

Robeco's SDG Framework

How we assess company contributions to the SDGs
for integration into investment portfolios

January 2026

Preface

The UN's Sustainable Development Goals have taken sustainable investing to the next level, providing clearly defined objectives to transform our world, while also offering returns for investors. They offer a clear, measurable, and holistic blueprint for investors to align their portfolios with sustainable development.

To put this into practice, however, investors need to be able to identify which companies are positively contributing to the 17 goals and which firms are hampering progress. Underpinning Robeco's pioneering spirit to sustainable investing, we were among the first asset managers to devise an SDG Framework and build SDG-aligned portfolios based on the resulting scores.

Our SDG Framework is a robust tool that systematically assesses individual companies on their contributions to key SDG targets. These contributions are aggregated into an SDG score, which can be used to construct portfolios that pursue positive impact, avoid negative impact, and support sustainable progress in the economy, society and the natural environment.

One of the key differentiators of Robeco's SDG Framework is that it is both science-based and science-backed. That is, it is grounded in the latest sustainability science, as we like to stay on top of what is being published and integrate these insights into our methodology. And it is science-backed, as the construct validity of our SDG scores has been academically tested, while research using our scores suggests that investors can utilize an SDG lens without compromising their financial objectives in the long run. We have also found that SDG scores do not exhibit size, location or reporting biases, and that companies with higher SDG scores are less likely to be involved in future controversies.

Over the years, we have built a strong track record of integrating SDG scores in our investment portfolios, with our dedicated SDG solutions on average nearly doubling in assets under management every year between 2018 and 2023. For Robeco, SDG investing is no longer a niche practice, and our SDG Framework can be used for constructing portfolios across asset classes and investment styles.

More recently, we developed an impact measurement framework alongside our SDG Framework to enhance our understanding of the extent to which individual companies contribute to these goals. This offers an even more sophisticated view on which companies are helping to solve the issues at the heart of the sustainable development agenda, and which are exacerbating them. We believe impact measurement is inextricably linked with SDG investing as it enables investors to determine the outcomes of past investments and make better decisions about future ones.

“ Ultimately, our own goal is to make SDG investing the new norm for sustainable investing.

The Robeco SDG Framework

An overview of the assessment and scoring process

Robeco's SDG Framework provides a clear, consistent and replicable approach for assessing companies' impacts on the SDGs. Corporate activities can affect these global goals in various ways. Firms innovate and may develop solutions that can advance human well-being or safeguard nature. They may implement policies that advance greater equality or reduce environmental harm. But they can also deliver products that negatively impact the SDGs, or cause both positive and adverse impacts at the same time. Our SDG Framework navigates this complexity. Its philosophy is to determine whether a company generates a substantial impact on one or more of the 17 global goals, and to judge if its overall impact on all the SDGs is conducive or harmful to sustainable development.

The Framework consists of a three-step sequence. First, we analyze the impact of a company's products on the SDGs. Second, we investigate how companies operate in relation to sustainability. Finally, we screen companies on controversial behavior that could negatively influence the goals.

