s expectations on banks and climate change are crystalized in a dense regulatory and policy framework

- European Central Bank guide on climate-related and environmental risks (Nov.2020)
- The Taxonomy Regulation (2020/852) (2020)
- Delegated regulations (2021/1253 and 2021/1269) (2021)
- Article 8 Disclosures Delegated Act (July 2021)
- European Central Bank Climate Stress Test (2022)
- Thematic review of banks’ strategies and governance and risk management frameworks (2022)
- Corporate Sustainability Reporting Directive (CSRD) (2022)
- Basel Committee on Banking Supervision frequently asked questions (FAQs) (2022)
- European Central Bank report on good practices for climate stress testing (2022)

ESG Challenges

Conceptual Challenges

1.
“Do Good”, “Tree Hugging”, “Moral”, “Woke” or “Political” Sustainability gains ground

Personal and emotional, not rational

Subjective, not standard and metrics-based

PR-driven, not business and financially-oriented

Immediate, not long term

2.
“Sliced Sustainability”

Integrated in parts (only some divisions in a company, only some companies in a group, only in some countries)

Integrated superficially, not systematically

Operational Challenges

1. Alphabet Soup. ESG still regarded as an umbrella term that covers both impact and risk management strategies.

2. Regulatory frameworks are being designed, in multiple geographies. But the market still lacks rules, standards and norms.

3. ESG rating agencies. Data by nearly 100 providers is still not fully reliable, transparent and comparable. There is also lack of data for private companies, SMEs and EMs.

4. ESG reporting. There are nearly 30 global frameworks for companies to communicate their performance and impacts on sustainability topics hindering comparability and reliability.

5. Technical capacity. A very substantial volume of companies do not have the know-how to systematically and successfully integrate sustainability practices in their strategies and operations nor expertise to handle external ESG risks.

5. Shortage of ESG Talent

91% of Portuguese companies do not currently have the necessary talent to implement sustainability strategies. This is a reality in line with the global scenario, where **94%** of employers claim to face the same challenge.

To respond to the talent shortage related to ESG, “**45%** of companies in Portugal intend to recruit new professionals”. On the other hand, “**41%** intend to upskill their workers and **24%** consider adding new ESG responsibilities to their team's current roles, with **23%** also counting on resorting to external consultants in this matter”.

ManpowerGroup, “The Search for ESG Talent“ December 2022

The universalization of ESG depends on the universalization of knowledge and abilities on corporate sustainability and sustainable finance.

What keeps investors from investing in ESG funds?

41% I don't know enough

17% I don't know what they are

Source: 2021 Natixis Global Survey of Individual Investors

The result is....greenwashing

Companies are not inhibited to disclose false or inflated information about their credentials on environmental or social issues.

“Greenwashing is the practice of deliberately deceiving consumers by presenting a false sustainable image to the public to foster goodwill and increase sales and pricing.”

Simon Smiles and James Purcell, Sustainable Investing in Practice, 2023

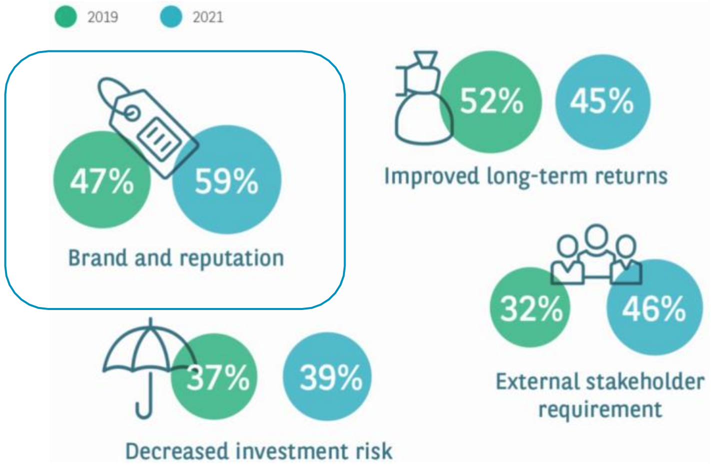
….ESG backlash….

"Sadly those three letters have morphed into shorthand for hype and controversy."

The Economist, 21 July 2022

....and ESG is regarded superficially ....

Motivations to embrace ESG investments



Souce: BNP Paribas, The Global ESG Survey 2021

Companies and fund managers attempt to manage ESG risks and opportunities as a way to improve brand and reputational value

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Introduction to Sustainable Finance

SUSTAINABLE FINANCE

NOVA SCHOOL OF BUSINESS & ECONOMICS

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Asset management and banking through ESG lenses

SUSTAINABLE FINANCE

NOVA SCHOOL OF BUSINESS & ECONOMICS

Financial data

"Fundamental analysis:" the quantitative (by looking at revenue, risk, expenses, assets, liabilities and other financial statements) and qualitative assessment of an asset (considering industry growth, regulations, competition or business cycles).

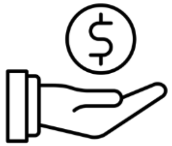
Sustainable finance is about **adding more i**nputs into investment and credit decision-making to take **more precise decisions** and account for a **larger set of stakeholders**.

Better Risk Management
Higher Returns
Positive Impact

ESG data

A set of environmental, social and corporate governance (ESG) information used in investments and credit.

Sustainable Finance tripod



INVESTING

An investment is an asset or item acquired with the goal of generating income or appreciation. Appreciation refers to an increase in the value of an asset over time.

The application of ESG in investments may follow 2 key strategies

— **Responsible investment**: integration of ESG material factors in the investment organization's practices, as part of a broader set of factors incorporated in investment decision-making and risk management, to better identify, assess, monitor, and respond to ESG-related risks. Integration is not necessarily driven by a normative or ethical perspective; it is focused on the potential material and financial impact of ESG material factors and driven, therefore, by the purpose of enhancing risk-adjusted returns.

— The effect of internal and external ESG issues on an asset or portfolio

— **Sustainable investment**: the intentional pursuit of sustainability objectives, alongside financial goals. The organization is guided by a theory of change and investments are chosen on the basis of the economic activities of investee companies (their type of products and services) and on their business conduct (how they deliver their products and services).

— The effect of an asset or portfolio on the outside world

DOUBLE MATERIALITY

The double nature of corporate sustainability

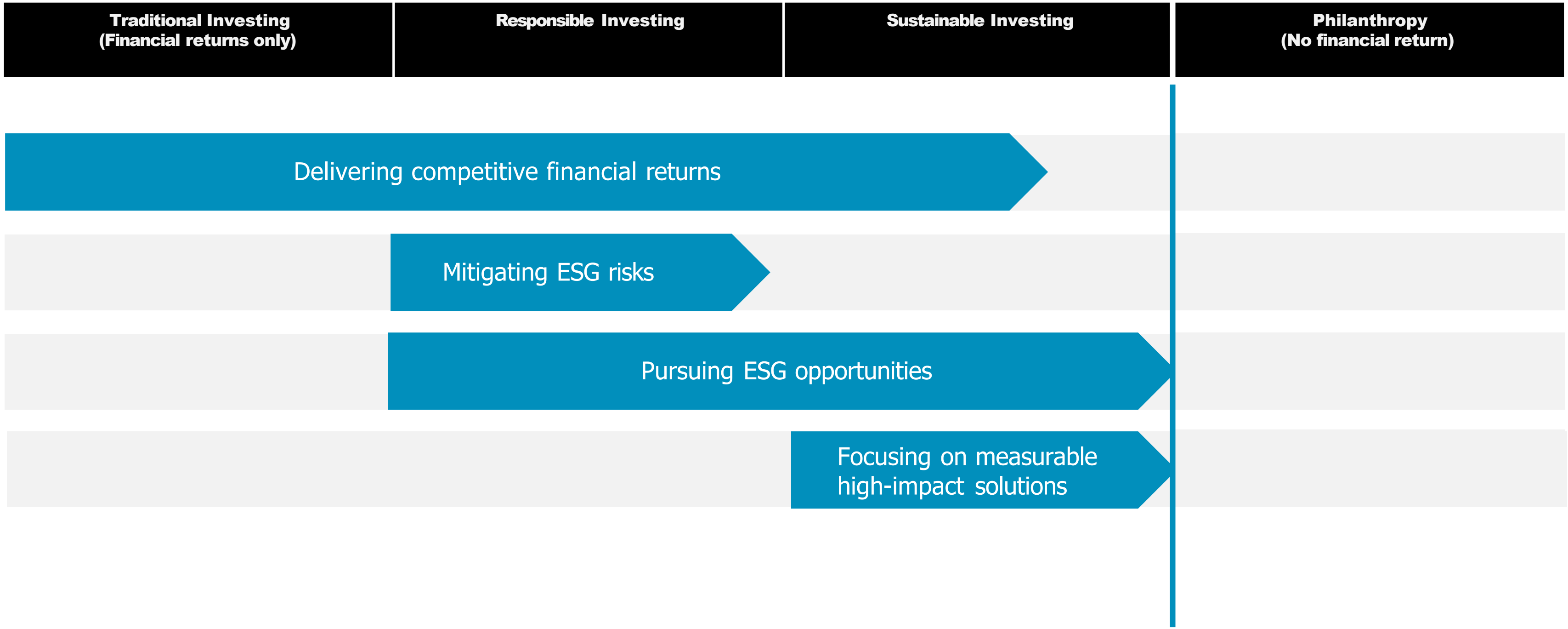
> Internal corporate sustainability

HOW COMPANIES ACT

> Impact of companies’ products and services
> Impact-driven sectors (renewables, healthcare, education etc.)

WHAT COMPANIES DO

The investment scale



Responsible Investments: ESG Integration

- "An investment discipline that explicitly includes ESG information into traditional financial analysis, based on a systematic process and appropriate research sources with the intention to enhance long-term risk-adjusted returns" (adapted from Global Sustainable Investment Alliance and Eurosif).

- ESG integration can be carried out with quantitative analysis or with fundamental analysis.

- Whereas negative screening (see below) is fundamentally grounded on prohibiting securities, **ESG integration does not restrain an investor, it is often selected for its flexibility.**

- It is simply about bringing additional data and analysis into existing approaches. It does not require ruling out/in investment in any sector or asset (adapted from UNPRI). **Companies with superior ESG performance can be found in all industries, including coal, oil & gas, tobacco, alcoholic beverages, or mining.**

- ESG Integration "**can and should be pursued even by the investor whose sole purpose is financial return**, because it argues that to ignore ESG factors is to ignore risks and opportunities that have a material effect on the returns delivered to clients and beneficiaries" (PRI).

- ESG integration can be executed in a **growing range of products and asset classes** including mainstream financial products such as publicly traded stocks as well as fixed income and alternative investments, such as private equity, venture capital, and real estate.

- **Investors implement ESG integration to mitigate risk and/or help generate alpha**.

Responsible Investments: ESG Integration

MODUS OPERANDI

. Collect ESG data (proprietary research, ESG raters, filings and websites, academia etc.) of a specific asset
. Identify materiality (the ESG issues that are highly likely to affect corporate performance and investment performance)
. Integrate ESG data into valuation models by making adjustments to future revenue growth rates, future operating costs, future capital expenditures, discount rates, and terminal value.

Managers of systematic strategies adjust their portfolio construction models to include ESG factors alongside other factors, such as value, size, momentum, growth, and volatility. They feed ESG data and ratings into their models, which can result in managers' adjusting the weights of securities up or down—including all the way to zero.

For additional information on ESG integration in financial models, see Annex slides

Sustainable Investments: Thematic investing

- The intentional pursuit of sustainability objectives, alongside financial goals. Investments are chosen on the basis of the economic activities of investee companies (their type of products and services) and on their business conduct (how they deliver their products and services).

