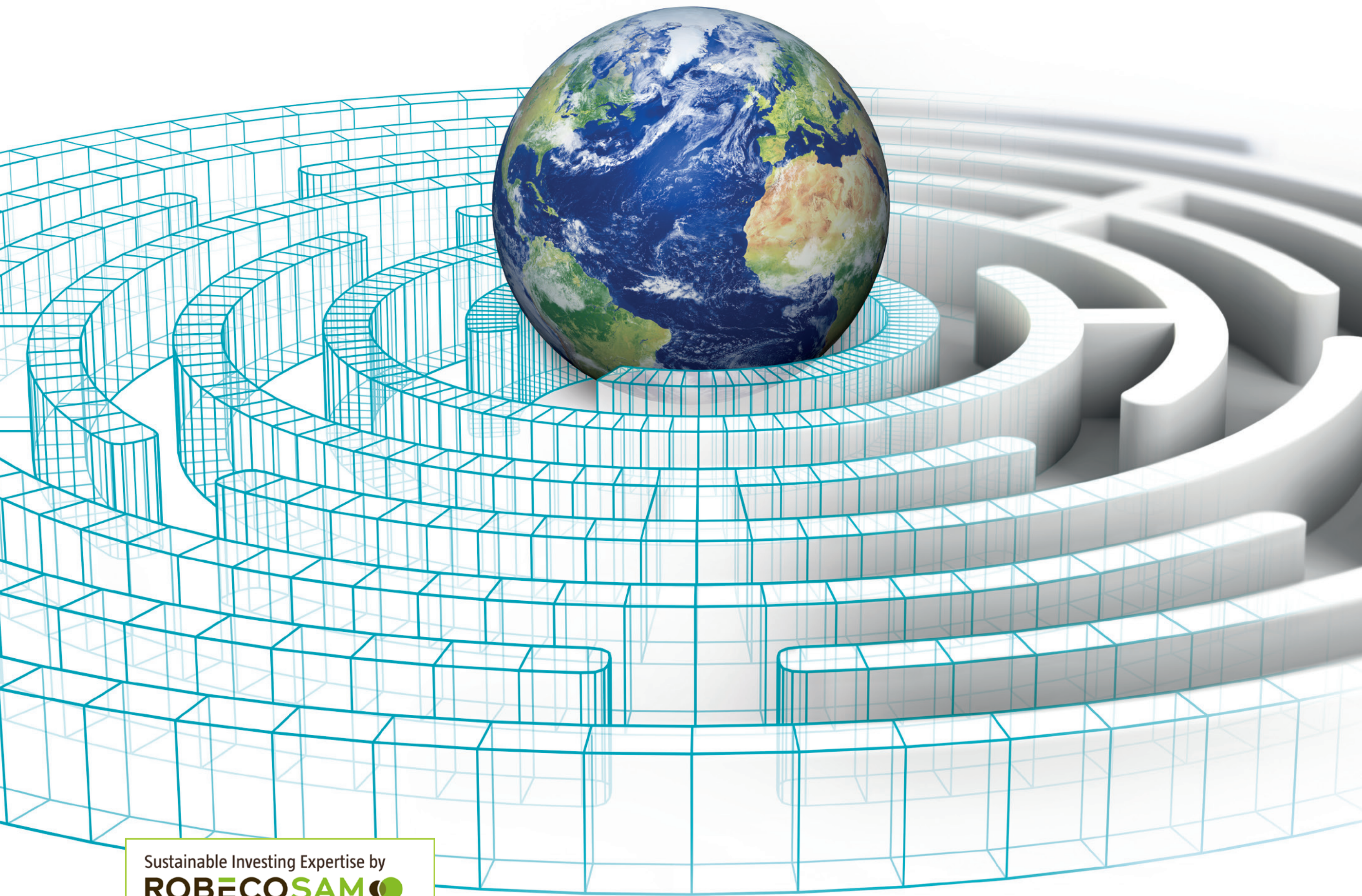
For professional investors

ROBECO
The Investment Engineers

NAVIGATING THE ESG LABYRINTH

A guide to integrating sustainability across asset classes



Sustainable Investing Expertise by
ROBECOSAM

NAVIGATING THE ESG LABYRINTH

A guide to integrating sustainability across asset classes

A publication in collaboration with

ROBECOSAM
We are Sustainability Investing.

For professional investors
January 2020

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1 Wealth and well-being: sustainable investing at Robeco

Robeco has long believed in sustainable investing and in the 1990s was one of the first asset managers to take it seriously. From small beginnings, the integration of environmental, social and governance (ESG) factors in the investment process has grown exponentially over the past two decades. We embrace it wholly, integrating ESG criteria into the investment process for our entire range of fundamental equities, fixed income, quantitative and bespoke sustainability strategies. And it is not just us: over half of all asset managers in Europe now use sustainable investing in one form or another, according to the Global Sustainable Investment Alliance.[1]

1. Global Sustainable Investment Alliance 2016 Review http://www.gsi-alliance.org/wp-content/uploads/2017/03/GSIR_Review2016.F.pdf

A fiduciary duty to make money for stakeholders now means that ignoring ESG is more likely to cost you performance than enhance it. It is our firm belief that integrating ESG will also lead to better-informed investment decisions and reduce the overall risk of a portfolio. Trends such as climate change, resource scarcity and greater regulation affect companies more than ever before, but they also provide opportunities for new markets in areas such as renewable energy or cybersecurity. So, it pays to be well informed about how sustainable investing works, and what it can do for clients.

For Robeco, this means more than just offering sustainable investment funds. Integrated sustainability also means using our position as a shareholder or bondholder to effect change at companies through active ownership, typically through voting and engagement. It also includes impact investing, where an investment is aimed at achieving a social purpose such as meeting one of the UN's Sustainable Development Goals (SDGs) as well as earning a financial return. And it still means adopting key exclusions, such as refusing to buy shares in controversial weapons makers or tobacco producers. We think of these as building blocks to be configured appropriately to suit each asset class, strategy or client.

As the world moves on, sustainable investing now means combining both healthy returns and a positive effect on the world around us; to create wealth and well-being that meets the needs of the present generation without compromising those of generations to come.

In this handy guide, we share the knowledge and experience we have gained from decades of sustainable investing. After detailing the main approaches, we examine how sustainability techniques are applied across asset classes. And we highlight key questions to consider when you are assessing the ability of asset managers to deliver what is increasingly a mainstream style. Happy reading!

As you will see in this guide, there is no one-size-fits-all approach to sustainable investing. Our hope is that in learning from our experience, you will feel empowered to ask your asset managers the in-depth questions that will enable you to truly understand their ESG capabilities. Ultimately this will provide your client with better sustainable investment solutions and help drive the industry forward.

2 Building sustainable portfolios: the main building blocks

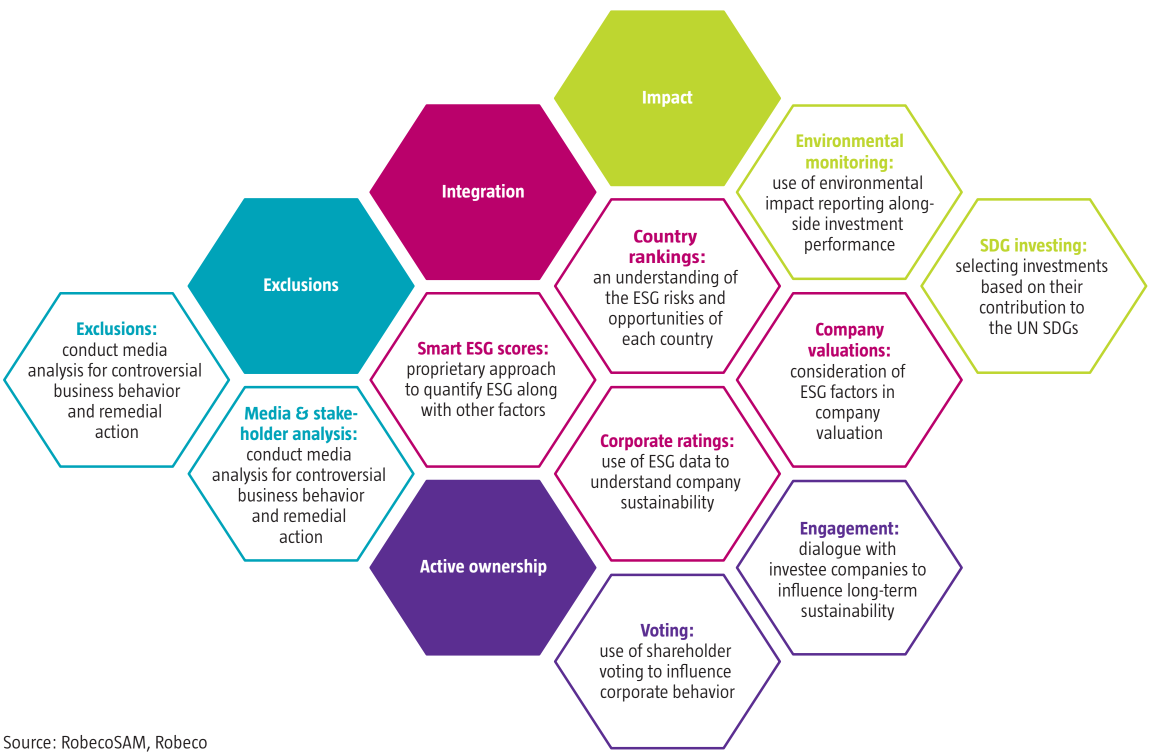
In this chapter we look at three approaches the asset management industry broadly uses for sustainable investing and for addressing ESG issues in portfolios. The most common is the use of **exclusions** – avoiding investments in companies that produce controversial products such as weapons or thermal coal, or are involved in controversial practices such as the production of unsustainable palm oil. For some investors, this is their only form of practicing sustainable investing, which means they may miss out on the benefits of using the other styles.