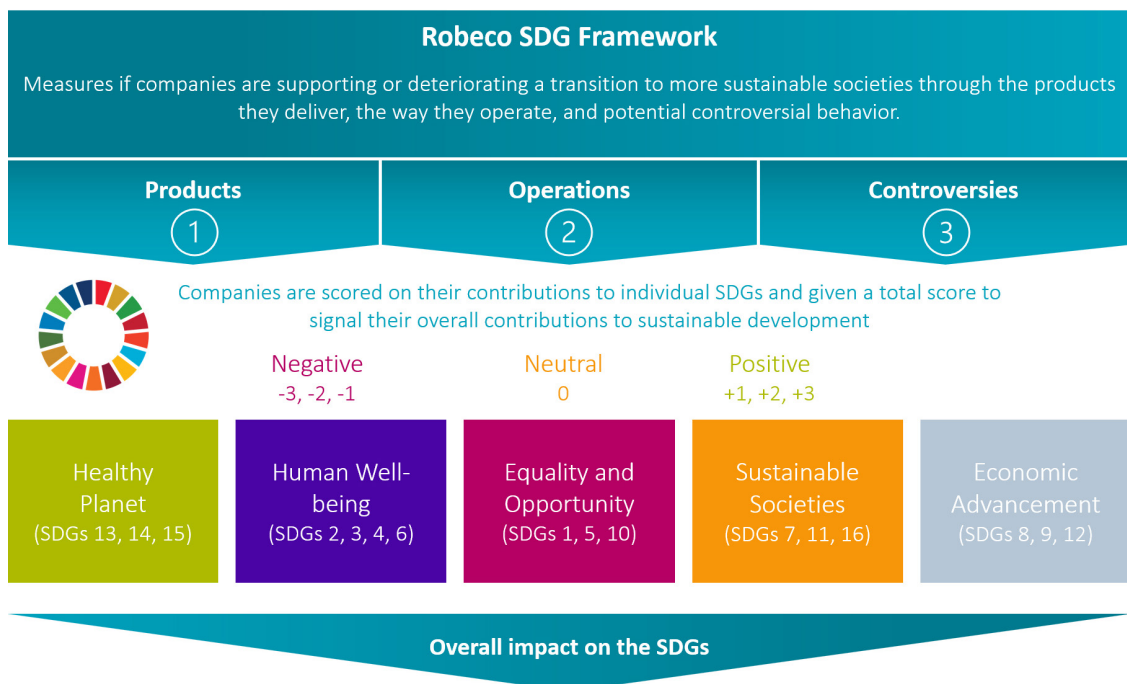
Following these three steps, we score companies' impacts on each of the SDGs. The scores range from highly positive (+3) through neutral (0) to highly negative (-3). A company may thus impact multiple SDGs, whereby each of these impacts may be positive or negative at various levels. Finally, we calculate a total SDG score for each company that is indicative of a firm's overall impact on the goals.

Step 1

What products and services does the company provide?

We believe that companies' core impacts stem from their core business, not from peripheral activities. As such, we have developed a robust and rules-based approach to consistently assess the SDG impact of the products and services that companies deliver. More specifically, we have formulated around 200 sector-specific key performance indicators (KPIs) spanning more than 60 industries that are linked to the official targets of the SDGs. Some KPIs gauge positive impacts on these goals. An example is the share of total revenues that companies generate from

Figure 1 | Robeco SDG Framework



Source: Robeco

wastewater treatment, which has a strong link to SDG 6 (Clean water and sanitation) and its target 6.3. Other KPIs are developed to capture negative impacts, such as the share of revenues generated from alcoholic beverage sales, which counteracts the achievement of SDG 3 (Good health and well-being) and its target 3.5 which focuses on substance abuse.

In the table below, we show the KPIs that are applied to companies in the food (ex. fish) sector. KPI 1 assigns companies with significant exposure to healthy food a positive score on SDG 2 (Zero hunger) and SDG 3 but neutral or even negative scores to companies where this is not a focus area. Our SDG Framework assigns higher scores to companies that

provide products and services related to basic needs in emerging markets, as this is where these products are most needed. For nutritious food this is reflected in KPI 2. Furthermore, due to their known adverse environmental impacts, producers of beef, lamb and mutton are assigned negative scores on SDG 2, due to their unsustainable food production; to SDG 6 due to their inefficient water use, and to SDG 13 (Climate action), due to their high greenhouse gas emissions). Their impacts on ecosystem deterioration also receive negative scores for SDG 14 (Life below water) and SDG 15 (Life on land). Conversely, companies that provide plant-based protein, often used as substitutes for meat-based meals, are assigned positive scores for their contribution to the food transition.