- These type of investors **typically Investments in specific themes or assets that generate positive impacts on society or the environment, such as in education, healthcare, renewable energies, tech for good, or smart cities.**

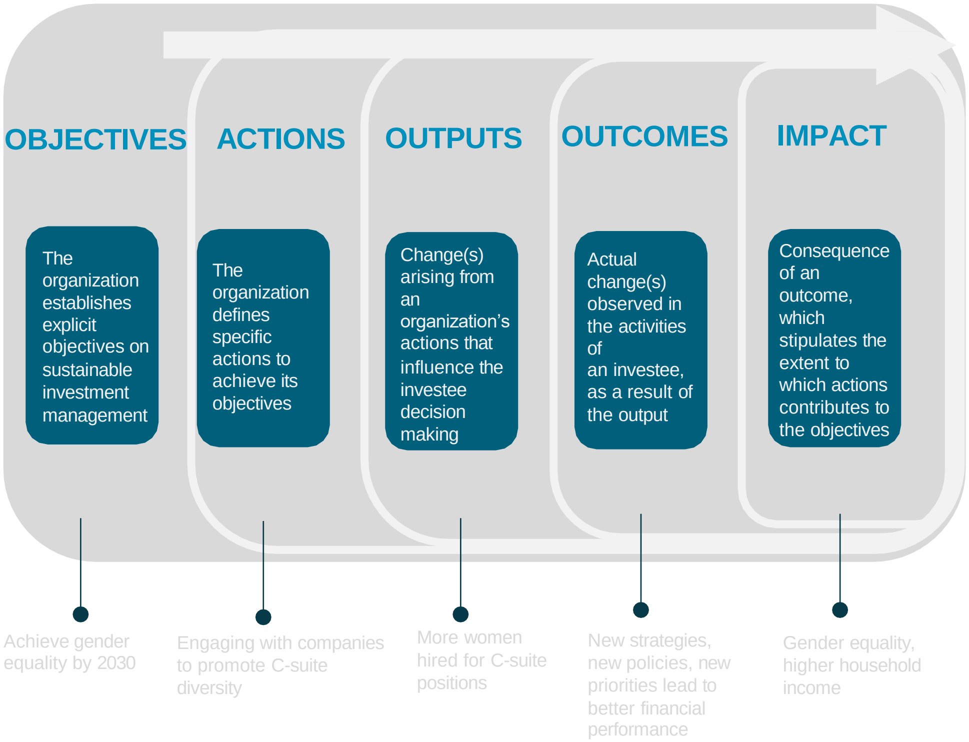
- When impact is consistently and actively measured, these investments are called “impact investments” or “social impact investments”

Sustainable Investments: Impact Investing

- “Investments made into companies, organizations, and funds with the intention to generate both financial return and positive social and/or environmental impacts that are actively measured” (adapted from GIIN and Social Impact Investment Task Force).
- **Intentionality of impact** and **measurement of impact** are two of the requirements for an investment to be labeled as an "impact investment.” It is caused-based and mission-oriented.
- It is a natural complement to ESG, where the impact objective is made explicit, additional, intentional and measured.
- They are made in both emerging and developed markets, “and target a range of returns from below market to market rate, depending on investors' strategic goals” (GIIN).
- Covers various returns expectations: from highly concessionary to pure market return and alpha seeking.
- The GIIN estimates that over 3,349 organizations manage USD 1,2 trillion in impact investing AUM as of the end of 2021 (GIIN, 2022).
- The term “impact investing” was first coined in 2007 but it dates back to 1968 when Ford Foundation began making concessionary loans to its grantees.

Thematic/Impact Investing

Theory of Change (ToC) framework



The Theory of Change (ToC) is predicated upon the intent to bring about a given long-term outcome and impact. The ToC is formed by causal linkages that start with the establishment of objectives by the investment organization, the actions that it aims to achieve, the output(s) of the action and, finally, the outcome that will lead to the impact

Responsible and sustainable investments may be supported by additional methodologies

RESPONSIBLE INVESTING

SUSTAINABLE INVESTING

SCREENING

Applying filters to lists of potential investments to rule companies in or out of contention for investment, based on an investor's preferences, values or ethics

. Negative screening ("Exclusionary Screening")
. Positive screening ("Best in Class Screening")
. Norms-based screening
. Mission-aligned investing
. Ethical investing ("Value-Based Investing" or "Faith-based Investing")

ACTIVE OWNERSHIP AND STEWARDSHIP

improving investee's ESG risk management or developing more sustainable business practices

. Engagement
. Proxy Voting

Academia: Responsible and Sustainable Investments

- A study that asked respondents to rate the different ESG styles and their impact on investment performance found out that **negative screening** is considered the most detrimental to financial performance. **Full integration** into stock valuation, **active ownership, and positive screening** are considered the most beneficial.

Amel-Zadeh, Amir, and George Serafeim (2018), "Why and How Investors Use ESG Information: Evidence from a Global Survey" in Financial Analysts Journal, 74 (3).

- A study suggests that the choice for negative screening strategies does matter for the size of the investment universe as well as for risk-adjusted return performance. **Investing in controversial stocks in many cases results in additional risk-adjusted returns, whereas excluding them may reduce financial performance**. These findings suggest that there are opportunity costs to negative screening.

Trinks, P., & Scholtens, B. (2017). The Opportunity Cost of Negative Screening in Socially Responsible Investing. Journal of Business Ethics (140).

Academia: Responsible and Sustainable Investments

- "We see clearly from our analysis that small levels of exclusions do not impact return expectations. More importantly, we observe that minor exclusions, in the range of 1 percent of a universe, will not induce material monthly deviations. **However, the range of outcomes broadens quite a lot when exclusions comprise 2–4 percent of the portfolio unless exposures are managed. Finally, excluding more than 5 percent of the portfolio may make deviations more material even with exposure management and impede our ability to form robust performance expectations**. The 5-percent restrictions may be more relevant to active portfolios, where closer attention to unintended exposures becomes more critical to achieving investment performance."

Ross, Leola (2019), "How Much is Too Much?: Negative Screening and Performance Consequences". Online at https://investmentsandwealth.org/getattachment/53cbde59-afd0-4cbe-ad48-fa50f21b917f/IWM19MayJun-NegativeScreeningPerformaceConsequences.pdf

Academia: Responsible and Sustainable Investments

- A paper by University of Cambridge researchers looked at the same of engagements and **found that collaborative engagement increased the success rate by more than 25 percent**. The study also found that investors holding a larger percentage of the shares had greater success and that domestic investors wielded more influence than foreign ones.

- Companies with inferior governance and socially conscious institutional investors are more likely to be engaged. Success in engagements is more probable if the engaged firm has reputational concerns and higher capacity to implement changes. Collaboration among activists is instrumental in increasing the success rate of environmental/social engagements. After successful engagements, particularly on environmental/social issues, companies experience improved accounting performance and governance and increased institutional ownership. **For public US firms, active ownership accounts for a positive abnormal return of around 7.1% when investors and investees interact successfully.**

Dimson, E., Karakaş, O., & Li, X. (2015, December). Active Ownership. The Review of Financial Studies, 28(12), 3225-3268.

- A study of almost 300 companies between 2005 and 2014 determined that value-at-risk was 20 percent lower for engaged firms compared with a control group.

(Hoepner et al, 2021)

Responsible x Sustainable Investments

	Responsible Investments	Sustainable Investments
Primary Goal	Risk Mitigation Financial performance	Positive Impact, Adressing Global Challenges, Meetings SDGs etc.
Investors' standpoint	Rationality, Fiduciary Duty	Values, Ethics, Morals
Investment Universe	All companies, all sectors may be assessed under an ESG perspective	Only companies whose products or services generate positive impact
Data Used	ESG data	Impact data
Assessment focus	Company's internal ESG dynamics (Act)	Company's products and services (Do)
Asset classes (most common)	Public equities, PE, fixed income, alternatives	VC, PE, fixed income
Most common types of investors	Institutional + retail	Institutional (foundations, FOs)
Measuring ESG risk affecting investments	Yes	Not necessarily
Measuring impact of investments	Not necessarily	Yes
Geography	Global	Global, but with a tilt for EM
Main industry organization	PRI	GIIN
SFDR	Art.8	Art.9
SF market share	~99,5%	~0,5%

Trends

- All financial investments will be at least responsible investments
- Responsible investments will also measure impact (besides measuring risk)
- Sustainable investments will also measure risk (besides measuring impact)

Money management

INVESTMENT BANKING

Provision of underwriting (capital raising) and mergers and acquisitions (M&A) advisory services. Investment banks act as intermediaries between investors (who have money to invest) and corporations (who require capital to grow and run their businesses).

ESG Funding

	Bonds / CB
pre-agreed sustainability performance targets	

ESG funding

	SUSTAINABILITY (KPI)-LINKED INSTRUMENTS	USE OF PROCEEDS INSTRUMENTS
	Sustainability-linked Bonds	**Green/Social/ Sustainability bonds**
Description	General Corporate Purpose Bond where pricing mechanism and/or structural characteristics are linked to a company achieving pre-determined sustainability performance targets	Bonds whose proceeds will be allocated, on a nominal equivalence basis, to the (re)financing of projects/assets with positive environmental and/or social outcomes
Principles	ICMA Sustainability-Linked Bond Principles	ICMA Green Bond Principles ICMA Social Bond Principles ICMA Sustainability Bond Guidelines
Advantages	. Potential pricing improvement if targets are met . No limitation on size as does not require the identification of "green/transition" assets/capex	. Allows the issuer to align its funding strategy with its environmental activities . Appeal to investors with dedicated ESG mandates . Developed market with large number of players
Points of attention	Coupon step-up or premium payment if issuer fails to achieve the target(s) at a predefined observation date	. Requires the issuer to identify an eligible assets (a large pool of assets is recommended for bonds) . Needs operational setup to identify, track and report eligible assets and their impact

What is a green bond?

- A green bond is a bond specifically earmarked to have positive environmental and/or climate benefits.

- A green bond finances projects aimed, for instance, at energy efficiency, pollution prevention, sustainable agriculture, fishery and forestry, the protection of aquatic and terrestrial ecosystems, clean transportation, sustainable water management and the cultivation of environmentally friendly technologies.

Green Bond Principles -- ICMA

Designated projects should provide **clear environmental benefits** e.g. renewable energy, pollution prevention, clean transport, sustainable water management

Issuer should **state eligibility criteria** and environmental sustainability objectives, with **external review recommended**

Issuer should **ring-fence net proceeds** in sub-account and **track allocations to eligible projects**. High level of transparency, unallocated proceeds flagged

Information on **use of proceeds** e.g. list of projects, amounts allocated should be readily available. Specific **KPIs measuring impact encouraged** such as emissions reduced, where feasible are encouraged

Green Bond Standard -- EU

Proposed by the EC in July 2021
The European Parliament and member states reached an agreement on 28 February 2023 to establish the standard

Core components

Definition of Green Projects

Taxonomy alignment, i.e. substantial contribution to the Environmental Objectives, Do-No-Significant Harm, social safeguards, and technical screening criteria (i.e. principles, metrics and thresholds)

Type of eligible expenditures and look-back period

1

Green Bond Framework

- Describing objectives, Green Projects to be financed, processes and methodologies on allocation, reporting and impact calculation

Green Bond Framework Template provided

2

Mandatory reporting on

3

- **Allocation**, incl. allocated amounts and geographical distribution, at least annually, until full allocation
- **Impact**, incl. description of projects and environmental metrics, at least once during bond lifetime after full allocation

Reporting templates provided

Mandatory verification

4

By an **Accredited External Verifier*** of:

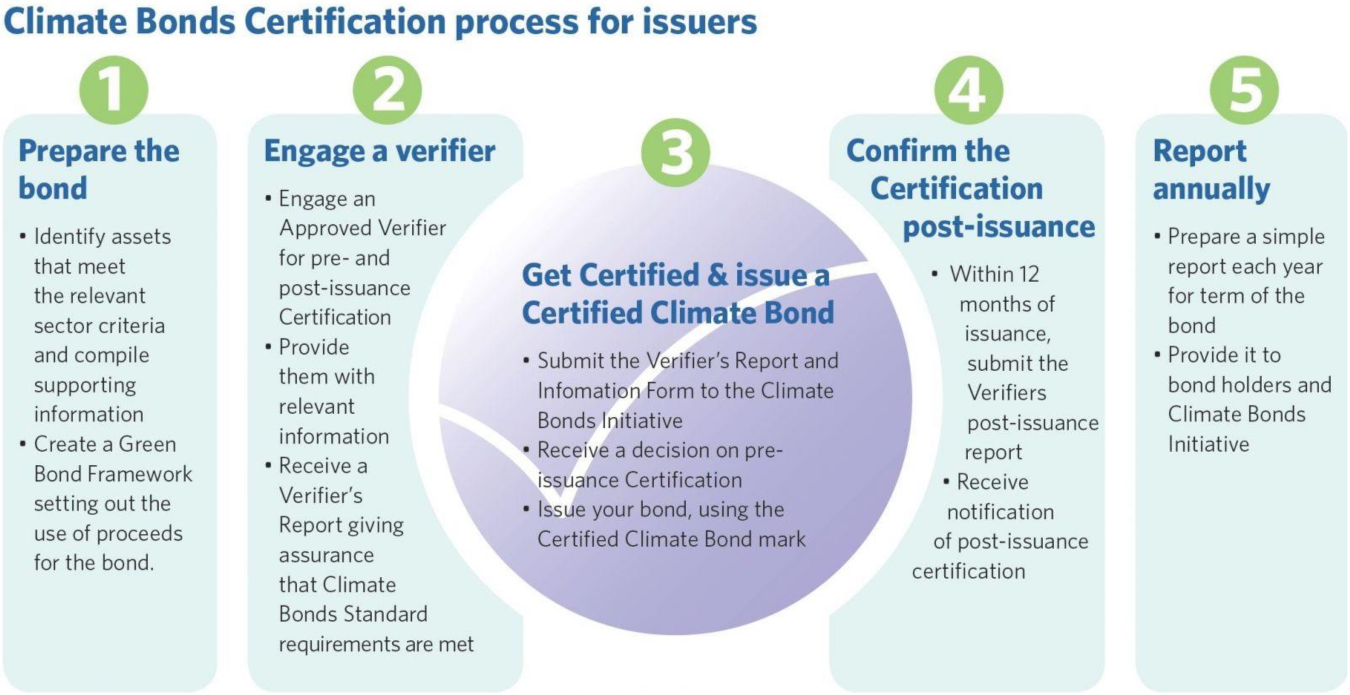
- Green Bond Framework alignment, before or at the time of issuance
- Allocation reporting, after full allocation of proceeds

Verification of the Impact Reporting is encouraged

Validation

https://www.youtube.com/watch?v=nHVQLUIPvsc

Validation – Climate Bonds Initiative



Validation – SPO

Benefits for issuers outweigh costs

Green bonds have some additional transaction cost because issuers must track, monitor and report on use of proceeds. However, many issuers, especially repeat green bond issuers, offset this initial cost with the following benefits:

- Highlighting the company's green assets/business
- Positive marketing story
- Lower interest rates (potential *greenium*)
- Diversifying their investor base (as they can now attract ESG specialist investors)
- Joining up internal teams in order to do the investor roadshow (environmental team with Investor relations and other business)

Benefits for issuers outweigh costs

"In particular, we find that the size of the *greenium* is positively affected by more volatile asset prices, larger interest rate and corporate taxes, and, more importantly, we show that issuers' creditworthiness **depends on the correlation of the green project with the core business of the firm**." (…) "**in the primary market, the *greenium* is more pronounced for corporate issuers in the utility and power sector, while it is smaller for issuers whose core business is not strictly related with the green project**."

Elettra Agliardi and Rossella Agliardi (2021), "Corporate Green Bonds: Understanding the Greenium in a Two-Factor Structural Model" in Environmental and Resource Economics, Vol, 80, p. 257–278.

Milestones

2007. The green bond market kicked off with the AAA-rated issuance from multilateral institutions European Investment Bank (EIB) and World Bank.

2013. First corporate green bond issued by Vasakronan, a Swedish property company

2013. First municipal bond was issued by Massachusetts. Gothenburg followed a few months later.

2013. SolarCity (now Tesla Energy) issued the first solar ABS*

2016. Apple became the first tech company to issue a green bond

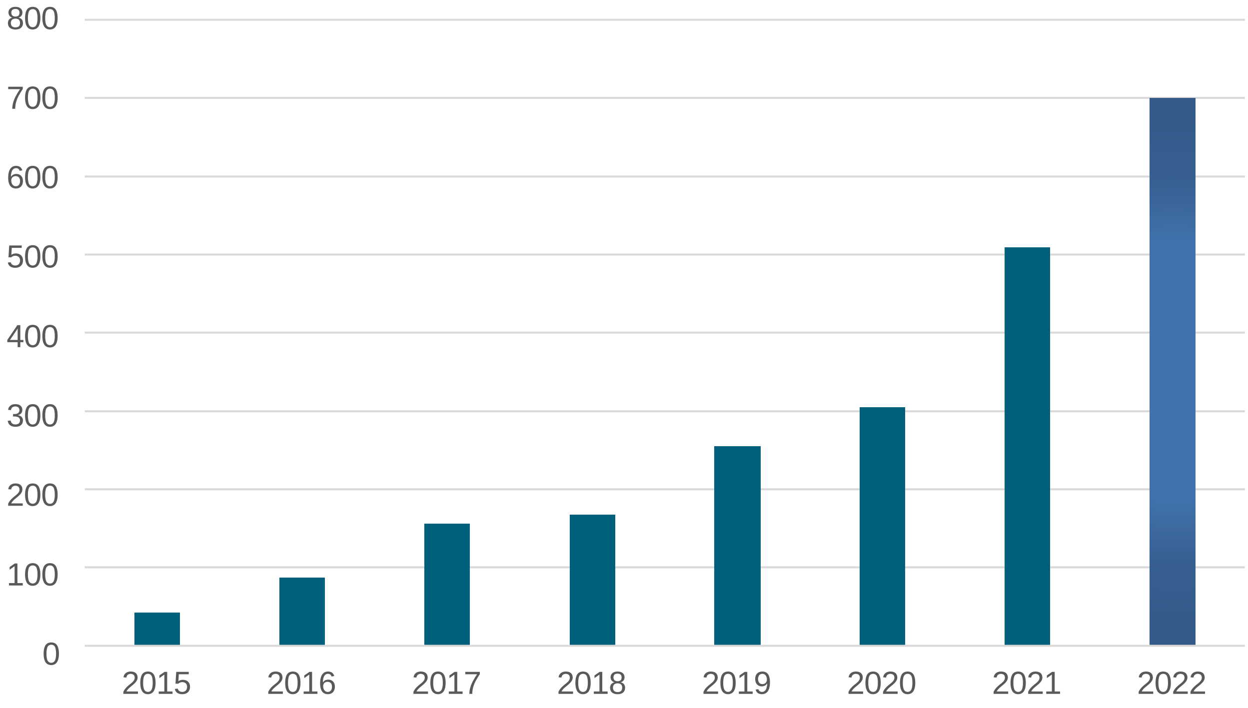
2016. Poland became the first sovereign country to issue a green bond

2018. First green bond emission in Portugal (EDP, US$ 600M)

2023. The European Union adopted the Green Bond Standard

* An asset-backed security (ABS) is a financial security such as a bond or note which is collateralized by a pool of assets such as loans, leases, credit card debt, royalties, or receivables.

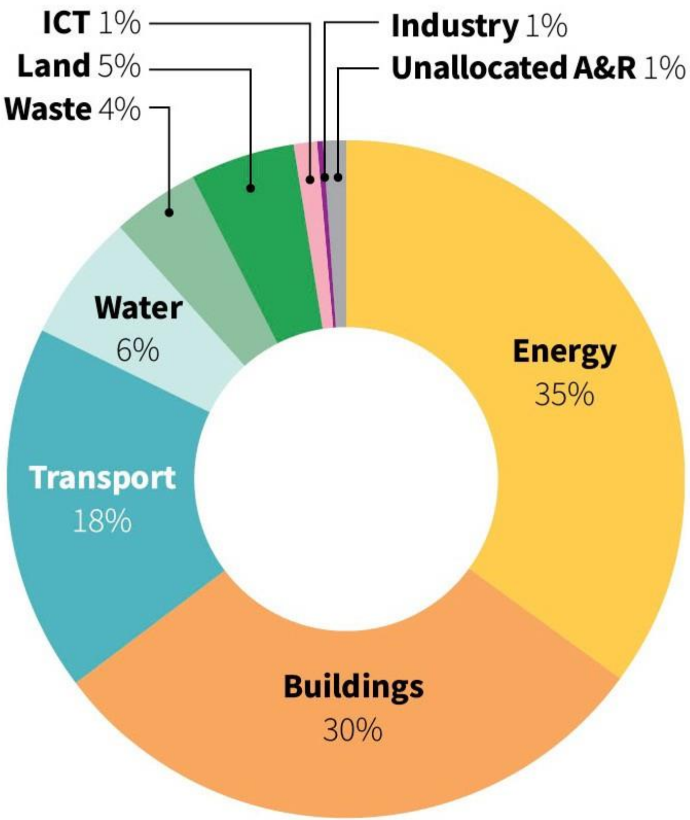
Green Bond issuance (USD billion)



Souce: Climate Bond Initiative

Green Bond Use of Proceeds

(2021)



The world's first green bond

https://www.youtube.com/watch?v=i3gIJrABLSc

Types of ESG Bonds

Blue bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/o eligible projects that help to **solve water-related challenges**

Covid-19 bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or exist eligible projects that help **mitigate the adverse effects of covid-19 or help it fighting it.**

Development banks bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing projects with positive social and economic impact in emerging nations. **These bonds are issued by DFIs such as World Bank, Asian Development Bank etc.**

Gender bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible projects that aim to **raise awareness of gender inequality and empower women**

Green bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible **Green projects**

Green sukuk are **Shari'ah compliant** asset-based financial instruments structured to provide funding for investments in renewable energy and other environmental assets.

SDG bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible projects that contribute to the **implementation of Agenda 2030**

Social bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible projects that **create positive social outcomes in communities**

Sustainability bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible projects that have a **combination of both green and social dimensions**

Sustainability-linked bonds incentivise companies' sustainability performance by **linking the interest margin to the improvement of the companies' ESG score or to the improvement on tailored sustainability KPIs.**

Different Bonds, Different Principles

The Green Bond Principles

The Social Bond Principles

The Sustainability Bond Guidelines

The Sustainability-Linked Bond Principles

Money management

COMMERCIAL BANKING

A loan is money, property, or other material goods lent to another party in exchange for future repayment of the loan value amount with interest.