At Robeco, we prefer the less common but more comprehensive approach of systematically **integrating** ESG factors into portfolio construction. This means analyzing financially material information in order to take better-informed investment decisions and thereby improve the risk/return profile of a portfolio. This has been Robeco's preferred (but not only) method for almost a decade, since it ensures the thorough absorption of sustainability factors in portfolio construction from both the top-down and bottom-up perspectives.

The third of these approaches is **impact investing**, where an investor wants to make a socioeconomic impact as well as enjoy the financial returns. This is often done by targeting themes or initiatives such as the UN SDGs. While exclusions are the most widely used means of negative screening, impact investing is a form of positive screening, where the focus is on deciding what to put in instead of what to leave out.

Whichever approach is selected we advocate being an active owner – voting at shareholder meetings and engaging with the companies in which you invest.

Figure 1: Industry approaches to sustainable investing

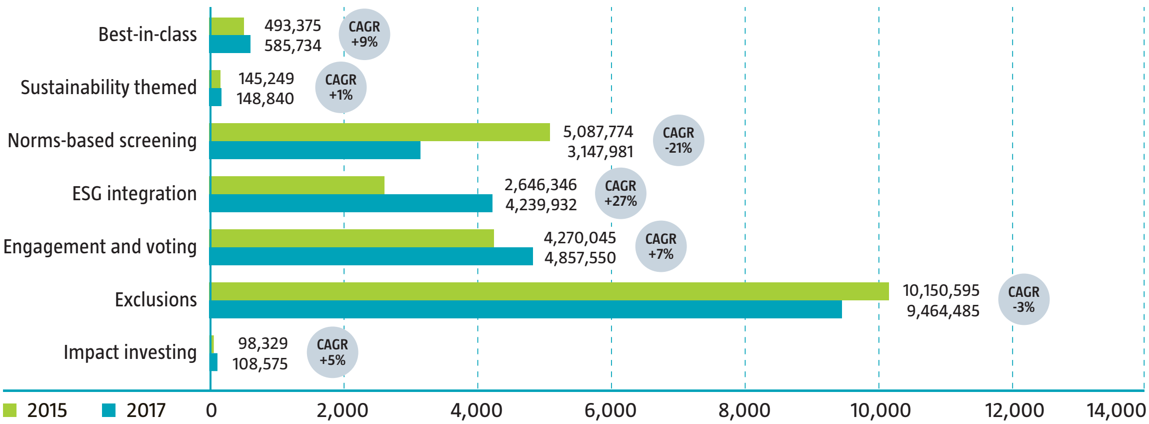


Source: RobecoSAM, Robeco

2.1 Exclusions

Using exclusions remains by far the most common form of sustainable investing and, for some, is the only form it takes. Its popularity can be seen in this survey of sustainability approaches by Eurosif in 2018, where it is still the clear leader over other forms, despite declining in use slightly between 2015 and 2017.

Figure 2: Exclusions still top the relative popularity of different forms of SI



Source: Eurosif

Robeco has an exclusion policy for companies involved in the production of, or trade in, controversial weapons, such as cluster munition and anti-personnel mines, and for companies that structurally and severely breach the United Nations Global Compact that have not improved after an engagement dialogue. This code was drawn up in 2000 with ten principles in the areas of human rights, labor standards, the environment and anticorruption, with the aim of offering a globally agreed framework for what constitutes acceptable corporate behavior.

Robeco has also excluded tobacco companies from portfolios, given the fact that their principal product of cigarettes is an unhealthy and socially disadvantageous product. Exclusion is applied to companies that are involved in the production of tobacco or suppliers of significant components of cigarettes (such as filters) or companies with significant ownerships in those companies. We have a standard exclusion policy applicable for all Robeco strategies. Enhanced exclusions are applied to strategies with a specific sustainability target. For example, for thermal coal which is considered to be a major contributor to global warming, some of our funds are divested from mining companies with more than 10% of thermal coal revenues, and from power producers with more than 20% of thermal coal-related revenues.

Robeco considers exclusion to be an action of last resort, only to be used towards controversial products or in case of contentious behavior after an enhanced engagement with the company to try to improve its ESG practices has not succeeded.

Media and stakeholder analysis is another key component of an exclusionary approach. Asset managers should conduct analysis of the media for controversial business behavior and look for the measures taken by management to improve as well as the effectiveness of those measures. Following analysis, the asset manager can then look to exclude a business if the measures are deemed insufficient.

KEY QUESTIONS TO ASK ASSET MANAGERS ABOUT EXCLUSIONS AND MEDIA & STAKEHOLDER ANALYSIS:

- What companies/sectors/countries do you exclude?
- Who decides what is on your exclusion list? Internally or externally?
- Can you deviate from this exclusion list in a segregated account?
- What is the effect of exclusions on portfolio performance?
- Do you regularly monitor the media to spot indiscretions?
- How do you integrate your media monitoring into your investment process?

2.2 ESG integration

With ESG integration, asset managers can integrate financially material ESG information – at both company and country level – into their investment processes to improve their decision making and ultimately the risk/return profile of their investments. Robeco believes that the integration approach only starts once the initial screening process has taken place. The first step is thus to screen for controversial products and practices using our exclusions list. This eliminates, for example, tobacco companies and weapons manufacturers. Secondly, positive screening may be used to identify those companies that meet pre-defined sustainability criteria in advance, such as those targeting renewable energy, or companies that can make a particular impact on an issue or theme such as the SDGs. This then leaves the portfolio constructors with an investment universe to which ESG integration can be applied.

The use of ESG analysis runs alongside the use of traditional factors such as a company's profitability, market share, cost chains, competitive position and macroeconomic risks. What makes it integrated is the systemic use of ESG factors as an automatic and natural part of the investment process along with the other metrics that are studied.

While many funds now use forms of sustainable investing (led by exclusions) in their processes or follow themes that imply a sustainable path (such as targeting renewable energy), few funds routinely integrate it as standard. What makes Robeco stand out from the crowd is the fact that ESG is now systematically integrated in the investment process for the entire range of fundamental equities, fixed income, quantitative and bespoke sustainability funds. As part of the standard investment process, ESG factors are considered as naturally as profits or costs. Part of the reason for this is that sustainability factors are profits and costs.

At Robeco, we only look at ESG factors that are financially material: they have a direct impact on the bottom line, and are not simply 'nice-to-have' or PR gimmicks. A company may, for example, announce that it is using rainwater to flush office toilets rather than draw fresh water from the mains; while this is certainly a worthy cause, it is not going to affect its bottom line. A real estate company announcing that it will upgrade its buildings to save heat and cut carbon emissions would affect its bottom line, by lowering future energy costs, making this development financially material.

KEY QUESTIONS TO ASK ASSET MANAGERS ABOUT ESG DATA:

- How do you assess the ESG credentials of companies?
- Do you use your own data or public information?
- Who are your data providers and what is the extent of their coverage?
- How often do you assess companies?
- Do you use industry-specific criteria or other factors?
- How do you take size, region or industry sector biases into account?
- How do you take country risk into account?
- Are you able to rank the sustainability of countries?
- What is your coverage? Just developed markets or emerging?
- What variables are assessed? General or country-specific?
- Are you able to keep up with events, particularly geopolitical ones?