Sector: Food (excl. fish)

No.	KPI	Threshold	Score	SDGs
1	% revenues from healthy food	< 10	-1	2, 3
		>= 10	0	2, 3
		>= 33	+1	2, 3
		>= 67	+2	2, 3
2	% revenues from healthy food in EM	>= 33	+1 notch	2, 3
3	% revenues from beef/lamb/mutton	>= 20	-1	2, 6, 13, 14, 15
		>= 40	-2	2, 6, 13, 14, 15
		>= 60	-3	2, 6, 13, 14, 15
4	% revenues from plant-based protein	>= 5	+1	13, 14, 15
		>= 30	+2	13, 14, 15
		>= 80	+3	13, 14, 15
5	% revenues from confectionary	>= 33	-1	2, 3, 14, 15
		>= 67	-2	2, 3, 14, 15

Source: Robeco

Step 2

How do companies operate?

Whereas Step 1 assesses the impact of the products that companies deliver, Step 2 evaluates the processes with which companies create these products. Here, we examine if the way in which the firm operates is compatible with the SDGs. For instance, we check if companies cause pollution and whether they respect labor rights. This step consists of general KPIs that are relevant for any company, irrespective of the sector it operates in. Additionally, we developed KPIs that are sector-specific. As an example of a general KPI, we assess companies on five dimensions of gender equality. Examples are

whether a company offers paid parental leave for both caregivers, is closing the pay gap, or is making sure that women are equally represented across the organizational hierarchy. When companies do well on multiple indicators, they qualify for a positive score on SDG 5 (Gender equality).

For an example on sector-specific KPIs, we come back to the food sector. One of the key commodities that drives deforestation is palm oil. As such, we assess whether food companies that substantially rely on palm oil for their food production have adopted sustainable sourcing practices. Specifically, companies which source more than 80% of the palm

oil used in their products from RSPO-certified plantations are assigned positive scores on SDG 12 (Responsible consumption and production) and SDG 15, while companies with less than half of RSPO-certified palm oil receive a negative score on these goals.

Sector: Food (excl. fish)

KPI	Threshold	Score	SDGs
% of RSPO-certified palm oil sourced	< 50	-1	12, 15
	>= 80	+1	12, 15

Source: Robeco

Step 3
Is the company involved in controversial behavior?

A company can make impactful products and operate in the manner that is in harmony with people and planet, but still be subject to controversies and scandals that negatively impact the SDGs. Examples include oil spills, fraud, bribery and human rights abuses. For this reason, we assess whether companies have caused adverse impacts through such events, and how they have managed the situation.

As part of this analysis, we firstly assess the severity of the harm that has occurred across several relevant dimensions including 'scale' (the number of people or area of land affected), 'depth' (the degree of change experienced by stakeholders) and 'duration' (was it a one-off or prolonged impact?). Secondly, we check whether companies have remediated the damage or compensated stakeholders for the inflicted harm, and whether this was proportional and done proactively. Finally, we assess whether measures have been implemented to prevent such events from occurring again.

Based on these considerations, companies are assigned a score ranging from -3 (a highly negative impact) to 0 (no substantial impact) on the relevant SDGs.

Quantifying a company's overall SDG contribution

Once a company's impacts on the 17 SDGs has been assessed, its overall SDG score is calculated. This is done according to what we call the 'min-max' rule: a company without any negative scores on individual SDGs is assigned the highest (max) score as its overall SDG score. But if a company has a negative score on any of the SDGs, it will receive the lowest (min) score as its overall SDG score. This way, in line with the spirit of the SDGs, we do not allow companies to offset significant negative impacts on one goal with positive impacts on another. We believe this is an important and differentiating feature of our Framework compared to other SDG ratings that might offer an average SDG score or refrain from providing an overall judgement at all.

An overview of Robeco's SDG scores

Exposure to individual SDGs and sector distributions

Through our SDG Framework we assess the impacts of more than 12,000 issuers on the goals. In this chapter, we show how more than 2,750 constituents of the MSCI All Country World Index, a common market benchmark which spans developed and emerging markets, are ranked.