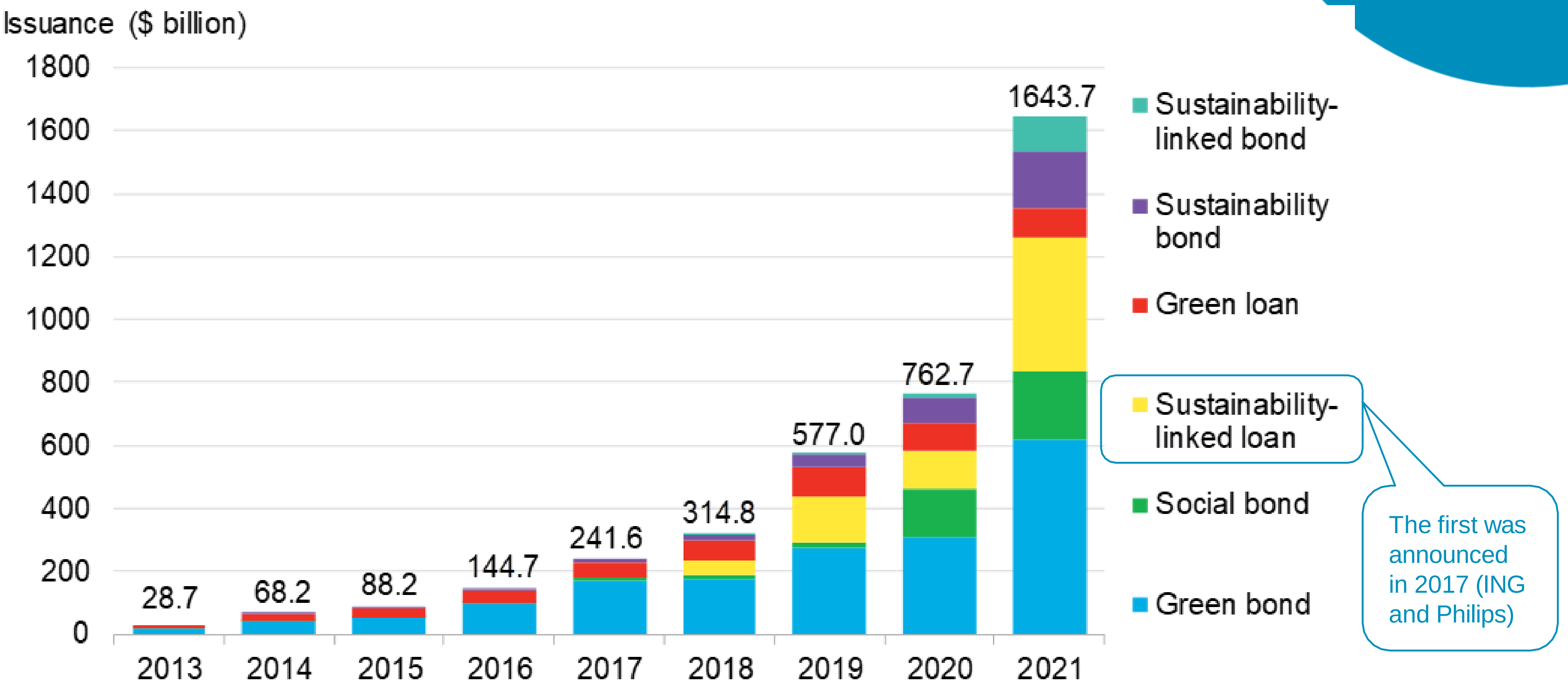
ESG Funding

	Loans
pre-agreed sustainability performance targets	

ESG funding

	SUSTAINABILITY (KPI)-LINKED INSTRUMENTS	USE OF PROCEEDS INSTRUMENTS
	Sustainability-linked Loans	**Green/Social/ Sustainability Loans**
Description	Revolving Credit Facility (or Term Loan) where pricing mechanism and/or structural characteristics are linked to a company achieving pre-determined sustainability performance targets	Term Loans whose proceeds will be allocated, on a nominal equivalence basis, to the (re)financing of projects/assets with positive environmental and/or social outcomes
Principles	Loan Market Association (LMA) Sustainability-Linked Loan Principles	LMA Green Loan Principles LMA Social Loan Principles
Advantages	. Potential pricing improvement if targets are met . No limitation on size as does not require the identification of “green/transition” assets/capex	. Allows the issuer to align its funding strategy with its environmental activities . Appeal to investors with dedicated ESG mandates . Developed market with large number of players
Points of attention	KPIs must be tested on an annual basis	. Requires the issuer to identify an eligible assets (a large pool of assets is recommended for bonds) . Needs operational setup to identify, track and report eligible assets and their impact

Annual sustainable debt issuance, 2013-2021



Source: BloombergNEF, Bloomberg L.P.

Sustainability-linked loan: Steps

1. Selection of KPIs

- KPIs are essential to link a company's corporate credit facility to its sustainability performance.
- KPIs are to be defined in concert between the bank and the company
- Sustainability experts can support selection of the most appropriate KPIs based on market practices and peer comparisons
- KPI(s) need to be meaningful, relevant and core to a company. They need to go beyond "business as usual"
- They need to be measurable, verifiable and comparable. While not a strict recommendation under the Principles, market practice has been to include 1-2 KPIs for SLBs and 1-3 for SLLs. Yet, the trend is to increase the number to up to 3 (for SLBs) and up to 5 KPIs for SLLs (above 5 it becomes difficult to execute).
- KPIs could be Internal KPIs or ESG ratings or combined
- They may relate to issuer's own performance, Issuer's peers comparison and/or referrer to science-based scenarios
- KPIs need to be **material** to the sector.
- If possible, 3 years of historical data should be provided to the group of lenders in order to understand the ambitiousness of the targets
- Depending on the products, targets may be annual (SLL) or one-offs with one observation date (SLB)-to be adapted to the maturity of the financing and the financial mechanism selected

Sustainability-linked loan: Steps

2. Financial Characteristics

- The key nature of sustainability linked financing is that the financial or structural characteristics of the financing vary depending on whether the selected KPI(s) are reached.
- The margin or coupon adjustment/premium payment must be determined pre-issuance and incorporated in the legal documentation.
- The variation should be commensurate and meaningful.

3. Reporting

- Every year, the borrower communicates its performance vs the agreed sustainability performance targets. The information should be verified by an independent party. The report could be integrated into the annual sustainability report or be a standalone report.

Sustainability-linked loan: Steps

4. Margin adjustment

. Based on the borrower's sustainability performance, the margin of the credit facility is adjusted, rewarding sustainability achievements. If improvement in performance targets is achieved, the borrower receives a discount.

. Borrower may be subject to potential pricing increase if targets are not met

5. Continuous Monitoring

. Yearly monitoring and margin adjustment until loan facility matures.

. In case a material changes in circumstances occur, a revision of the KPIs can be included in legal clauses

Advantages of Sustainable Loans

- Opportunity to demonstrate commitment to sustainable development and alignment with internal corporate sustainability work. Alignment between financial and sustainability teams.

- Discretion on use of proceeds

- Potential pricing improvement if targets are met

- Second Party Opinion is not necessary (saving up approximately 8 weeks and around US$20k)

- SLL mechanism can apply to any type of loans such loan, export finance

- Enhanced market position. Positive branding and reputation

ESG debt and risk of default

“Banks pursuing [sustainability] may have higher costs of diligence and reporting, but those are offset by a lower cost of risk—32% lower over five years.”

(Bain, 2020)

“Based on the ESG rating data of all A-share listed firms in China from 2015 to 2020, (…) we find that a firm with high ESG rating has low default probability.”

(Hao Li, Xuan Zhang, and Yang Zhao (2022), "ESG and Firm's Default Risk” in Finance Research Letters, Vol. 47.)

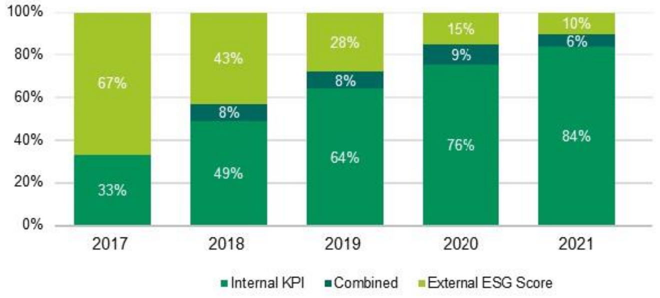
Sustainability Loans-champions (2022)

EMEA Top Tier Green UoP Loans 2022		
(By volume)		
Rank	**Bookrunner**	**Volume USD (m)**
1	CaixaBank	3.271
2	Standard Chartered Bank	1.594
3	Credit Agricole CIB	1.546
4	Credit Suisse	1.335
5	Societe Generale	1.274
6	Citi	1.250
7	HSBC	1.250
8	JP Morgan	1.250
9	Sumitomo Mitsui Financial	1.246
10	Mizuho Financial	918
11	BNP Paribas	904
12	UniCredit	858
13	Intesa Sanpaolo	558
14	BayernLB	458
15	Banco Bilbao Vizcaya	448

Source: Bloomberg, Jan 2023

SLL market. KPI trends

Ongoing trend towards the use of internal KPIs only



SLLs based on a single KPI are becoming less prevalent

Breakdown of KPI categories, all sectors (2022 YTD)

KPI Category	Amount(eur eq)	# of deals
GHG Emissions	€ 87.13bn	121
Undisclosed	€ 30.97bn	74
Energy Management and Renewables	€ 36.40bn	67
Employee engagement, diversity and inclusion	€ 39.36bn	34
Water Management	€ 19.66bn	31
Employee H&S	€ 21.02bn	26
Waste Management	€ 14.06bn	24
Global ESG Assessment	€ 16.49bn	22
Sustainable Products	€ 9.49bn	16
Circular Economy	€ 9.45bn	14
Community Relations and Development	€ 5.35bn	13
Access and Affordability	€ 10.18bn	12
Green Certified Buildings	€ 5.03bn	11
Labor Practices	€ 4.61bn	9
Product Responsibility and Safety	€ 6.42bn	8
Responsible Investing and Financing	€ 5.94bn	8
Biodiversity	€ 1.28bn	7
Supply Chain Management and Responsible Sourcing	€ 2.83bn	7
Business ethics	€ 6.07bn	5
Air Emissions and other Pollution	€ 1.06bn	4
Corporate Governance	€ 4.69bn	4
Transportation	€ 1.43bn	3
Clean Transportation	€ 0.06bn	1
Cybersecurity and Data Privacy		1

Source: BNP Paribas

Two highlights

- World’s best bank for sustainable finance 2022 (**Euromoney Awards for Excellence**). Leading issuer of green bonds in Europe.

- It has been given the 'Global Outstanding Leadership in Green Bonds' award by the Global Finance magazine as part of its **Sustainable Finance Awards 2022**. The bank is committed to mobilize a total of 300 billion euros in green finance, sustainable infrastructure, social entrepreneurship and financial inclusion by 2025.

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Asset management and banking through ESG lenses

SUSTAINABLE FINANCE

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ESG data

SUSTAINABLE FINANCE

ESG Data – The Starting Point

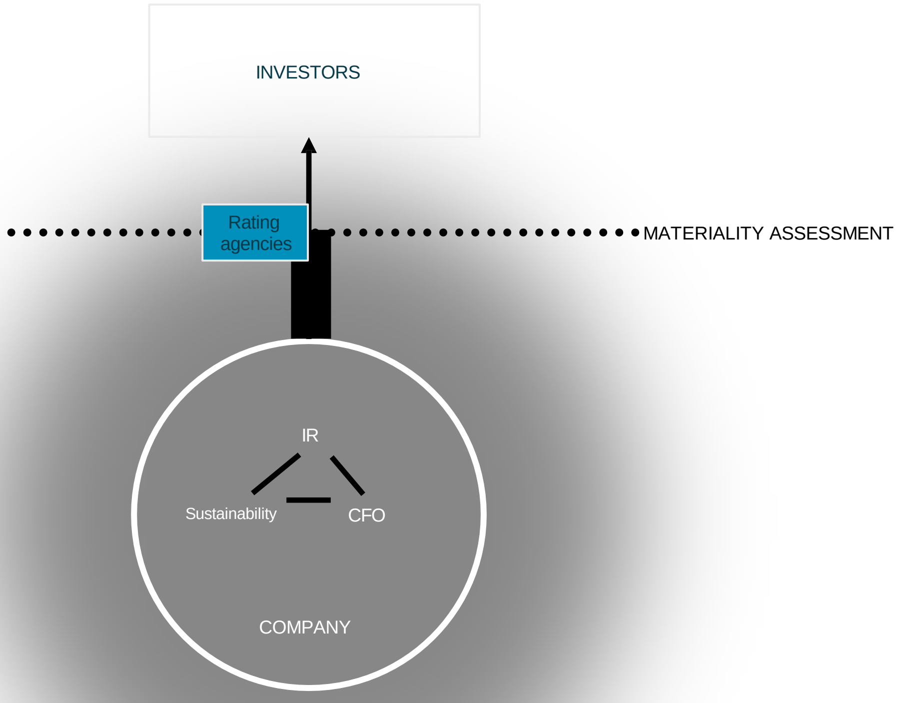
- **All financial assets** (equities, fixed income, real estate, commodities etc.) **have an ESG profile** that could potentially be determined and measured.

- **Quality data** about these assets' ESG profile **is critical** for effective investment and credit analysis. Sustainable finance depends on ESG data.