Having access to leading research is vital if enough knowledge is to be gleaned in order to know the financially material effect of ESG factors on investment analysis. Asset managers can turn to sustainability ratings from data providers to analyze the sustainability of individual companies in which they invest. They can, and should, also look at country analysis because country sustainability analysis offers an alternative view into an economy's underlying change drivers, and provides investors with insights into a country's strengths and weaknesses for a broad selection of ESG indicators. At Robeco, we are fortunate to have access to the world-leading research of our affiliate RobecoSAM, which we complement as necessary with third-party data.

2.3 Impact investing

Impact investing involves making investments with the aim of creating a measurable beneficial impact on the environment or society, as well as earning a positive financial return. This could mean investing in a fund that aims to bring telecommunications services to remote areas in emerging markets, or to improve nutritional standards in food by investing in organic farming. Impact investing has three key components. First, there must be intentionality: an investor is making a deliberate, targeted effort to exert a positive impact. This could be because he or she wants to make a real positive difference, with an underlying business motivation.

MAKING A DIFFERENCE THROUGH SDG INVESTING

Investors can target funds that in some way or other contribute to one or more of the SDGs. For example, a fund may seek to buy food producers that are investing in healthier and cheaper products (SDG 2), or health care companies that are developing vaccines for use in emerging markets (SDG 3), among others. Robeco offers SDG credit and equity funds for companies that can be shown to be contributing to one or more of the goals, using a proprietary scoring system to evaluate what these contributions are.

Besides that, some investors may also have an expectation of reporting. Their asset manager should offer impact reporting for their strategies. For example, RobecoSAM has developed an Environmental Impact Monitoring tool to assess the environmental footprint of portfolios based on four important criteria: greenhouse gas emissions, energy consumption, water consumption and waste generation.

Second, it should generate a positive return on investment. This is the key differentiator between investing and philanthropy, where no return is expected. And third, the financial, social and environmental benefits of impact investment should be measurable and transparent. This means the results of the investment should be tangible, such as how many hospitals in an emerging market were actually equipped and how many patients were served. If health care charges were levied to get the investment return, then at what rates, and paid for by whom, should be disclosed.

This style of investing is growing in popularity because it acts as a neat bridge between pure capitalism and philanthropy. Specifically targeting investing in renewable energy, for example, helps the fight against global warming while also getting a financial return from the sale of the electricity generated. It allows the best of both worlds and is becoming increasingly popular for that reason.

KEY QUESTIONS TO ASK ASSET MANAGERS ABOUT IMPACT INVESTING:

- What research have you done on the SDGs?
- Do you focus on any of them or include them in your processes?
- If you don’t follow the SDGs, what about other forms of impact investing?
- Are you able to calculate the environmental footprint of companies in your portfolios?
- Can you tailor your reporting? If so, to what level, and for which topics?
- What level of detail can you give on issues such as greenhouse gas emissions?
- Can you show an example of how this was used for decarbonizing portfolios?

2.4 Active ownership

Underpinning all of these approaches to sustainability is active ownership. Put simply, this is where an investor uses its position as a shareholder or bondholder to improve ESG factors at its investee companies. Robeco has long believed that it is a fundamental responsibility of an asset manager to be active owners of the companies in which they invest. And it’s not just a one-way street; research shows that companies which respond well to active ownership improve their financial performance, which feeds through into higher asset prices, along with a better reputation in a market that increasingly attaches more importance to ESG factors.

Active ownership is primarily pursued through voting and engagement:

Voting is the practice of either supporting or opposing policies of the company's board, usually at annual general meetings. Voting themes can vary, though executive compensation remains a controversial issue, particularly when directors' salaries do not meet past performance. It was the agenda item that was most frequently voted against in 2018. And voting can be an effective weapon in making companies consider whether large remuneration packages are justified. Climate change, and a company's preparations for it, is another increasingly relevant topic. Many companies have failed to tackle their carbon footprints, while this will become a license to operate in future years. Many shareholder proposals now demand that companies reveal how they are preparing to meet the commitments of the Paris Agreement to limit global warming to 2 degrees Celsius or less above pre-industrial levels. In all, Robeco voted against management at 56% of meetings in 2018, and supported 78% of environmental shareholder proposals seeking some sort of change.

Robeco has been engaging with companies since 2005, and actively engages with about 200 companies a year on some level. Through this dialogue, we encourage companies to improve their ESG practices. Our approach includes environmental issues like energy transition, social subjects such as cybersecurity and data privacy, and governance topics such as improving shareholder rights and board quality.

Engagement is the practice of holding discussions with a company about pre-defined issues that the asset manager believes present business risks. Engagement has proved highly effective, particularly once companies realize that it is in their own interests to improve; better ESG ultimately means lower costs and improved risk management that will feed through to the bottom line. At Robeco our engagement periods typically last up to three years, with over 65% of cases closed successfully.

Engagement themes vary between asset managers, depending on their investment priorities for the coming years, many of which are often set by client demand. Robeco began four major engagement themes in 2019 – one for each quarter. These are the transition to a sustainable palm oil industry; reducing single-use plastic and its attendant waste disposal problem; the social risks of artificial intelligence; and deflating health care costs through digitalization. In 2020 we will begin engagement on mining, biodiversity, decarbonization, corporate governance in Asia-Pacific and executive pay.

KEY QUESTIONS TO ASK ASSET MANAGERS ABOUT VOTING AND ENGAGEMENT:

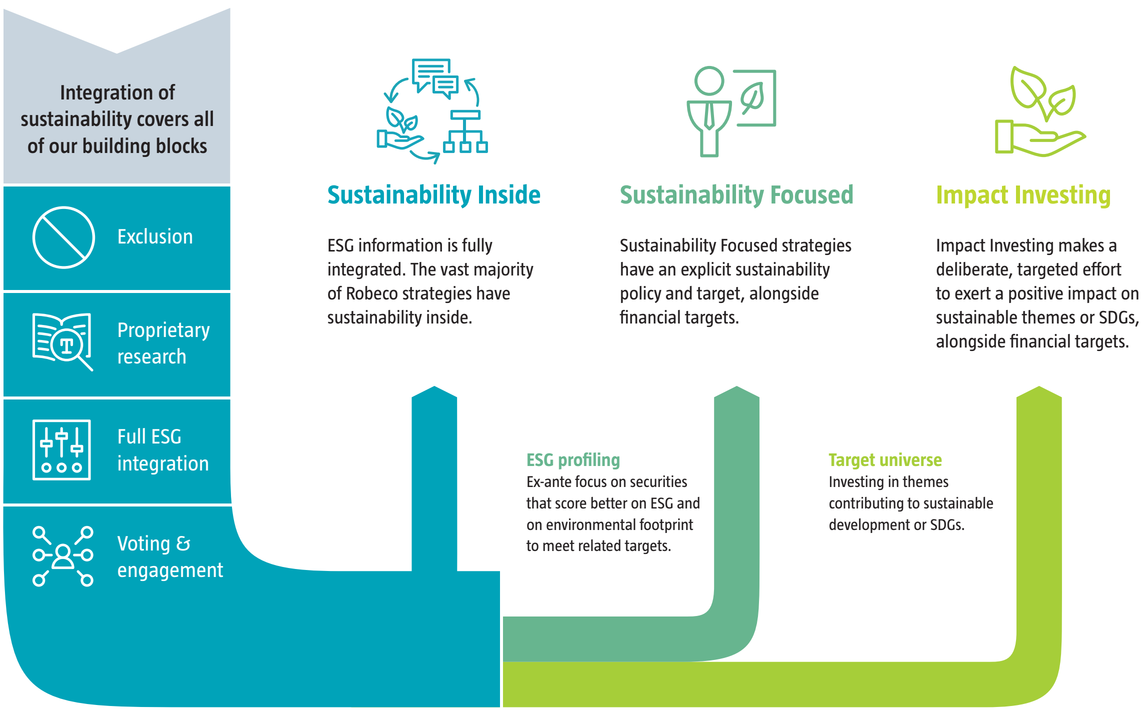
- Who is responsible for voting and engagement at your firm?
- Do you have an internal active ownership team, and if so, how does it operate?
- How do you decide on the themes on which to vote or engage?
- How do you integrate engagement into your investment processes?
- What happens if your engagement does not make progress?
- Can you give examples of a voting or engagement success or failure?