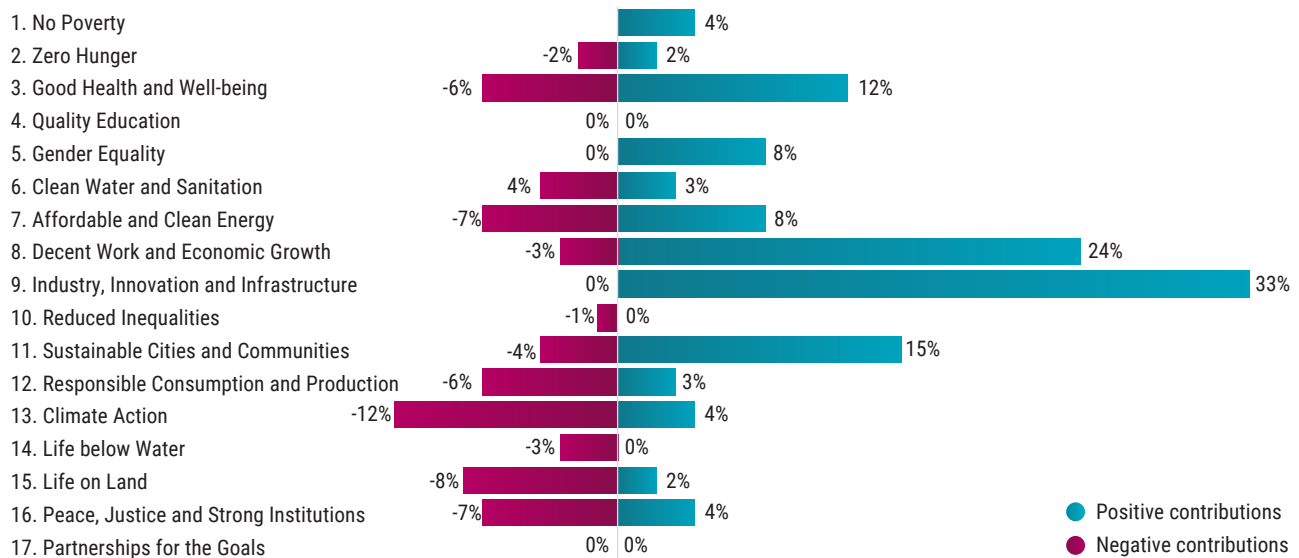
Approximately 27% of the assessed companies have negative impacts on the SDGs (scores of -1 to -3), and 20% make no significant contribution (score of 0), while 53% contribute positively (+1 to +3). Of the companies with a positive score, most generate low (+1) contributions. Only 7% of companies have a high positive (+3) impact

By breaking down this distribution across individual SDGs, we can examine which goals are most positively and negatively impacted by companies. The most positive exposure is associated with SDG 8 (Decent work and economic growth) and SDG 9 (Industry, innovation and infrastructure), for which 24% and 33% of companies respectively have positive

scores. Examples include banks providing finance to SMEs, which is reflected in the underlying targets of these SDGs (8.3 and 9.3). We also note a sizeable share of companies with a positive score on SDG 11 (Sustainable cities and communities), which include providers of affordable and/or sustainable housing, providers of public transport, and electric vehicle manufacturers.

Not surprisingly, most negative impact exposure is associated with SDG 13. This includes fossil fuel extractors or manufacturers of cars with internal combustion engines, but also airlines and cruise ships. Furthermore, 8% of companies have a negative score on SDG 15, which include producers of nitrogen or phosphorus fertilizers or food companies with insufficient certification for the palm oil they source. Finally, companies with negative scores on SDG 16 (Peace, justice and strong institutions) include controversial weapon manufacturers or companies involved in human rights abuses or bribery or corruption scandals.

Figure 2 | Positive and negative contributions to individual SDGs (MSCI ACWI)