- Investors and lenders use this ESG issues and indicators to make **investment and credit decisions**.

- ESG data is **financially relevant** ("material") because it could have a significant impact – both positive and negative – on a company's business model and value drivers, such as revenue growth, margins, required capital and risk.

ESG Data – The Starting Point



ESG Data Sources: human vs. machine (

ESG data providers collect the data from:

. Company websites
. Sustainability annual reports
. Academic, government and NGO websites
. Financial news and reports
. Company reviews and social media
. Media articles
. Questionnaires
. Satellite imagery
. Regulatory filings
. Statistical models that create estimates for unreported data (based on averages and trends).

Often this data is voluntary, non-standardized and unaudited

It can be collected by human beings (ESG analysts) or machines (through ML, AI and web scraping)

ESG data-providing companies transform and aggregate this data into clean digestible records of information.

A company that has a high ESG rating or performance according to these data providers can be considered a "sustainable asset".

Data Sources: human vs. machine data

- Historical data (typically longer)

Rupert Walker (2019), " Can AI resolve ESG rating shortfalls?"

What is Materiality?

All ESG Data

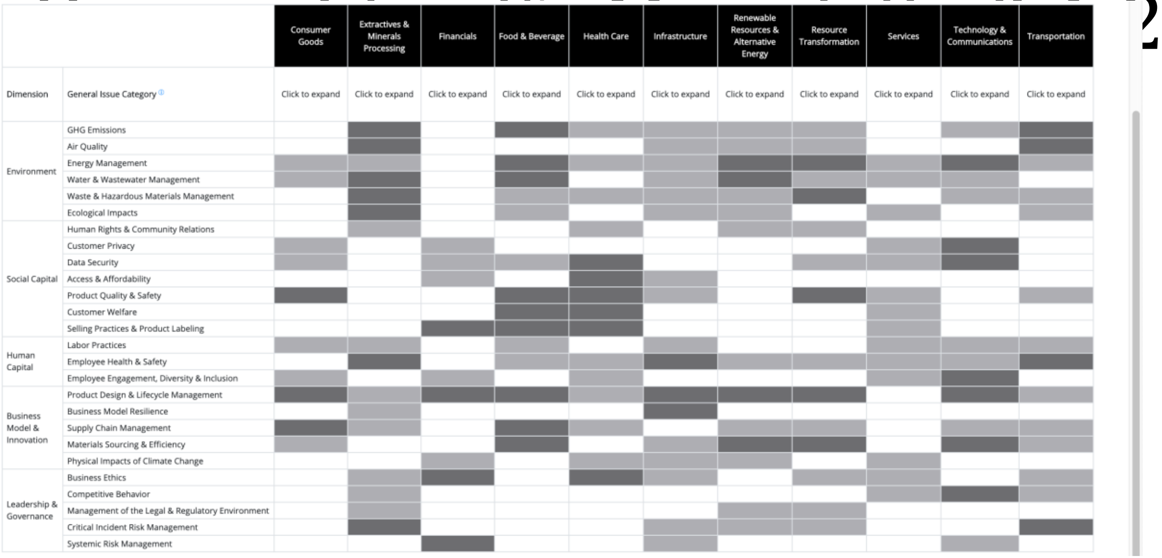
Materiality filter

Only ESG data that affects the financial performance of a company

- It is the **relevance of a sustainability factor to a company's financial performance**. Financially material ESG factors can have a significant impact – both positive and negative – on a company's business model and value drivers, such as revenue growth, margins, cost of external financing to the company (the weighted average cost of capital), and risk.

- **The material factors vary according to sector and geography.** For example, fuel efficiency has a bigger impact on the bottom line of an airline than it does for an investment bank. Water issues are more relevant for a mining or agro company than for a retail bank. Or climate change is likely to affect some regions more than others. **We cannot adopt a one–size–fits–all approach.**

SASB's Materiality Map® identifies sustainability issues that are likely to affect the financial condition or operating performance of companies within an industry. The Map considers 26 sustainability-related business issues.



Sector Level Map

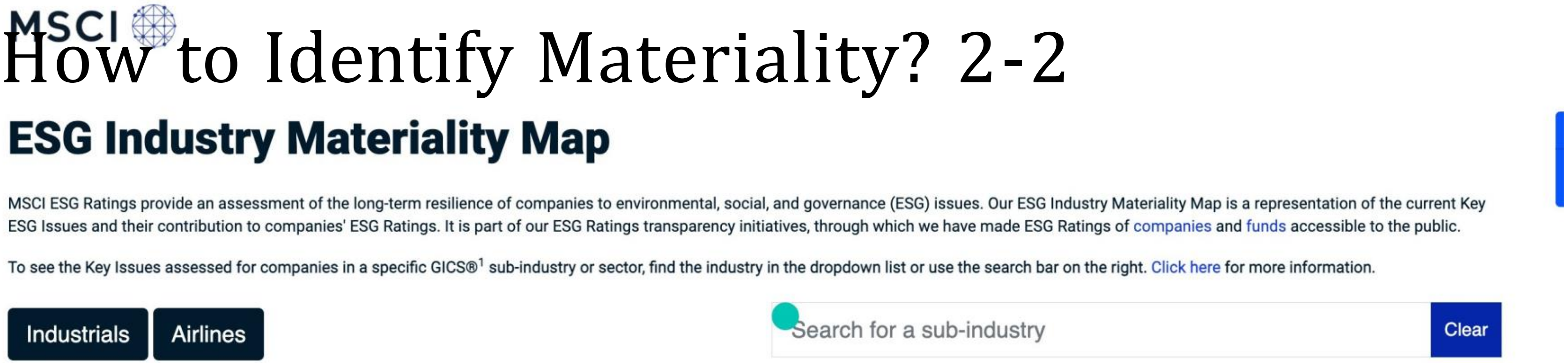
- Issue is likely to be material for more than 50% of industries in sector
- Issue is likely to be material for fewer than 50% of industries in sector
- Issue is not likely to be material for any of the industries in sector

Industry Level Map

- Not likely a material issue for companies in the industry
- Likely a material issue for companies in the industry

https://www.sasb.org/standards/materiality-map/

How to Identify Materiality? 2-2



https://www.msci.com/our-solutions/esg-investing/esg-ratings/materiality-map

- A study by Khan, Serafeim and Yoon (2016) presents evidence that investment in sustainability issues leads to financial outperformance, but only when the investment is in sustainability issues that are financially material to the firm. In contrast, they find that **investment in immaterial sustainability issues does not lead to better financial performance** and may in fact detract from performance.

- A study by *Steinbarth and Bennett (2018)* has found that traditional ESG scores are composed of a large number of issues that are not material for every industry or company. Specifically, for two-thirds of all securities in the Russell Global Large Cap Index universe, **less than 25% of the data items in the traditional score are considered material.**

Differences in four-factor alphas (High–Low Quintiles)	
Material Sustainability Issues	1.19%
Immaterial Sustainability Issues	0.30%
Standard ESG Score	0.97%

Source: Russell Investments. Alphas refer to high minus low portfolio returns regressed on four-factor models.

Emily Steinbarth and Scott Bennett (2018), "Materiality Matters: Targeting the ESG Issues that Impact Performance," Russell Investments.

ESG Data Providers

- There are **vast numbers of third-party providers of ESG data**. Investors can subscribe to these platforms and extract data such as ratings, competitive benchmarking and risk analyses.

- In 2016, more than **125 ESG data providers were in operation**, according to the Global Initiative for Sustainability Ratings. These include:

(1) **Market data providers.** Collect broad market data on equities, fixed income, commodities, foreign exchange. Offer specialized thematic indices and risk-centered metrics and tools. ESG data represents a subset of their products and services. Examples: Bloomberg, MSCI, Refinitiv (former Thomson Reuters), FTSE Russel.

(2) **Mainstream credit rating agencies.** Moody's, S&P (Standard & Poor´s), Fitch have started to integrate ESG factors in their credit ratings. They are also acquiring ESG and climate-focused data vendors.

(3) **ESG/impact exclusive.** Focus solely on ESG research, ratings and analysis. They often have a unique rating methodology to evaluate ESG data. Examples: Arabesque, Covelance, CSRHub, TruValue Labs, Ethos, Inrate, ISS-Oekom, RobecoSAM, Sustainalytics, Vigeo Eiris, Clarity AI, I360X.

(4) **Specialized data providers**: Focus on specific aspects of ESG but not all three. Examples: CDP, Reprisk, Trucost

- Currently, there are roughly 30 significant ESG data providers around the world. However, less than a handful have global coverage.

SUSTAINALYTICS

MSCI
ESG Research

CDP

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REFINITIV

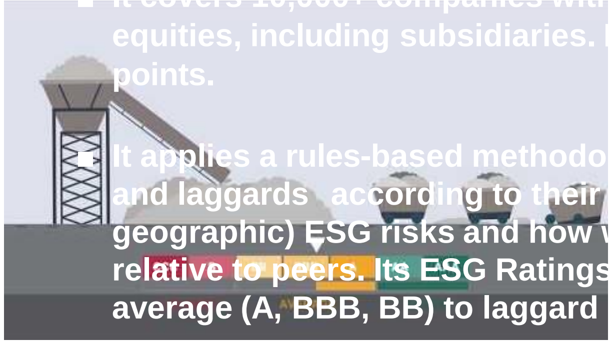
What do they measure?

- ESG ratings firms **aim to provide insight into ESG quality**. ESG scores and ratings are numerical values that are assigned to a company based on its performance in ESG factors. **The scores are intended to provide a quantitative measure of a company's ESG performance** and are often used by investors to make investment decisions.

- A common theme among ESG providers is investment **risk reduction**. The assumption is that ESG quality improves financial performance by reducing social and environmental factors that pose risk to the company’s business model or operations. To this end, **MSCI** states that its ratings “support ESG risk mitigation and long-term value creation”, whereas **Sustainalytics** “measures a company's exposure to industry-specific material ESG risks and how well a company is managing those risks.”

ESG Data Provider: MSCI

aterial



equities, including subsidiaries.
points.

- It applies a rules-based methodo
and laggards according to their
geographic) ESG risks and how w
relative to peers. Its ESG Ratings
average (A, BBB, BB) to laggard

https://www.youtube.com/watch?v=79rZm7FCkOU

- Continuous evaluation of ESG risks, including daily monitoring of 2,100 media publications and regular updates of public documents and third-party data sets.
- Ratings are used for Fundamental / Quant Analyses, Portfolio construction / Risk management, Engagement & thought leadership, or Benchmarking / Index-based product development.

How Investors Use This Data?

- Active investors will use multiple data sources and perform their own analyses rather than solely relying on data of a third-party data provider (e.g. State Street has developed an internal platform that mixes several ESG data providers such as Truvalue Labs and MSCI).

- Passive investors often use single-source third party ESG-data. They rely on ESG indices. Indices are a hypothetical portfolio of investment holdings which represents a segment of the financial market. ESG indices are designed to provide a benchmark of companies exhibiting best corporate social responsibility practices as measured by their superior rating.

- Examples of ESG Indices: MSCI KLD 400 Social Index, Dow Jones Sustainability Index, FTSE4Good Indexes, Barclays MSCI ESG Fixed Income Indexes. Generally, ESG indices beat the market.

- Global ETF* assets could reach $12 trillion over the next five years. There are 3.7m indices according to the Index Industry Association (IIA). Only 1% of those are ESG indices.

Investment Growth of MSCI KLD 400 Social vs. S&P 500

Source: Morningstar. Data from 5/1/1990 to 9/30/2019. MSCI KLD 400 Social Index Inception date : 5/1/1990
Index performance is for illustrative purposes only. Index performance does not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results. Index performance does not represent actual iShares Fund performance. For actual fund performance, please visit www.iShares.com or www.blackrock.com.

* An exchange-traded fund (ETF) is a type of security that involves a collection of securities—such as stocks—that often tracks an underlying index

Measuring ESG Risk vs. Measuring Impact

- **ESG investing relates largely to the internal operations of a company**. It is related to the performance of an asset in relation to environmental, social and governance issues. It aims to integrate a range of ESG factors that can mitigate risk and improve performance.