At Robeco we have defined three groups of products, each with their own sustainability profile:

- **Sustainability Inside** (ESG information is fully integrated in these strategies. The vast majority of Robeco strategies have sustainability inside)
- **Sustainability Focused** (These strategies have an explicit sustainability policy and target, alongside financial targets)
- **Impact Investing** (This is aimed specifically at making a positive contribution to the SDGs or sustainability themes, alongside achieving financial objectives)

An overview of Robeco's approach to ESG integration is given in Figure 3..

Figure 3: Categorization of Robeco's investment strategies – from integration to impact



Source: RobecoSAM, Robeco

3 Applying the building blocks of sustainable investing across asset classes

The three common approaches of sustainable investing – exclusion, integration and impact – come together when ESG criteria are thoughtfully built into the investment process and tailored according to the specificities of each asset class and portfolio objective. Most of the underlying building blocks can be used as an input or guide across all asset classes, but in this chapter, we will take an asset-class-by-asset-class approach, delving into how and why the most impactful building blocks work for each asset class.

In general, ESG analysis in equities seeks to identify an upside that is not necessarily reflected in the share price, while analysis in bonds seeks to expose any downside that may not show up in its credit rating. We believe that the big advantage of ESG integration is that it works across all asset classes – it has been proven to work just as well in fixed income markets as in equities. It can also be applied to commodity or real estate portfolios or private equity.

3.1 FUNDAMENTAL DEVELOPED MARKETS EQUITY

All relevant ESG criteria

Key ESG criteria:
- company valuations

Integrating ESG factors into the investment process leads to better-informed investment decisions. ESG integration in fundamental equity investments can be seen as a three-step process, illustrated in the figure below. The first step is to identify and focus on the most financially material ESG issues affecting the company. The second is to analyze the impact of these material factors on the company's business model. Thirdly, the challenge is to incorporate these factors into the valuation analysis and/or the fundamental view of the company in order to decide whether to buy the stock.

Figure 4: Three-step approach to ESG integration in fundamental equity

STEP 1
Identify and focus on most material issues

STEP 2
Analyze impact of material factors on the business

STEP 3
Quantify to adjust value driver assumptions

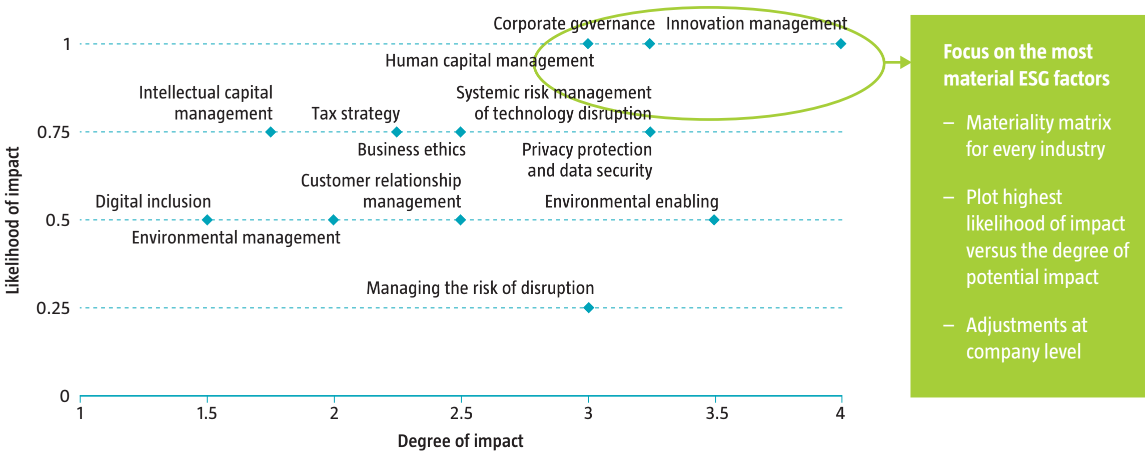
Better-informed decisions
e.g., higher conviction; better risk-return view

Identify material ESG factors

Focusing on the most material factors is key, and this will vary by company or industry. Analysts should plot the highest likelihood of an issue making an impact against the degree of this potential impact. A huge number of data sources is used in order to gain the information needed to assess the likely impact of all these factors.

In Figure 5, you will find an example for IT services and related companies. Innovation management is the most material issue, followed by human capital management and

Figure 5: IT Services & Internet Software and Services



Source: RobecoSAM, Robeco

corporate governance. Environmental management, however, is a relatively low risk, since IT companies generally have a low carbon footprint and generate little pollution. Other industries are of course different: for the pharmaceutical industry, the ESG issue of paramount importance is product quality and safety.

Analyze impact of material factors on business model

In the second step, analysts look at how the business model of a company is exposed to the material ESG factors identified in step 1. In-depth analysis should be conducted, including delving deeply into a company's value drivers, such as sustainability of growth in an industry; a company's competitive advantage; and market share. Analysts can then benchmark a company's financial and ESG performance against its peers and industry-best practices, and also assess the impact this may have on valuations.

ESG criteria: Quantify impact on value drivers

In the third step, the impact of the ESG analysis is integrated into the valuation assessment. If the ESG impact is substantial, for example, traditional value drivers such as sales growth and margins or the weighted average cost of capital are adjusted. The ESG analysis may also result in altering a company's competitive advantage period: the period over which it can generate excess economic returns. The impact of material ESG factors can be positive or negative, reflecting risks or opportunities that ensue from a company's ESG analysis.
ESG performance isn't the only reason to buy or sell a stock. However, if ESG risks and opportunities are significant, the ESG analysis will impact a stock's fair value and the decision whether to buy a stock – or not to buy it.

3.2 FUNDAMENTAL EMERGING MARKETS EQUITY

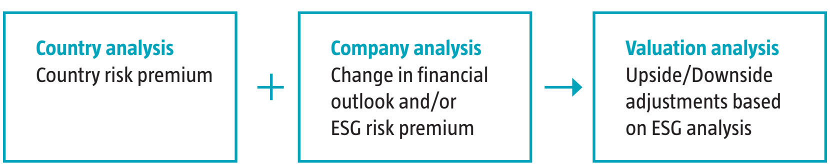
All relevant ESG criteria

Key ESG criteria:
- country rankings
- company valuations

Sometimes the use of ESG in emerging markets is considered complicated due to the challenges that some developing countries face. In fact, the reverse is true: building ESG factors into the investment process here is crucial for both risk avoidance and for performance. That is because market inefficiencies caused by lower standards of data availability, poor transparency and governance standards, and issues relating to climate change, human rights and product safety standards are a potential source of alpha.

ESG analysis should be an integral part of the investment process, supporting both the top-down country allocation and the bottom-up stock selection process. The criteria discussed in this chapter are unique for integrating ESG in emerging markets.

Figure 6: Top-down & bottom-up



Source: RobecoSAM

ESG criteria: country rankings

In the top-down country allocation step, fundamental analysis is the principal driver. A key component is comparing the economic, political and social strengths of emerging markets in order to capitalize on the differences. This evaluation should include analysis of ESG issues such as a country's transparency, political stability, progress towards basic democratic principles and the protection of shareholder rights. Depending on the outcome of this analysis, adjustments to the country risk premium used in the valuation of emerging market equities may be applied. Those with a negative ESG/sustainability profile would be penalized with a higher premium. RobecoSAM's Country Sustainability Ranking could be used as input. This ranking takes into consideration 17 country-level ESG indicators which are scored and weighted by analysts to derive a country rating. This is updated twice a year and is a useful early warning signal for country risks. The following shows the indicators and weights as well as examples of how certain countries have performed. Some of the Nordic countries unsurprisingly come out on top, while other countries that have demonstrated weak governance, institutions or considerations for the environment have scored poorly.