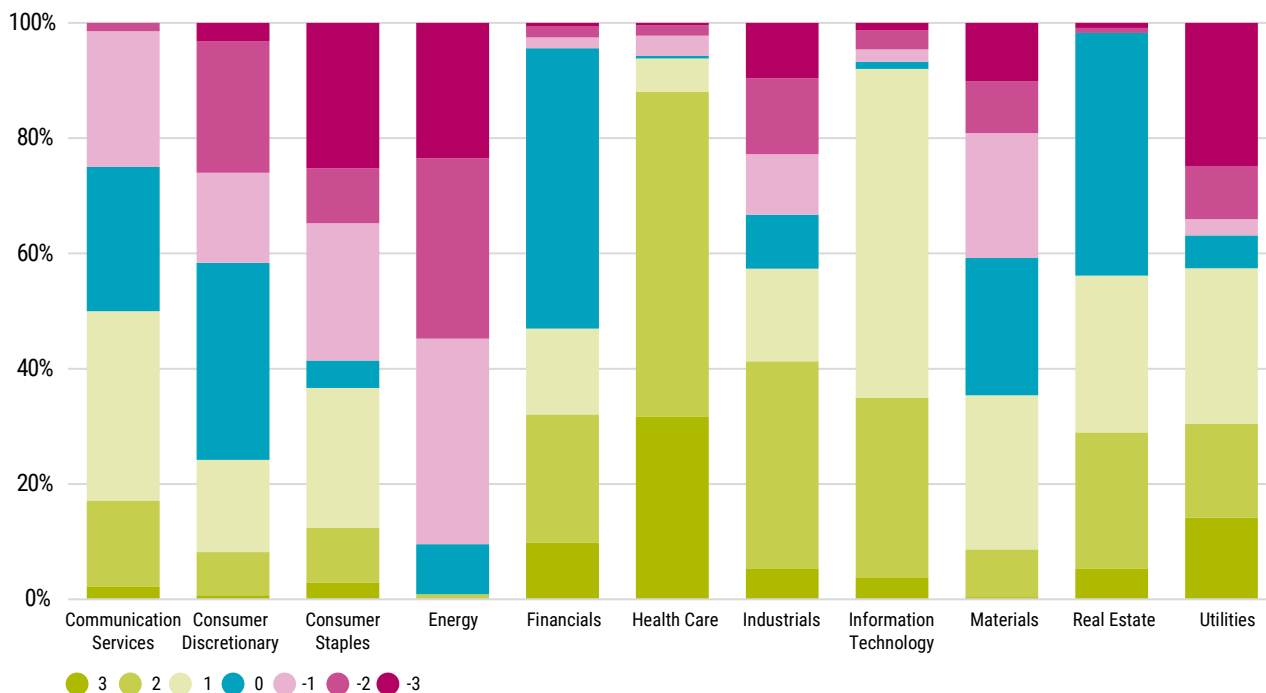
Data: as of 01-08-2024. Source: Robeco. The graph shows for each SDG the share of companies in the MSCI All Country World Index (n=2,756) with a positive (+1, +2 or +3) or negative (-1, -2, or -3) SDG score.

Source: Robeco

Next, we gauge which sectors have the most positive and negative exposure to the goals based on our Framework. After all, in contrast to ESG ratings, our SDG Framework is not sector agnostic. Our approach recognizes that certain industries are more geared to delivering positive impacts relative to others. Figure 3 shows that the vast majority of companies in the health care sector receive positive SDG scores. This includes pharmacy benefit managers, providers of health care equipment and facilities, and pharmaceutical makers. Negative scores in this industry primarily stem from excessive patent ever-greening and drug pricing strategies, which limit access to medication, and health care companies with significant product safety issues. Many information technology companies also get positive scores for their contribution to innovation and productivity growth.

Moving to the energy industry, many companies have negative SDG scores. Involvement in thermal coal or having thermal coal expansion plans leads outright to a -3 SDG score. Energy companies with a product mix primarily made up of oil are assigned a -2 score, while having a more balanced combination of oil and natural gas gets a -1 score. Significant natural gas exposure leads to a neutral SDG score, recognizing that this fossil fuel plays an important role in transitioning away from thermal coal in certain parts of the world. More than half of consumer staples companies also have negative SDG scores, including producers of sugary soft drinks, unhealthy food, alcoholic beverages, tobacco, and beef/lamb/mutton.

Figure 3 | SDG scores across industries (MSCI ACWI)



Data: as of 01-08-2024. Source: Robeco. The graph shows for each industry the distribution SDG scores assigned to constituents of the MSCI All Country World Index (n=2,756). Source: Robeco

SDG investment solutions

A multi-purpose SDG score

Robeco was among the first asset managers to provide clients with SDG-focused equity and credit products and has since developed a suite of SDG-aligned equity, fixed income and index-based strategies (for our most recent product overview, see Figure 4).