- Impact Investing takes the concept of ESG Investing to the next stage by seeking out investments that are making a **measurable positive environmental and social impact**.

- **ESG data is mostly about internal processes, whereas impact data is about the external impact in society and the environment of the products and services provided by companies**. ESG is inward-looking, whereas impact is outward-looking.

  For instance: ESG data looks at Board diversity in a healthcare company, whereas impact data looks at the number of patients treated (output) or as changes in healthcare indicators in the community covered by that company (outcomes)

- So what is impact?

The OECD defines impact as a ”positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.” It can be seen from the perspective of outputs (the direct effects of an action/intervention) and outcomes (short and mid-term changes).

ESG Data Challenges (1-2)

- **Several regulators around the world still don’t require companies to report on most ESG data**. Companies are left to determine for themselves which ESG factors are material to their business performance and what information to disclose to investors.
- With hundreds of ESG fields and a relatively short data history, the **risk of ”cherry picking” data is high** and researchers can often uncover spurious relationships between ESG factors and stock performance.
- **There is a mismatch between the low frequency of ESG data updates (often quarterly ratings) and trading strategies**. Correlation is not always causality. Has a company performed well because they do good, or they do good, because they have performed well? E.g. Higher Remuneration is a cause or consequence of performance?
- Companies receive a large number of different reporting requests and there is little direction on what areas they should focus on. **Regulatory bodies do not dictate how companies report their ESG data**. Consequently, investors can have only limited confidence that the sustainability data being self-reported is accurate.
- There is also the **need for more technology**. Machine learning, AI and natural language processing have significant potential. One missing link, technology-wise, is location-based data for physical climate risk.
- Trend may be the **adoption of global and verifiable standards for company disclosure and ESG ratings**. This could be mixed with proprietary individual ESG rating systems (e.g. RobecoSAM has used its own Corporate Sustainability Assessment since 1999). In addition, the assessment of any information should be a combination of machine-driven processes and human curation.

ESG Data Challenges (2-2)

Because larger companies tend to have greater corporate sustainability resources, they are better placed to respond to reporting requests. Therefore, they often score higher on third-party sustainability ratings (Akgun, Mudge, Townsend, 2021). This phenomenon is a function of the emphasis that many ratings place on policy and disclosure rather than action.

- ESG ratings and data products are at an early stage of adoption by financial market participants, although their usage and role are growing rapidly. Consequently, the market remains largely unregulated, with some isolated attempts at self-regulation through codes of conduct. A number of voices such as regulators (ESMA, British, Indian, French and Dutch regulators), industry associations, as well as providers themselves have called for a regulation of the market. In Nov. 2021, an IOSCO report stated that "there is little clarity and alignment on definitions, including on what ratings or data products intend to measure; there is a lack of transparency about the methodologies underpinning these ratings or data products." In Jan. 2023, South Korean regulator issued guidelines on ESG and credit ratings.

- **The methodologies for normalizing the reported data carry different assumptions about what is material**. There is no consensus on how to report, measure or incorporate ESG metrics. As a result, there is low correlation between company evaluations across providers (unlike credit rating agencies).**

- There is **lack of transparency on how ESG data providers collect, aggregate and weight particular ESG factors**. Most ESG data providers treat their methodologies as proprietary information.

- **Many stocks, especially small caps, are not yet ESG-rated**. Lack of information makes it very difficult to assign a score to these companies.

- The **companies currently covered by ESG rating agencies are small** against the number of possible securities. Therefore not all existing funds could be rated.

- There are data gaps since not enough companies report the information investors require, particularly in certain regions or sectors of the economy.***

- According to a SustainAbility study, "Investors interviewed expressed strong critiques of ratings, from inaccuracies and use of old or backwards-looking data, to more fundamental concerns about whether ESG performance can ever be distilled into a single score."*

* SustainAbility (2020), "Rate the Raters 2020: Investor Survey and Interview Results"
** WRI (2019), What Investors Want from Sustainability Data
*** IIF (2020), Building a Global ESG Disclosure Framework: a Path Forward

ESG Data Providers Shortcomings

	Sustainalytics	MSCI	RobecoSAM	Bloomberg ESG
Sustainalytics	1	0.53	0.76	0.66
MSCI		1	0.48	0.47
RobecoSAM			1	0.68
Bloomberg ESG				1

An examination of the cross-sectional correlations for four leading data providers' ESG scores, using the MSCI World Index as the coverage universe, shows a correlation of only 0.53 among their scores, **meaning that their ratings of companies are only consistent for about half of the coverage universe**.

Source: State Street (2019), "The ESG Data Challenge"

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Sustainability reporting

SUSTAINABLE FINANCE

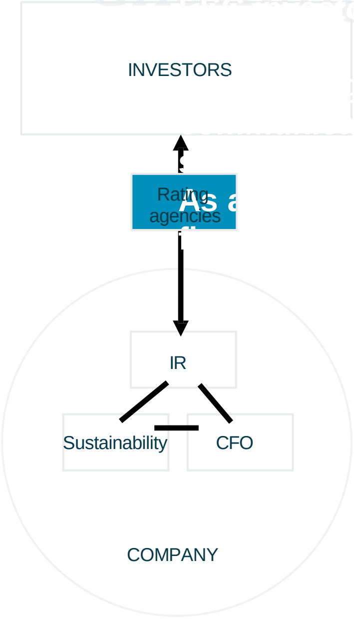
NOVA SCHOOL OF BUSINESS & ECONOMICS

Why is ESG Communication Important?

NOVA SCHOOL OF BUSINESS & ECONOMICS

- **Lower risk**: Sustainability reporting helps make organizations' decision-making processes more efficient and, in turn, enables them to reduce risk across their supply chain.
- **Improved access to capital**: Reporting firms rank higher for sustainability and therefore have access to better and cheaper capital.
- **Meeting the expectations of employees**: Reporting contributes to an increase in employee retention and loyalty. This, in turn, positively impacts the workforce as a whole, which ultimately can improve company performance.
- **Improved decision-making**: It streamlines processes, reduces costs and improves efficiency. Reporting gives an overview of a company's economic, environmental and social impacts.
- **Benchmarking**: Enables the comparison of performance internally and between organizations and sectors.
- **Data**: A fundamental data source for investors and ESG rating agencies about the company's long-term risks, opportunities and financial performance
- **Compliance**: It is demanded by a a larger set of regulators worldwide.
- **Reputation**: Stronger branding and market expansion

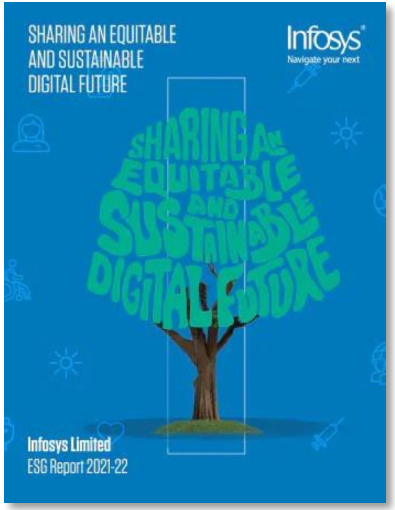
Communication to Investors: Recurrent Challenges

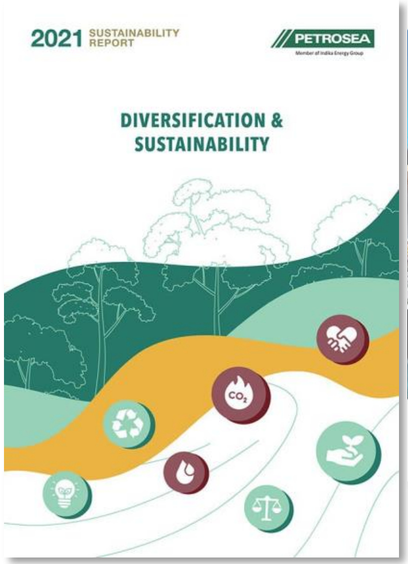


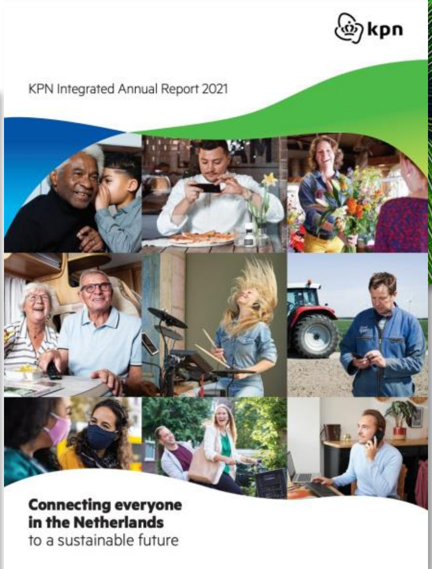
- In the midst of over 100 ESG corporate raters available, **the company has no methodology to select and prioritize raters**, hurting communication with investors.
- By enjoying high sustainability standards, the company could have priority access to ESG investors, **but it has no links with this set of investors, which could bring competitive capital**.

Company Disclosures

Sustainability reports







Company Disclosures

- **High standards** of corporate ESG reporting **are critical** for accurate investor information, public discourse, and regulatory guidance.
- There is an increase in the **regulatory requirements** for reporting on ESG information.
- In 2011, fewer than 20% of S&P 500 companies disclosed their ESG data. Whereas by 2021 (latest figures) the number of companies issuing sustainability or integrated reports has increased to **96%** (G&A Institute, Nov. 2022).
- According to KPMG, **96% of G250 companies** (world's 250 largest companies by revenue) **report on sustainability or ESG matters** (KPMG, 2022).
- But there is a complex array of frameworks for companies to frame and disclose ESG issues for external stakeholders**. By 2022 there are 26 corporate disclosure frameworks.** GRI Standards, the Task Force on Climate-related Financial Disclosures (TCFD) and SDGs form the most commonly used anchors for sustainability reporting.

ESG Disclosing Frameworks

"Big 3" Sustainability Reporting Frameworks At a Glance

By Ideas On Purpose and Perry Goldschein

GRI STANDARDS

Why? Help businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues.

What's in it? Interrelated standards both universal and topic-specific, ideally used together to prepare sustainability reports focused on material topics.

Point of View: Outward looking, the company's impact on the world.

INTEGRATED REPORTING FRAMEWORK

Why? Help organizations explain how they create value over the short-, medium- and long-term, both financially and non-financially, through integrated reporting.

What's in it? An integrated model using six capitals – financial, manufactured, human, social & relationship, intellectual and natural. Includes guiding principles and eight practical content elements for reporting.

Point of View: Principles based, the umbrella for all reporting, with a goal of consolidation and streamlined communication.

SASB STANDARDS

Why? Help businesses around the world identify, manage and report on the sustainability topics that matter most to their investors.

What's in it? Disclosure topics, associated accounting metrics and technical protocols, and activity metrics for each industry SASB covers.

Point of View: Inward looking, the world's impact on company and its financial performance.

What about...

CDP

Questionnaires and scoring that help organizations to measure, manage, reduce and disclose their impact on the environment, and build resilience, while providing greater transparency to the market.

SUSTAINABLE DEVELOPMENT GOALS (SDGS)

The UN Sustainable Development Goals are a collection of 17 global goals for the year 2030. They address global challenges, including poverty, inequality, climate, environmental degradation, prosperity, and peace and justice.

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

Voluntary, consistent climate-related financial risks recommended for companies to disclose to investors, lenders, insurers, and other stakeholders.

Perry Goldschein and Michelle Marks (2019), GreenBiz

ESG Disclosing Frameworks

Global Reporting Index (GRI)

- **Founded in 1997** it is a holistic framework with standards and best practice for organizations to report on social, environmental and economic factors to stakeholders. The standards describe approaches to materiality, management reporting and **detailed disclosure guidance for a comprehensive range of sustainability issues.**

- Several thousand organizations worldwide use the GRI framework, but **larger industry groups make up the majority of users**. 78% of the G250 now adopt the GRI Standards for reporting (up from 73% in 2020); 68% of the 5,800 N100 companies also use GRI (up from 67% in 2020, when N100 was a smaller sample size) (KPMG Survey of Sustainability Reporting, 2022).