Figure 7: The weightings used for ESG indicators, and an example of a final country ranking

	ESG indicators and weights	
E 20%	Environmental performance	7.5%
	Environmental risk	7.5%
	Environmental status	5.0%
S 30%	Aging	5.0%
	Human capital	5.0%
	Inequality	7.5%
	Social conditions	5.0%
	Social unrest	7.5%
G 50%	Corruption	7.5%
	Financial development	5.0%
	Innovation & regulation	7.5%
	Institutions	7.5%
	Personal freedom	5.0%
	Political risk	10%
	Political stability	7.5%

Country ranking	
Norway	1
Sweden	2
Finland	3
Denmark	4
Switzerland	5
Burundi	146
Congo, DR	147
Sudan	148
Central African Republic	149
Yemen	150

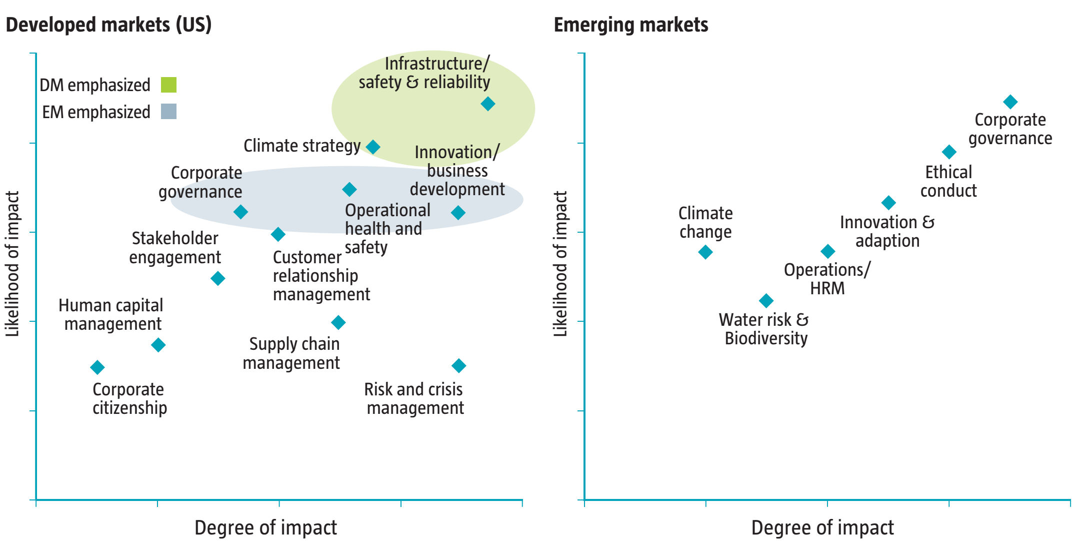
Source: RobecoSAM

ESG criteria: Quantify impact on value drivers

The first two steps in company valuation are: first, identify the most material ESG issues and second, analyze potential red flags and the impact of material factors on the business model. In the last step, the impact on value drivers is quantified. For emerging market countries, the country risk premium should be taken into account. Depending on the sustainability profile of the country in which a company operates, the weighted average cost of capital (WACC) used in equity valuation may be increased by an additional 100 to 200 basis points.

Focusing on the most material factors is key, and this will depend on the company, industry or developed vs emerging markets. The issues that are most material differ between developed and emerging markets. The differences in what is financially material when comparing emerging markets with developed markets, and the role that governance plays, can be seen in the example below for gas distributors. For developed markets, 'infrastructure/safety & reliability' is the most dominant factor, particularly after the Deepwater Horizon disaster, followed by its climate strategy. For emerging markets, it is corporate governance, followed by ethical conduct. The highest likelihood of an issue making an impact against the degree of this potential impact is plotted in the figure below.

Figure 8: For gas distributors, the issues that are more financially material differ between developed and emerging markets



Source: RobecoSAM

BRAZILIAN FOOD PROCESSING COMPANY

An example of how a financial materiality framework could work is shown in the following analysis of a Brazilian food company. This company is a global food industry leader with over 235,000 employees worldwide. The headquarters are in Brazil but the company has production platforms and commercial offices in over 20 countries. They are one of the biggest meat processing companies worldwide, being lead processor and exporter of beef and chicken globally. The company also processes pork and lamb. The company has good results in Brazil and the US, as well as attractive valuation and a positive earnings outlook.

Step 1 and 2: Identify and analyze material ESG issues
The company faced several serious ESG issues, ranging from involvement in two large corruption scandals in the country to the arrest of a former CEO and indictments of board members and employees on charges of money laundering and bribery. The company had an overhang of possible fines related to the bribery scandal. Although there was a change in chairman and CEO, the issues continued to have a grip on the company.

Step 3: Quantify impact on value drivers
The next important step was to quantify the impact on value drivers. Due to these ESG issues, the emerging markets team increased the WACC for the company by 200 basis points. On top of this, Brazil has a country risk premium, due to political risk following the election of a far-right president and other issues. As a result, the WACC was increased by an additional 100 basis points.

In the final assessment of whether to invest, the team calculated that the potential upside on the stock had decreased from +253% to -3%. The impact of ESG considerations significantly decreased the fair value of the stock, even showing downside on our proprietary discounted cash flow model. As a result, the decision was taken not to invest in the company.

Table 1: Step 3: Quantifying ESG impact

Value driver	Sales growth/margins	WACC	Impact	Upside
Pre-ESG assessment	CAGR 3.6% for the next 5 years	8.4%		+253%
Country risk premium	Brazil has a country risk premium, due to political risk, bribery scandals, uncertainty in elections	+100 bps		
ESG adjustment	Severe ESG issues: > Involved in two big corruption scandals. > Former CEO arrested and board members and employees indicted due to money laundering and active bribery. > Possible fines related to bribery scandal. Class action in the US. > Despite change of chairmain and CEO, issues still have a grip on the company. > High financial risk.	+200 bps		
Base case		**11.4%**		**-3%**
Enhanced engagement candidate?				**No**
Portfolio holding?				**No**

Source: Robeco. For illustrative purposes only. This information is intended to provide the reader with information on Robeco's specific capabilities, but does not constitute a recommendation to buy or sell certain securities or investment products.

3.3 FUNDAMENTAL CREDITS

All relevant ESG criteria

Key ESG criteria:

- corporate ratings
- SDG research

Fixed income funds have different priorities than their equities counterparts when using analysis to find the best bonds. In general, ESG analysis in equities seeks to identify an upside that is not reflected in the share price, while analysis in bonds seeks to expose any downside that may not show up in its credit rating. This has produced a well-known phrase that in credits, it is "better to avoid the losers than necessarily always picking the winners". The risk of default remains the paramount threat, and is much higher in sub-investment grade (high yield bonds) than in investment grade securities. The key focus of credit analysis is therefore the cash-generating capacity of the issuer and the quality of its cash flows.

ESG criteria: corporate ratings

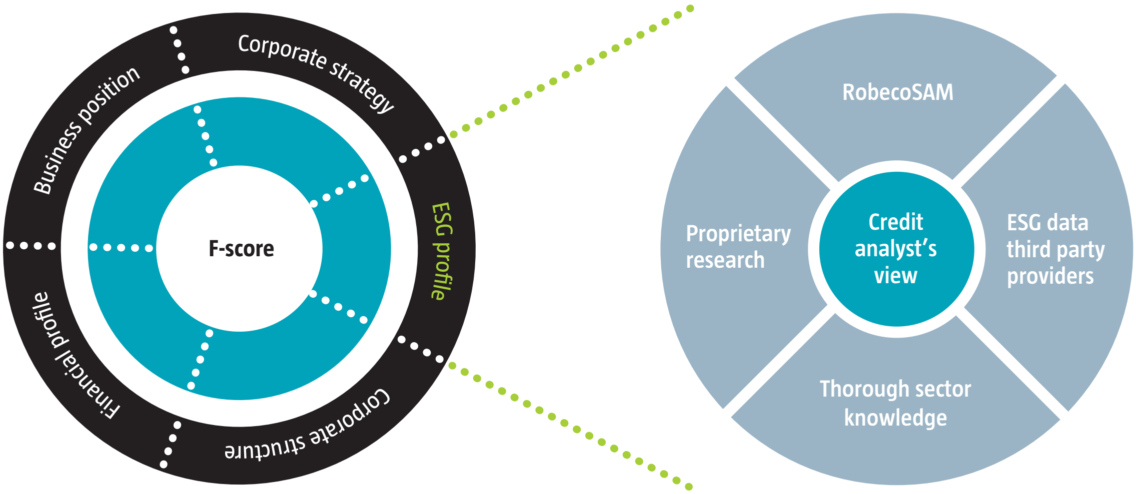
In a fundamental credit strategy, the credit research analyst should ideally integrate ESG factors in their analysis. To be meaningful and relevant, the factors considered should be financially material and have a potential impact on an analyst's fundamental view of an issuer. The weight assigned to these sustainability factors will vary from sector to sector and even company to company because different sustainability issues and themes affect different sectors and companies differently. It is important to integrate these factors within a structured framework to ensure consistency of analysis over time.