The SDG framework is used to define sustainable investments. A holding with a positive SDG score is considered a sustainable investment. For Robeco's thematic funds, companies with a neutral SDG score can be considered a sustainable investment for maximum 10% of the portfolios assets, if approved by the Controversial Behaviour Committee, which assesses that (i) the company's economic activity contributes to an environmental or social objective; and (ii) the activity does no significant harm.

The level of SDG alignment can be tailored to specific client preferences. For instance, in order to avoid exposure to companies that do significant harm,

investment strategies can exclude companies with negative SDG scores. Others may seek to align with positive impact by only investing in companies with an SDG score of +1 or higher. Another approach to contribute to the attainment of the SDGs is to invest in companies with mid-range SDG scores (between -1 and +1) and systematically engage with them on key sustainability issues that advance their SDG contributions, ultimately resulting in an increased SDG score.

Finally, investment strategies can align with specific sustainability themes that are aligned with clients' preferences, such as health and well-being, or biodiversity preservation. These solutions may focus on companies that have positive scores on the relevant SDGs in combination with avoiding negative overall SDG scores.

Research insights

Key findings from research featuring Robeco SDG scores

Insight 1: Our SDG scores have been academically tested on their ability to reflect positive and negative impacts

In our paper entitled 'ESG to SDG: Do Sustainable Investing Ratings Align with the Sustainability Preferences of Investors, Regulators, and Scientists?', we gauged if our SDG scores adequately capture companies' impact on sustainable development. In the absence of an objective reference point of companies that do good/harm, we tested whether our SDG scores reflect the sustainability preferences of investors, legislators and scientists, and how this compares to prominent ESG ratings.

We found that the SDG scores align well with these tests. Companies that are on asset owners' exclusion lists, those that breach the EU Taxonomy's do-no-significant-harm (DNSH) principle, and companies that are among the 100 highest carbon emitters predominantly get negative SDG scores. In addition, the majority of companies that have significant taxonomy-aligned revenues or provide solutions in the field of health and well-being, water and sanitation, or sustainable energy, are assigned positive SDG scores. Conversely, we found that none of the ESG ratings align with the sustainability preferences of investors, regulators and scientists. ESG ratings are not suited to differentiate between companies with positive and negative impacts. This confirms the validity of our SDG scores in capturing real-world impact.

Figure 5 | How do Sustainable investing ratings score companies that do harm?