- **GRI collaborates closely with organizations that provide frameworks, systems and principles** that complement their work, including the UN Global Compact (UNGC), OECD, the UN-supported PRI, International Finance Corporation (IFC), Integrated Reporting, SASB, and CDP.

- Regarded as a very high standard of reporting. Methodology, category information and assessing are extremely clear. **First agreed-upon global standards for sustainability reporting.** The GRI Standard can be used to prepare a sustainability report. Reporting can be externally verified to demonstrate accuracy and veracity.

- It is commonly considered a multi-stakeholder reporting framework: it it is useful for financial and non-financial players.

ESG Disclosing Frameworks

Sustainability Accounting Standards Board (SASB)

- Established in 2011, SASB is an independent, private-sector standards-setting organization.
- **SASB develops and maintains sustainability accounting standards — for 77 industries — that help public corporations disclose financially material information to investors**. The standards identify the minimal set of financially material sustainability topics and their associated metrics for the typical company in an industry.
- **Designed for the investment community**, who are seeking access to standardized performance information on the small handful of sustainability factors that are reasonably likely to materially affect the financial condition or operating performance of their portfolio companies.
- **SASB consulted with members of the investment community, who informed the organization on what sustainability aspects they did and did not care about**. Their advisory base is made up of 49 firms, representing more than $34 tn in AUM.
- SASB was the most-used reporting standard in 2021 among the Russell 1000, with **67% of sustainability reports aligning with SASB** compared to 54% aligned with GRI (G&A Institute, Nov. 2022).

ESG Disclosing Frameworks

UN Global Compact

- **UNGC was formed in 1999** at the initiative of then UN Secretary General, Kofi Annan -- the UN wanted business and industry to be more closely associated with the UN’s work.

- Companies that sign the Global Compact undertake to support 10 principles on human rights, labor standards, the environment and the fight against corruption.

- **The UNGC incorporates a transparency and accountability policy known as the Communication on Progress (COP).** The annual posting of a COP is an essential demonstration of a participant’s commitment to the UNGC and its ten principles.

- **Around 21,000 organizations from all industries currently report against the principles**. All organizations can participate. Companies include qualitative or quantitative data in their annual or sustainability reports.

- **It is self-assessed.** There is flexibility in how you can respond and what to include.

ESG Disclosing Frameworks

Carbon Disclosure Project (CDP)

- CDP collects, assesses, reports and discloses information on environmental performance of **corporates, cites and regions**. Its does this through specific questionnaires on:

Climate Change *– Companies assess and disclose climate-related risks and opportunities, detail how the business governance and strategy has adapted, and report emissions data.*

Water Security *-- Respondents evaluate and disclose information on existing and future water risk, water strategy and water use.*

Forests *-- This questionnaire enables investors to understand company exposure and risk associated with deforestation. Questions address the verification and monitoring of commitments, policies and standards, and strategy for using forest commodities.*

- **Respondents are required to disclose and provide evidence on an extensive array of questions on their current and future sustainability strategy. They will receive a score from A to D representing their sustainability maturity.**

- In 2021, a record-breaking 13,000+ companies representing over 64% of global market capitalization disclosed through CDP – 35% more than last year, and over 141% more than when the Paris Agreement was signed in 2015 (DCP, Nov. 2022).

ESG Disclosing Frameworks

Climate Disclosure Standards Board (CDSB)

- It requires reporting of environmental information, natural capital and associated business impacts including governance, policies, risks and opportunities, outlook etc.

- **Companies can use the CDSB Framework to incorporate climate change and natural capital-related information in mainstream financial reports.**

- It offers two frameworks for reporting:

. *Environmental, Capital and Business Impacts Framework*
. *Climate Change Reporting Framework*

- The frameworks are designed to help organizations prepare and present environmental information in corporate reports. CDSB is closely aligned with TCFD and SASB, with the intention of helping streamline the reporting cycle for many organizations.

- **374 companies in 32 countries across 10 industry sectors are using CDSB frameworks (2021).**

ESG Disclosing Frameworks

Task Force on Climate-related Financial Disclosures (TCFD)

- The **TCFD, established in 2015, is a set of voluntary climate-related financial disclosures that are useful to investors, lenders and insurance underwriters in understanding material risks.** It offers a method for companies to incorporate and embed climate change into their business plan, through integrating climate scenario analysis and strategy into company financial risk. It enables personalized analysis and strategy for climate change exposure, aiding economic robustness.

- The TCFD sets out overarching disclosure recommendations in four thematic areas: **governance, strategy, risk management and metrics and targets.** Underneath these sit 11 recommended disclosures that provide more granular detail on the information to be disclosed under each of the recommendations. The design and structure of the recommendations are intended to provide the market with decision-useful, forward-looking information on how organisations are addressing climate-related risks and opportunities in their activities.

- **In 2020 the UK has announced its intention to make TCFD-aligned disclosures mandatory across the economy by 2025,** with a significant portion of mandatory requirements in place by 2023.

- TCFD recommendations are incorporated into the credit rating of Standard and Poor's Global Rating.

- The use of TCFD doubled among Russell 1000 companies in 2021, with 34% of sustainability reports aligning with TCFD compared to 17% in 2020 (G&A Institute, Nov. 2022).

ESG Disclosing Frameworks

International Integrated Reporting Council (IIRC)

- Integrated Reporting is a global coalition of regulators, investors, companies, standard setters, the accounting profession, academia and NGOs.

- The objective is to **establish integrated reporting and thinking within mainstream business practice as the norm in the public and private sectors**. It aims to bring **greater cohesion and efficiency to the reporting process**, and adopt 'integrated thinking' as a way of breaking down internal silos and reducing duplication. It demonstrates the linkages between an organization's strategy, governance and financial performance and the social, environmental and economic context within which it operates.

- **It was formed in 2010** by The Prince of Wales' Accounting for Sustainability Project, the Global Reporting Initiative and the International Federation of Accountants.

- According to an EY 2019 study, 95% of respondents say integrated reports are either 'essential' or 'very useful', a substantial increase from 57% in the same study a year previously.

- International investors, lenders and insurers are the primary audience for these reports. Integrated reporters have been found to be more likely to treat sustainability information as material to investment decisions, making it easier for investors to review such information as part of normal research processes.

- The concept of integrated reporting has been embedded by over 2,500 companies in more than 70 countries. Over 40 stock exchanges refer to it in their guidance (Integrated Reporting, 2023).

ESG Disclosing Frameworks

https://www.youtube.com/watch?v=EFm0sKeBLh0

Challenges with corporate reporting

For financial institutions it is increasingly important to take account of ESG factors when assessing credit and market risk. But the multiplicity of frameworks and reporting standards means that it can be challenging for investors to take an objective view because the different frameworks are often not directly comparable.

Investors can have only limited confidence that the sustainability data being self-reported is accurate. Should it be erroneously reported, the company itself faces few consequences.

Challenges with corporate reporting

Sustainability reports put out by large US companies in 2021 ranged from 12 to 243 pages (Teneo, 2021). Essentially, companies are choosing what they want to report.

How to streamline disclosing frameworks?

How to streamline disclosing frameworks?

3. EU sustainability reporting standards

NFRD versus CSRD: Differences & Action Points

	Non-financial Reporting Directive (NFRD) EU Directive 2014/95/EU	Corporate Sustainability Reporting Directive (CSRD)
Which companies are concerned?	**Large "public interest entities" with >500 employees:** • Listed companies • Banks & Insurance companies	**All large companies meeting at least 2 out 3 criteria:** › 250 employees and/or › €40M Turnover and/or › €20M Total Assets **Listed companies on EU regulated markets (SMEs get 3+ years to comply)** → except listed micro-companies (less than 10 employees or below €20M in turnover).
Timeline	In application since **2018**	Application on **1 January 2024 for the 2023 financial year**. • Concerned companies will have to submit their report in compliance with the CSRD by 2023. • For SMEs, more detailed reporting requirements and delayed timelines are available. **Different phases will develop the reporting:** • **FY 2023**: the first set of Sustainability Reporting Standards (draft standards open mid-2022) • **FY 2024**: the second set of Sustainability Reporting Standards Adoption of the EU-Directive in member states legislation: December 1, 2022.
Number of companies concerned by the regulation	11,600	49,000 → covering **75% of total EU's companies turnover.**
Scope of reporting requirements	**Companies are to report on the following five dimensions:** • Environmental protection • Social responsibility and treatment of employees • Respect for human rights • Anti-corruption and bribery • Diversity on company boards (age, gender, educational and professional background) **Companies need to report the following items on each of the four dimensions:** • Policy • Outcomes of policy • Risks • KPIs	**Additional requirements on:** • **Double materiality concept:** → Sustainability risk (including climate change) affecting the company. → Companies' impact on society and environment. • Process to select material topics for stakeholders • More forward looking information, including targets and progress thereon • Disclose information relating to intangibles (social, human and intellectual capital) • Reporting in line with Sustainable Finance Disclosure Regulation (SFDR) and the EU Taxonomy Regulation
Reliability of reporting (Third party assurance)	**Non-mandatory**	**Mandatory (planned end of 2022)** Reporting must include: • Integration in auditor's report • Involvement of key audit partner • Scope to include EU Taxonomy and process to identify key relevant information.
Where to report?	Included in the **Annual report**. The sustainability report can be disclosed separately with a clear reference to the financial report and management report.	Included in the **Management report** A single report in "digital machine-readable format".
Reporting format	• Online • PDF format	Electronic format (in XHTML format in accordance with ESEF regulation).
Alignment to other EU Legislations	The **EU Taxonomy** and its objectives • **FY2021**: climate change mitigation and adaptation. • **FY2022**: all environmental objectives.	• **EU Taxonomy**: All companies concerned by the CSRD will have to report on their alignment with the EU Taxonomy. • **SFRD**: The indicators of the standards will be aligned with the reporting of the CSRD. • It takes into consideration other frameworks: **TCFD, GRI, SASB**.

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How to streamline disclosing frameworks?

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2.
IFRS Sustainability Reporting Standards

- In September 2020, the International Financial Reporting Standards Foundation (IFRS Foundation) has issued **a consultation paper** in which it seeks stakeholder views on whether it should broaden its current remit around the development of financial reporting standards by contributing to the development of global standards on sustainability reporting, and, if so, by establishing a separate standard-setting board to undertake this role.

- The **international finance community reacted positively** and lauded the Foundation for putting its experience in international standard-setting at the service of global sustainability reporting (for example the International Organization of Securities Commissions — IOSCO, which supported the establishment of the Foundation in 2001, supported the initiative publicly). The Foundation received more than **500 comment letters**.

- At COP26 the IFRS established the **International Sustainability Standards Board** (ISSB) to develop a comprehensive global baseline of sustainability disclosures for the capital markets. In March 2022 it launched a consultation on its first two proposed standards: one sets out **general sustainability-related disclosure requirements** and the other **specifies climate-related disclosure requirements**. They build upon the recommendations of the TCFD and incorporate industry-based disclosure requirements derived from SASB Standards.

- ISSB merges together the VRF, SASB, the IIRC and the CDSB. In November 2022, CDP announced plans to incorporate the

How to streamline disclosing frameworks?

4.
IFRS Sustainability Reporting Standards

- At COP27, ISSB announced that 20 organizations have signed up as partners to help firms implement the IFRS Sustainability Disclosure Standards — the "Partnership Framework."

- At COP27, ISSB also detailed the intention to roll out a phased, five-year timeline for the implementation of its standards.

Phase one, which is due to run until April 2023, will focus on the establishment of the "aims and approach". Phase two, due to take place between April and November 2023, will focus on the establishment of global "infrastructure", including resources and guidance material.