One example of ESG integration is using a structured format assessment for credit analysis consisting of five different factors. ESG is one variable; the other four variables are the company's business position, corporate strategy, financial profile and corporate structure. Based on these five factors, the analyst assigns a fundamental score. For example, at Robeco, these scores range from +3 for highly positive to -3 for highly negative and are called 'F- scores'. These express the overall fundamental view on a company given its credit rating.

The five factors are not stand-alone but are often intertwined; for instance, a change in ownership can impact a company's financial position, and an international expansion strategy may introduce country-specific risks into the business position.

Figure 9: Fundamental issuer analysis

Sources of input for ESG profile

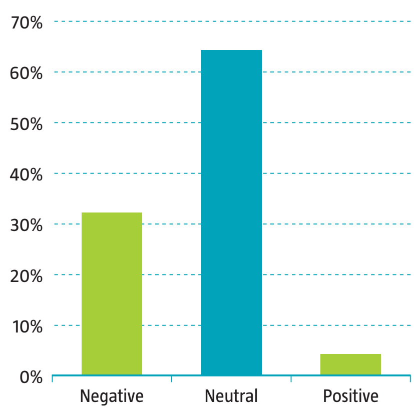


Source: Robeco

Getting a lower F-score does not necessarily mean that a company's bonds cannot be bought. Instead, this higher risk should be reflected in a higher credit spread versus its peers. In practice, a lower F-score therefore means that an investor would demand a higher spread to compensate for the additional risks that become apparent from our analysis. If the additional risk is not reflected in the spread of a corporate bond, an investor may opt for bonds with a better risk profile. Such a decision can be altered if either the risk profile improves or the spread rises to an adequate level.

A wide number of sources are used to gather ESG information, including data from the Corporate Sustainability Assessment that RobecoSAM recently sold to S&P Global.

Figure 10: The percentage of cases in which ESG makes an impact



Source: Robeco

Quantifying the impact on credit portfolios

To help validate the financial materiality of ESG factors, it is important for managers to keep track of their impact on an analyst's ultimate view of a company's credit. In the case of our own credit research team, ESG information has had a financially material negative impact on 32% of cases versus a positive impact on the fundamental view on just 4% of cases.

SHOWCASE – CEREAL KILLERS

Makers of high-sugar and high-fat cereals provide examples of companies for which we reduce their F-scores based on their ESG profiles. By 2030, some 40% of the world's population will suffer from obesity, up from 30% at today's levels. This is already generating new regulations such as the UK sugar tax, along with a consumer backlash. Companies that have put less effort into reformulating products to have lower sugar levels or fewer calories are at a relative disadvantage to those that have made the effort to produce healthier foods. Some have worked on introducing more gluten-free or higher-fiber products, but have not made enough improvement to counterbalance the risks. Robeco funds would therefore rather invest in the credits of those companies ahead of the game, not behind the curve.

ESG criteria: SDG research

For clients who wish to go a step further in terms of incorporating impact in their credit investments, strategies that deliver not only attractive investment outperformance but also contribute positively to the UN SDGs, often seen as a more concrete expression of ESG/ sustainability principles, are worth considering.

The 17 SDGs range from eradicating world hunger and reducing global warming, to improving health care, technological access and educational standards in emerging markets. Working out which companies can contribute to these – or conversely, promote products or services that detract from them – can be done via a structured evaluation framework. As an example, at Robeco and RobecoSAM, this is done through a three-step framework that uses a proprietary scoring methodology to evaluate a specific company's contributions, both positively and negatively.

Figure 11: The three-step process for choosing SDG credits

PRODUCT
What do companies produce?

Positive contribution examples:
- Medicine, water, health care

Negative contribution examples:
- Shale gas, fast food, gambling

PROCEDURE
How do companies produce?

Assess a company:
- Governance factors
- Pattern of questionable conduct
- Differentiate between firms with highest SDG impact

CONTROVERSIES
Are controversies known?

Examples of controversies:
- Spills
- Bribery and fraud
- Mis-selling

Source: Robeco

Step 1: What does the company do?

The first step is to establish what the company produces, and then assess what its potential contributions or detractions from its relevant SDGs are. An extensive set of rules and key performance indicators (KPIs) are used to evaluate contributions according to the sector and industry. For example, banks that make more than 25% of their loans to small and medium-sized enterprises would be making a more positive contribution to SDG 1 (no poverty), SDG 8 (decent work and economic growth) and SDG 9 (industry, innovation and infrastructure). This would then raise their score from a low positive to a medium positive.

Step 2: How does the company operate?

The second step analyses how the company produces or delivers its products or services. For this, governance factors are taken into account, any questionable conduct is analyzed, and efforts into cutting their carbon footprints would be included. For example, are they emphasizing gender equality in their human resources, creating a good governance structure, or putting a lot of emphasis on reducing their greenhouse gas emissions?

Step 3: Has the company erred?

Step 3 focuses on controversies, such as whether the company has been cited for corruption, has had an environmental calamity such as an oil spill, or has become embroiled in financial mis-selling. The analysis would focus on whether this was a one-off event, and whether the company is addressing its problems or not.

3.4 QUANT EQUITY

All relevant ESG criteria

Key ESG criteria:

- media & stakeholder analysis
- corporate ratings
- environmental footprint monitoring
- SDG research
- voting & engagement

From an investment perspective, sustainability objectives can vary greatly from one investor to another. Consequently, the techniques used to build sustainability criteria into an investment process also vary considerably. One option for those interested in sustainability integration but concerned about costs is to go for passive or smart beta sustainable strategies, but the level of sustainability integration these products offer is often limited.

Instead, as mentioned in earlier chapters, investors often prefer to take multiple dimensions of sustainability into account; for example, combining exclusions with best-in-class and environmental-footprint reduction approaches. As we have seen, sustainable investing isn't about one-size-fits-all approaches but requires tailored/custom-made solutions. Specific quantitative building blocks can be developed that can be integrated and combined flexibly into the investment process of all quantitative strategies.

ESG criteria: media & stakeholder analysis and corporate ratings

With the objective of improving portfolio sustainability, while maintaining exposure to the quantitative model's factors, ESG criteria are built into the portfolio-construction process by ensuring that the scores on the ESG dimensions of the portfolio are higher than the index. Companies with higher ESG scores have a greater chance of inclusion in the portfolio as a result of this positive screening. This score is based on information from corporate documents, media and stakeholder analysis and the findings of S&P Global's Corporate Sustainability Assessment.

With this enhanced form of ESG integration, the risk of being overexposed to less sustainable companies is avoided. It should be in line with your integrated risk management philosophy to avoid risks that are not rewarded with higher returns.

Holding a few sustainability laggards would not be reason for immediate alarm. However, a significant exposure to unsustainable companies at the portfolio level poses a serious risk, as some sustainability risks could materialize in the future.

Table 2: From standard to customized portfolios

	Baseline exclusions	Integrating ESG scores	Environmental impact	Voting and engagement	SDGs
Standard approach	Robeco's general exclusion policy	We ensure that the portfolio scores better than the benchmark, based on RobecoSAM Smart ESG scores		Robeco's active ownership program	
Advanced	Robeco's values-based exclusion list	We ensure that the portfolio's score is at least 20% or 30% better than the benchmark, based on RobecoSAM Smart ESG scores	Reducing environmental footprint by 20% on four dimensions: energy consumption, greenhouse gas emissions, waste generation and water use	Robeco's active ownership program	
Possible customization	Applying any client-specific exclusion list	Requiring the portfolio to score even higher and/or using specific scores (e.g. for a large French clientwe use an Environmental Dimension score)	Additional footprint reductions	Robeco's active ownership program	Integration of UN Sustainable Development Goals (SDG) in portfolio. E.g. staying away from companies that have a net negative impact on SDGs.