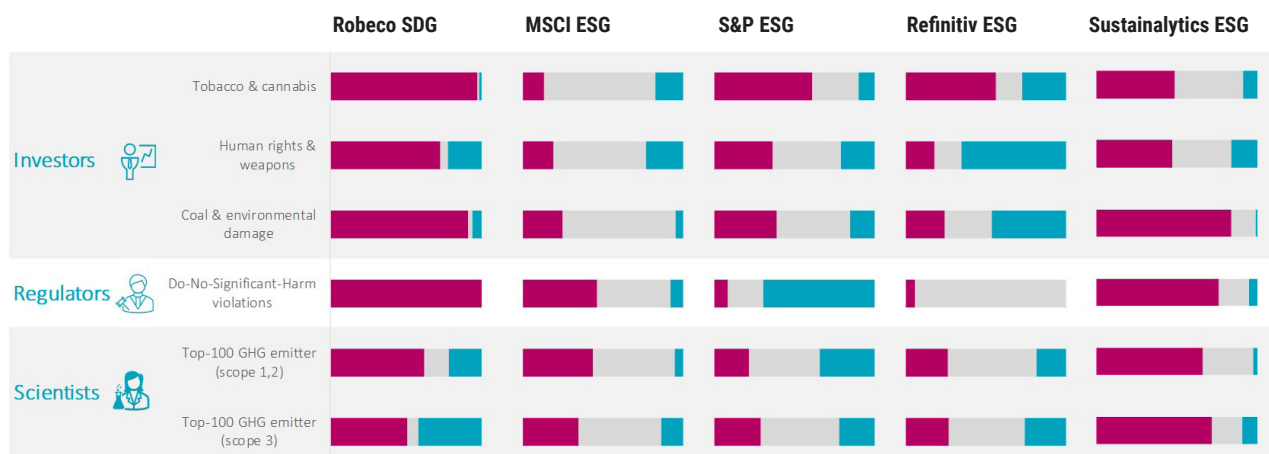
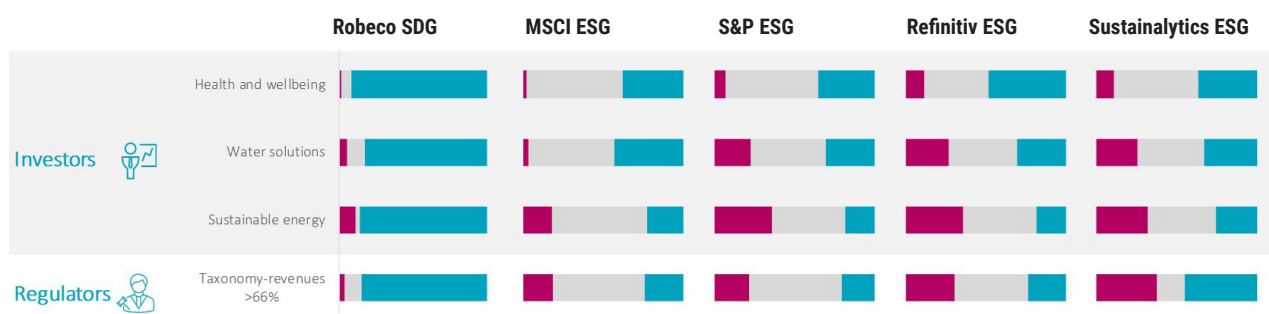


Figure 6 | How do Sustainable investing ratings score companies that provide sustainability solutions?



● Positive/good ● Negative/poor ● Neutral/average

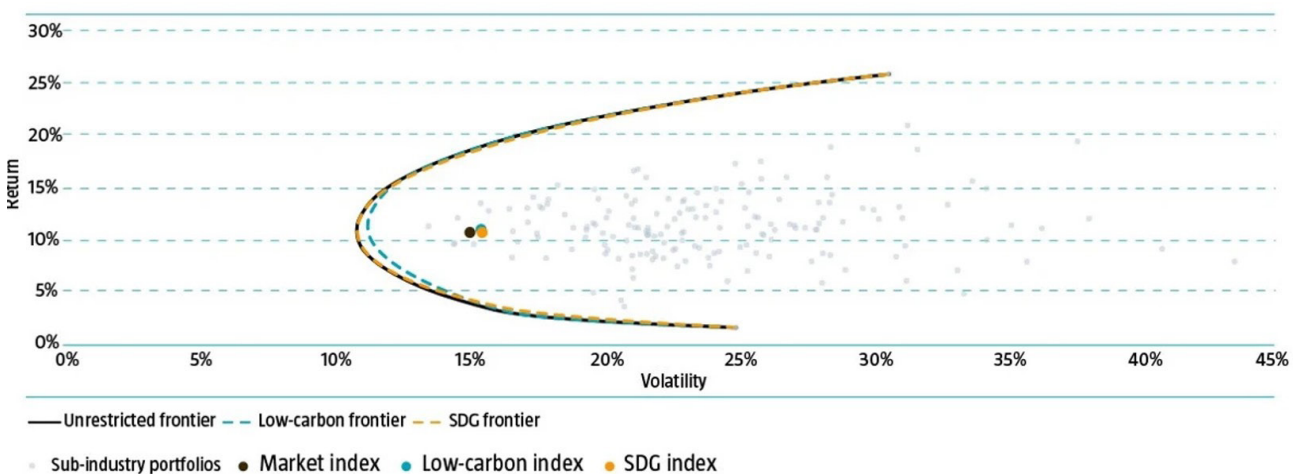
Explanation: The charts show what proportion of companies that investors, regulators, and climate scientists view as unsustainable receive a poor, moderate, or good sustainability rating. Data providers' definitions or quartile positions are used to label ratings as poor (Robeco SDG score = -1, -2, or -3; MSCI ESG rating = CCC or B; S&P and Refinitiv ESG rating = bottom 25%; Sustainalytics ESG risk rating >30); average (Robeco SDG score = 0; MSCI ESG rating = BB, BBB, or A; S&P and Refinitiv ESG rating = mid-50%; Sustainalytics ESG rating >20 <30) or good (Robeco SDG score = 1, 2, or 3; MSCI ESG rating = AA or AAA; S&P and Refinitiv ESG rating = top-25%; Sustainalytics ESG rating <20).