The full list of partners are: ACCA; Brazilian Institute of Corporate Governance (IBGC); CDP; Deloitte; Environmental Resources Management (ERM); European Accounting Association; EY; Global Reporting Initiative (GRI); Global Steering Group for Impact Investment (GSGII); Group of Latin American Accounting Standard Setters (GLASS); International Corporate Governance Network (ICGN); International Federation of Accountants (IFAC); KPMG; Nigerian Ministry of Finance, Budget and National Planning; Pan African Federation of Accountants; PRI; PwC; UK Foreign, Commonwealth & Development Office (FCDO); UN Department of Economic and Social Affairs (UNDESA); United Nations Environment Programme-Finance Initiative (UNEP-FI); UN Sustainable Stock Exchanges Initiative; and the We Mean Business Coalition-FI).

How to streamline disclosing frameworks?

4.
IFRS Sustainability Reporting Standards

IFRS®

- In December 2022, the ISSB released its definition of sustainability. It refers to **“the ability for a company to sustainably maintain resources and relationships with and manage its dependencies and impacts within its whole business ecosystem over the short, medium and long term. Sustainability is a condition for a company to access over time the resources and relationships needed (such as financial, human, and natural), ensuring their proper preservation, development and regeneration, to achieve its goals.”**

The purpose of this was to suggest a broader set of information beyond what is currently included in financial statements, but also to narrow the scope of proposed disclosures, to identify, to include only information that is relevant to primary users.

- In February 2023, the ISSB has fixed an effective date of **1 January 2024** on its first two sustainability reporting standards. The decision means that entities applying International Financial Reporting Standards S1, General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2, Climate-change Reporting, will file reports under the two standards from early 2025. Jurisdictions can, however, fix local effective dates for the new standards and decide whether to make the standards mandatory or not.

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Sustainable finance in practice

SUSTAINABLE FINANCE

NOVA SCHOOL OF BUSINESS & ECONOMICS

ESG integration in equities investing

The Business Case For a Gender Lens

- Companies in the top-quartile for gender diversity on executive teams were 21 per cent more likely to outperform on profitability and 27 per cent more likely to have superior value creation. The highest-performing companies on both profitability and diversity had more women in line (i.e., typically revenue-generating) roles than in staff roles on their executive teams (**McKinsey**, "Delivering Through Diversity," 2018).

- For large-cap stocks (market cap greater than USD 10 billion), *the companies with women board members outperformed those without women board members by 26 per cent over the past six years*. For small-to-mid cap stocks, the basket of stocks with women on the board outperformed those without by 17 per cent over the same period (**Credit Suisse**, "Gender Diversity and Corporate Performance," 2012)

- There is a strong positive association between firms' financial performance and gender diversity in senior positions. Companies with a larger share of women in senior positions have higher return on assets. Adding one more woman in senior management or on the corporate board, while keeping the size of the board unchanged, is associated with 3–8 per cent higher return on assets (**IMF**, Christiansen, Lone, Huidan Lin, Joana Pereira, Petia Topalova, Rima Turk, and Petya Koeva. "Unlocking Female Employment Potential in Europe: Drivers and Benefits," 2016)

- A 2016 report, which included information for 21,980 publicly traded companies in ninety-one countries, found that an *increase in the share of women from zero to 30 percent was associated with a 15 percent rise in profitability* (**Peterson Institute for International Economics**. Marcus Noland, Tyler Moran, and Barbara Kotschwar, "Is Gender Diversity Profitable? Evidence from a Global Survey," 2016)

The Business Case For a Gender Lens

Integrating Gender in Stock Picking (ESG Integration)

Why?

Trillium integrated diversity, including gender and race at the company and board level into its investment research process as it **saw it as an essential component of sound corporate governance and critical to a well-functioning organization**: **companies with strong gender and ethnic diversity outperform peers** when measured by return on equity and other traditional financial metrics. Diversity also helps to reduce company-specific risk in the long term, leading to a lower cost of capital.

Source: PRI, A Practical Guide to ESG Integration for Equity Investing, 2016

Integrating Gender in Stock Picking

NOVA SCHOOL OF BUSINESS & ECONOMICS

Data and Materiality

At eBay Trillium saw potential change in corporate governance related to the expected improvement in the board's gender diversity.

Trillium ESG analysts assessed several data points, engaged with the company as an active shareholder, and looked at ESG rates awarded by ESG rating companies.

They then established the materiality of ESG gender data on a retail company like eBay.

As a result of this exploration, they expected eBay diversity practices to improve.

Source: PRI, A Practical Guide to ESG Integration for Equity Investing, 2016

Integrating Gender in Stock Picking

ESG data integrates with financial data

- In general, **analysts adjust the discount rate when valuing companies** that have improving or deteriorating corporate governance factors that aren't believed to be priced in by the market.

- At eBay, **they adjusted the discount rate used in the firm valuation analysis by 25bps, based on eBay's improved gender governance**. This resulted in incremental percentage **change in equity value and** an adjustment in **expected incremental portfolio alpha.**

	Base case valuation	**Adjusted valuation (ESG gender data)**
Weighted Average Cost of Capital (WACC)	8.30%	8.05%
Intrinsic value estimate	$32.00	$33.40
Current stock price	$28.50	
1-year expected stock return	12.30%	17.20%

Source: PRI, A Practical Guide to ESG Integration for Equity Investing, 2016

ESG Integration in sovereign debt

PIMCO Sovereign Debt Strategy

- U.S.-based **PIMCO** is one of the largest investment managers, actively managing more than $1.74 trillion in assets for central banks, sovereign wealth funds, pension funds, foundations and endowments, and individual investors around the world.

- **PIMCO's traditional sovereign credit analysis focused on financial and macroeconomic variables** that materially impact a country's probability of default and the expected loss if a default does occur.

- **In 2011, they realized that a government's ability and willingness to meet its financial obligations are also influenced by politics, governance, social considerations, natural disasters, and the longer-term impact of environmental factors.**

Source: CFA Institute and PRI, "Guidance and Case Studies for ESG Integration: Equities and Fixed Income", 2018

PIMCO Sovereign Debt Strategy

- PIMCO’s proprietary sovereign ratings model starts with an in-depth, bottom-up country analysis. **This analysis is based on five-year macroeconomic forecasts and specific quantitative ESG indicators,** and considers both near- and long-term drivers of credit risk. **ESG variables have a combined weight of approximately 25% in the model.** Within ESG, governance (“G”) variables dominate, given that they are a leading indicator of sovereign risk. Social (“S”) factors, such as health and education, are less directly significant but tend to be highly correlated with initial conditions such as gross domestic product (GDP) per capita, which, in turn, is highly correlated with sovereign risk. Finally, PIMCO has found that environmental (“E”) variables on average are the least correlated with three- to five year sovereign risk, with the exception of specific incidents (e.g., hurricanes, earthquakes, floods, nuclear fallouts).

FIGURE 1: VARIABLES INCLUDED IN PIMCO'S ESG SOVEREIGN SCORE

E (ENVIRONMENTAL)	S (SOCIAL)	G (GOVERNANCE)
■ Greenhouse gas emissions per capita	■ Life expectancy	■ Political stability
■ The Yale Environmental Performance Index	■ Mortality rate	■ Voice and accountability
■ Fossil fuel usage	■ Gender equality	■ Rule of law
■ Renewable energy	■ Gini coefficient (indicates wealth distribution)	■ Control of corruption
■ GDP per unit of energy	■ Health score	■ Government effectiveness
	■ Av years of education	■ Regulatory quality
	■ Av years of higher education and training	
	■ Labor market indicators	
	■ Corruption indicators	

Source: PIMCO.

Source: CFA Institute and PRI, “Guidance and Case Studies for ESG Integration: Equities and Fixed Income”, 2018

PIMCO Sovereign Debt Strategy

- **PIMCO also assesses long-term trends and tail risks*.** They analyze long-term debt sustainability, resource depletion scenarios, natural disaster scenarios, political regime change, and contingency risks, incorporating both macroeconomic and ESG factors.

- **In-country engagement is a critical component of its sovereign credit analysis and for assessing a government's track record on ESG objectives.** During their visits, PIMCO generally meets with senior government officials and politicians, focusing on the details of its credit assessment, which range from the composition of the budget and the management of foreign exchange reserves and monetary policy to progress on key development and environmental goals.

- **PIMCO also generally meets with local business people, banks, consultants, trade unions, journalists, nongovernmental organizations, and members of civil society to get a broad, holistic sense of developments in the country.**

* Tail risk is the chance of a loss occurring due to a rare event, as predicted by a probability distribution.

Source: CFA Institute and PRI, "Guidance and Case Studies for ESG Integration: Equities and Fixed Income", 2018

PIMCO in South Africa

- **In July 2015, allegations of corruption emerged with regard to former South African President Jacob Zuma.** Criticism focused on a nuclear energy agreement between South Africa and Russia, which was believed to be engineered for President Zuma's personal gain. President Zuma was also accused of having a corrupt relationship with the Guptas, a prominent South African business family. A power struggle within the African National Congress (ANC) followed, **resulting in a weakening of South Africa's institutional framework, with frequent changes of finance ministers, fiscal slippage, and political turbulence.**

- When the allegations first surfaced, **PIMCO initiated a reassessment of South Africa's political and governance risks, and a senior PIMCO team made a due-diligence trip to the country.** The objective was to understand the economic and institutional impact as well as the social consequences of the graft (e.g., the diversion of fiscal resources away from health and education). **Following in-depth discussions with the government and a detailed analysis, PIMCO downgraded its internal credit rating for South Africa, several quarters before the major rating agencies did (see Figure 2).**

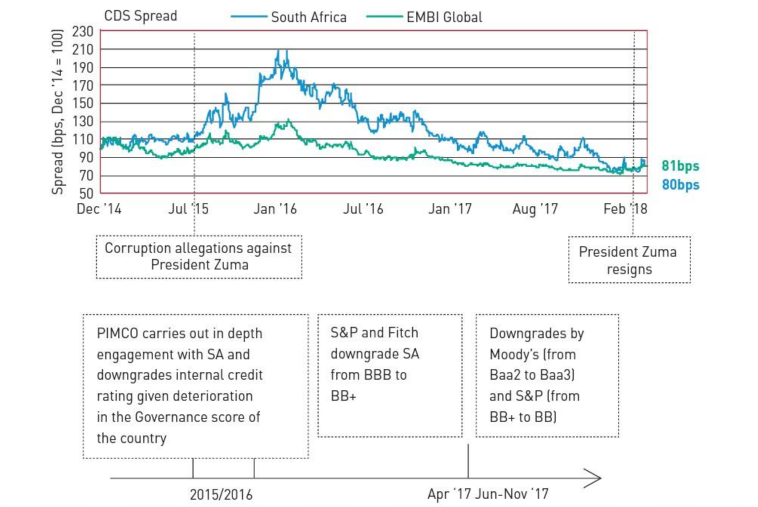
Jacob Zuma

Source: CFA Institute and PRI, "Guidance and Case Studies for ESG Integration: Equities and Fixed Income", 2018

PIMCO in South Africa

- PIMCO’s downgrade led it to reevaluate its portfolio exposure to South African sovereign and quasi-sovereign risk, and led it to make a call to reduce exposure across PIMCO accounts. **Due to the integration of ESG factors in its standard sovereign risk framework, PIMCO was able to identify problems early and reduce exposure when the markets were still pricing in a favorable scenario for South Africa**. Over time, as the extent of the corruption became known, the markets and the rating agencies caught up with PIMCO’s assessment.

FIGURE 2: TIMELINE OF SOUTH AFRICA'S SPREADS AND PIMCO'S SOVEREIGN CREDIT ASSESSMENT



Source: PIMCO.

Note: The sample is for illustrative purposes only. Past performance is not a guarantee or a reliable indicator of future results.

Abbreviations: bps, basis points; CDS, credit default swap; EMBI Global, Emerging Markets Bond Index Global; SA, South Africa.

Source: CFA Institute and PRI, “Guidance and Case Studies for ESG Integration: Equities and Fixed Income”, 2018

CONSCIOUS BUSINESS EDUCATION

CONSCIOUS BUSINESS EDUCATION

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