Source: Robeco

Table 3: Sustainability comparison top-ranked stocks

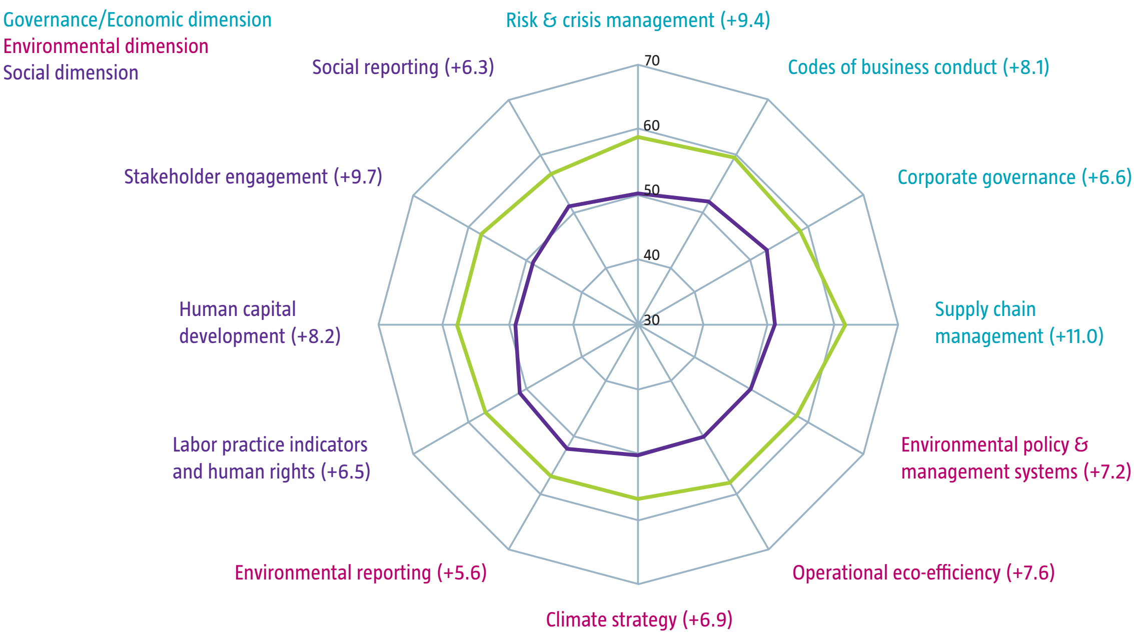
		Model	Sustainability	Weight
Company	**Sector**	**Rank 0-100%**	**RobecoSAM ESG Score**	**Position size**
Mega Holdings	Financials	0.2%	34.2	X
First Financial	Financials	0.3%	87.2	✓
Eni SpA	Energy	3.9%	10.1	X
PTT Exploration & Production	Energy	4.2%	98.6	✓
Stora Enso OYJ	Materials	8.8%	3.3	X
Koninklijke DSM	Materials	9.0%	98.5	✓

Source: Robeco. June 2018. The above is for illustrative purposes only and is not to be relied upon as advice or interpreted as a recommendation.

ESG criteria: environmental footprint monitoring

An enhanced form of sustainability integration ensures that more sustainable companies are represented. A 30% ESG score improvement is expected in the case of the Global Developed Sustainable Enhanced Index and 20% in the Multi Factor All Country Index with enhanced ESG versus their respective benchmarks by integrating sustainability when ranking stocks. The graph below illustrates how a Robeco portfolio has an improved sustainability profile across the different ESG dimensions relative to the benchmark.

Figure 12: Portfolio positioning against benchmark on relevant ESG topics



■ Robeco portfolio ■ Benchmark

As of 31-12-2017. The number in brackets indicates the difference in score value of the portfolio compared to the benchmark

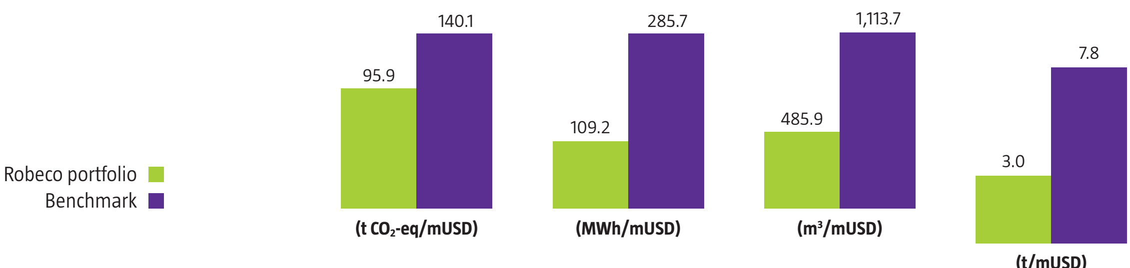
Source: RobecoSAM

When constructing the portfolio you can also aim for an environmental footprint that is 20% smaller than the benchmark.

A growing number of investors expect their portfolios to generate positive environmental impacts alongside financial returns. By measuring the portfolio's footprint on a series of tangible environmental indicators, you can gain an understanding of the magnitude of its environmental impact per invested dollar.

Data is used from the S&P Global Corporate Sustainability Assessment (CSA) on four key quantitative environmental indicators: greenhouse gas emissions, energy consumption, water usage and waste generation. Each indicator must be at least 20% lower than the index. An example of such reporting is shown below.

Figure 13: Portfolio environmental footprint compared to benchmark



Impact per mUSD invested	**GHG emissions – scope 1 & 2**	**Energy consumption**	**Water use**	**Waste generation**
Unit per year	(t CO_2eq/mUSD)	(MWh/mUSD)	(m^3/mUSD)	(t/mUSD)
Impact	44.2	176.5	627.8	4.8
Impact (%)	**32%**	**62%**	**56%**	**62%**
Savings/mUSD*	17	45	13	11

As of 31.03.2019
*** European average figures per year**
Average carbon dioxide emissions from new passenger cars per year; average 20,000 km and 130 g CO_2-eq/km; in t CO_2-eq (source: www.eea.europa.eu)
Average electricity consumption per household and year; in MWh (source: www.ec.europa.eu/eurostat)
Average water consumption per person and year; in M3 (source: www.eea.europa.eu)
Average waste generation per household and year; in t (source: www.ec.europa.eu/eurostat)
Source: RobecoSAM

ESG criteria: SDG research

More recently, there has been a sharp increase in support for and interest in the SDGs in the sustainable investing landscape. Many sustainability frameworks focus mainly on how companies operate, but our SDG rating framework looks at both how they behave and what they produce. The SDGs offer a comprehensive framework that is broad enough to cover the full range of causes (e.g. humanitarian, ecological and economic) yet specific enough to guide companies on the exact criteria needed to achieve each goal.

ESG criteria: voting & engagement

Robeco may actively engage with a portfolio holding on ESG matters for different reasons. An example is if the company in question were to breach the UN Global Compact. In such a serious case, an 'enhanced engagement process' would be initiated, as part of which the portfolio's exposure to the stock would be reduced by half.

In extreme cases when enhanced engagement does not prove to be successful, the company is added to the exclusion list as a last resort.

Table 4: Examples of bespoke client solutions with advanced sustainability integration

Client cases	Strategy	Exclusions	Making a difference		
			ESG score vs benchmark	Footprint reduction*	Engagement
Pension fund	Bespoke Multi-Factor Eq. Index		Higher	10% reduction**	✓
Public pension fund	Conservative Equities		20% higher	20% reduction	✓
Superannuation	Value Equities		10% higher	-	-
Endowment	Sustainable Enhanced Indexing		40% higher	35% reduction	✓
Family office	Conservative Equities		20% higher	20% reduction	-
Islamic fund	Conservative Equities		-	-	-
Insurance company	Conservative Credits		Higher	-	✓
Multinational bank	Conservative Credits		Higher	-	✓
Global consultant	Sustainable Multi-Factor Eq.Index		20% higher	20% reduction	n/a
Robeco fund	Sustainable Enhanced Indexing		30% higher	20% reduction	✓
Robeco fund	Sustainable EM Active		20% higher	20% reduction	✓
Robeco fund	Sustainable Value Equities		20% higher	20% reduction	✓
Robeco fund	Sustainable Conservative Eq.		20% higher	20% reduction	✓

* Footprint reduction on four dimensions: CO_2 reduction, waste reduction, energy consumption and water usage.
** Aims for 10% improvement of labor rights and 10% carbon footprint reduction.
Source: Robeco

WHY FACTOR INVESTING & SUSTAINABILITY WORK WELL TOGETHER

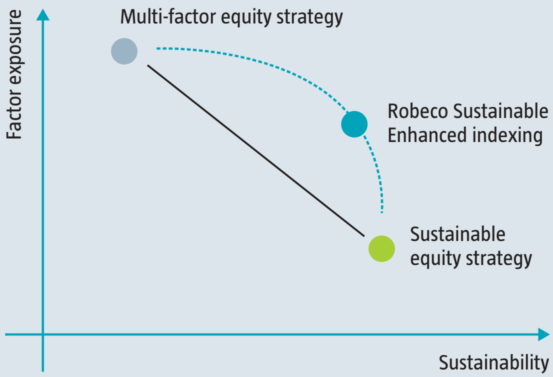
While sustainability integration is by no means limited to any particular investment approach, quantitative strategies have shown to be especially suitable for this. Their rules-based nature makes it relatively easy to integrate additional quantifiable variables, such as ESG scores for example, in the security selection and portfolio construction process. From this perspective, integrating sustainability aspects in the investment methodology is not very different from a standard factor-based approach, where securities are included in a portfolio based on their factor characteristics.

This kind of approach enables quantitative asset managers to create an investment portfolio that strikes the right balance between sustainability objectives and risk and return expectations for each client. Robeco's empirical analysis shows that it is possible to improve sustainability profiles while capturing the majority of the exposure to proven return factors. This results in solutions that provide both an enhanced sustainability portfolio profile and attractive return-risk characteristics.

Increasing the weight to sustainability criteria will obviously decrease the exposure to return factors such as value, quality or momentum in the stock or bond selection model. Figure 14 provides a stylized illustration of the trade-off between factor exposure and sustainability exposure for a multi-factor equity strategy. The blue line represents the portfolios that can be achieved through the integration on ESG aspects into a multi-factor stock-selection process. Meanwhile, the black line represents the possible outcomes when simply 'blending' two independent equity strategies: a classic multi-factor strategy and a sustainable strategy.

Interestingly, contrary to the black line, the blue line does not decrease linearly, as one could expect. The reason is that integrating these two investment drivers ensures that sustainable stocks with attractive valuation, sound quality, strong momentum and positive analyst revisions are chosen.

Figure 14: Stylized illustration of the tradeoff between factor tilts and sustainability



Source: Robeco

This does not necessarily happen in the blending approach, where the individual portfolios are one-dimensional and therefore ignore either sustainability or factor exposures of stocks. This leads to suboptimal portfolios. Obviously, the desired amount of factor and sustainability exposure will depend on the preferences of each investor.

3.5 QUANT FIXED INCOME

All relevant ESG criteria

Key ESG criteria:
- corporate ratings

Sustainability integration has been shown to be particularly suited to quantitative equity strategies, and this also applies to integrating sustainability into quantitative credit investments. Just as with equities, quantifiable ESG metrics can be incorporated into the rules-based investment methodologies.

ESG criteria: corporate ratings

Using sustainability/ESG scores, whether publicly available or proprietary, is typically a key input for the model used in running a quant strategy. The quantitative nature of the score and the granularity of score components available from various data providers allows managers to set sustainability rules that can be applied in a systematic manner.

Rules can be incorporated in the model so that a portfolio's overall sustainability score is either equal to or better than the benchmark by a predetermined percentage. If further granularity of scores is available, then it is possible to further refine the rules and create quant portfolios that demonstrate improvements in specific sustainability characteristics versus their reference market cap benchmarks. For example, a portfolio with a better environmental footprint in terms of carbon emissions, water usage, waste generation and energy consumption may be created.

As this is score based, it is also easier for a manager to report on the sustainability profile of the quant portfolio vs the benchmark.

One example of sustainability scores are the ones generated by the S&P Global Corporate Sustainability Assessment. These scores are granular to allow the user to further customize the sustainability profile of a quant credit portfolio, should this be required by a client.

Using this data, a manager is able to construct portfolios with a weighted score that is a certain percentage better than the index. They can also construct portfolios that have a better environmental footprint across a range of metrics such as CO_2 emissions, energy consumption, water use and waste generation. As historical data is also available, it is also possible to back-test all strategies in order to evaluate the impact on risk, return and sustainability.

Fundamental checks on model output

Not all ESG risks might be captured by the ESG/sustainability scores used. As such, it is often a prudent part of the process to ensure that model output is reviewed by a credit analyst familiar with the issuer or sector in order to ensure that qualitative ESG risks such as lawsuits, issues with a regulator or a recently announced environmental disaster or controversy are captured. If unacceptable ESG risks are identified, the bonds can be rejected from portfolio inclusion.

4 | Summary

There are many ways to approach the incorporation of sustainability into investment portfolios. When considering different asset classes, different methods are better suited than others. Many tools should be incorporated into the underlying investment research, with others adding value. It is clear that there is no one-size-fits-all approach to sustainable investing.

However, over the course of time, consensus has grown on what approach fits various types of investors best. Investors at one end of the spectrum only consider financial criteria, while those at the other only consider social criteria, including philanthropy. Institutional investors generally have a focus on strategies in which sustainability is considered to mitigate risks, enhance value or create impact, alongside achieving competitive returns.

For an investor new to SI, creating a sustainable strategy may be easier if the process is broken down into more manageable chunks. The first step should be to define a purpose: what do they want to achieve with SI? The second to discuss and assess the motivations for SI with stakeholders such as sponsors, participants and clients.

We hope that this guide has provided you with a useful insight into a best-in-class approach for incorporating sustainability into investment portfolios. We encourage you to use this knowledge to question your asset managers, and ultimately help drive the change to a more sustainable industry.

Finally, here's a checklist of questions to ask any potential asset manager for SI strategies. Good luck and happy investing!

Figure 15: The strategies (overview)

	SUSTAINABILITY INSIDE				SUSTAINABILITY FOCUSED			IMPACT INVESTING
	Exclusion	Proprietary research	Full ESG Integration	Voting & Engagement	ESG profile target	Reduced footprint target (20%)	Exclusion based on negative screening	Theme/SDG target universe
Sustainability Inside	✓	✓	✓	✓				
Sustainability Focused	✓+	✓	✓	✓	✓	✓	✓	
Impact Investing	✓++	✓	✓	✓				✓

Source: Robeco

CHECKLIST OF KEY QUESTIONS

1. Governance and support for ESG

- How is sustainable investing incorporated in the asset manager's overall strategy?
- Who has ultimate responsibility for this?
- What are the asset manager's SI targets/KPIs?
- Do the investment teams have SI targets and, if so, what are they?
- Has the asset manager signed up to any stewardship codes, PRI, etc.? And, if so, since when?
- How is knowledge shared within the company? Are there any ESG training opportunities for senior management, or the investment teams?
- What is the PRI assessment score for strategy and governance?

2. Team and experience

- How long has the company/team/portfolio manager been involved in SI?
- What resources are dedicated to sustainability research?
- What data/research is used?
- How is the quality of the data/research assessed?
- How is this shared with the investment teams?
- How do the investment teams work with sustainability experts?
- How does the asset manager approach active ownership?
- How is this organized? How many people are involved? What is the track record (experience and clear engagement successes)?
- What are the UN PRI scores for active ownership and ESG integration across the specific asset classes?

3. Process

- How are sustainability factors integrated into the investment process?
- How is the quality of the integration monitored and evaluated?
- How does sustainability information affect investment analysis/decision-making?
- For fundamental strategies: Can you give some examples of investment cases for which an integrated ESG approach has been used?
- For quantitative strategies: What research has been done on the effectiveness of ESG integration?

4. Outcomes

- Please show how sustainability factors/data have influenced your investment research/decision-making across the research universe.
- Show how they have affected the portfolio and/or performance of the fund.
- Show how they have affected the sustainability or social/environmental footprint of the portfolio.
- Provide evidence of the effectiveness and results of your active ownership approach.

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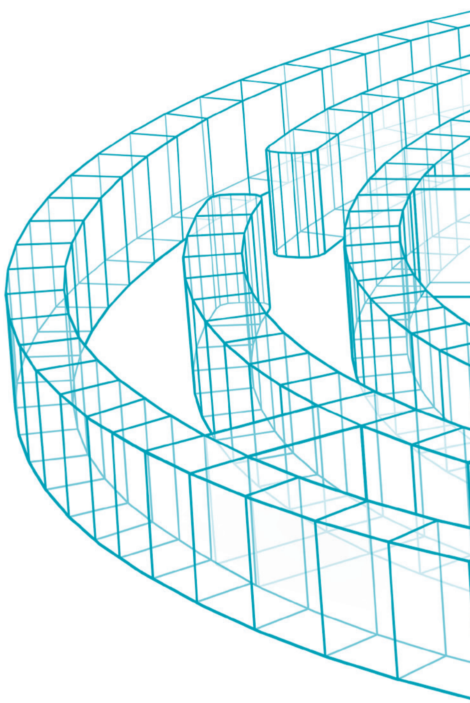

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