Insight 2: Investors can utilize an SDG lens without compromising their financial objectives

An often-heard concern is that a more selective investment approach, such as when incorporating sustainability considerations, would lead to lower returns and less diversification. We investigated this notion by running a historical simulation between two portfolios: one that avoids stocks with negative SDG scores and one that is unconstrained.

The findings show that the positive SDG investment approach did not lead to lower returns compared to the market index. In addition, the two portfolios showed highly similar risk levels and the diversification benefits were virtually identical. This suggests that investors can utilize an SDG lens without compromising their financial objectives.

Figure 7 | Return, risk and diversification characteristics are virtually identical for all three passive solutions



Source: FTSE, MSCI, Robeco. The sample period is January 1986 to November 2021. The figure shows that employing a simple low-carbon (blue dot) or positive SDG investment approach (orange dot) did not lead to lower historical returns compared to investing in the market index (black dot). The risk levels of the three passive solutions were also similar. The 'efficient frontiers' represent the set of optimal portfolios that offered the highest return for a defined level of volatility. Thus, the chart indicates that the potential diversification benefits were virtually identical for a more selective approach that incorporates sustainability (Low-carbon frontier and SDG frontier) and an unrestricted proposition (Unrestricted frontier).

Insight 3: We have seen that companies with higher SDG scores are less likely to be involved in future controversies

Scandals can lead to loss of stakeholder confidence and may have long-term reputational or financial consequences for companies. A research collaboration between Robeco and the University of Zurich led to a recent article titled 'Corporate Sustainability and Scandals', which examined the link between our SDG scores and involvement in future controversies.

It found that companies with higher SDG scores - even when the controversy screening (Step 3 of the Framework) is removed from the score calculation

- have a lower probability of being involved in scandals, and if they do become embroiled in scandals, these are less severe and affect fewer controversial topics. This suggests our SDG score is a useful tool for sustainability-minded investors that wish to not only improve their sustainability performance, but also avoid negative financial implications stemming from corporate scandals.

These findings can help investors to reduce exposure to the adverse environmental and societal impacts associated with scandals, as well as avoid the negative financial consequences of investing in firms becoming involved in them.

Insight 4: The SDG scores do not exhibit size, location or reporting biases

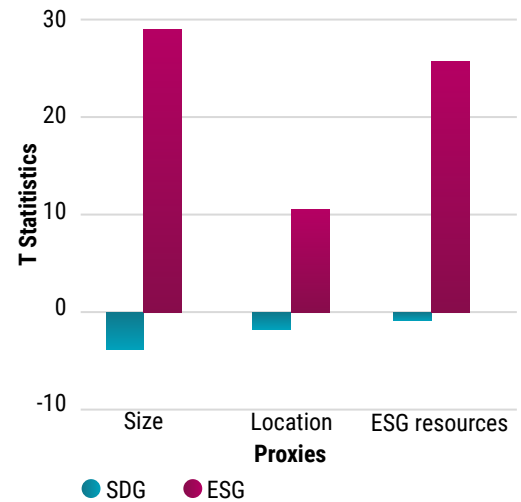
A common criticism of ESG ratings is that companies that are larger in size, are from developed countries, or have more resources for providing sustainability disclosures are assigned better ratings. Our SDG scores have been academically tested on whether they exhibit similar biases in a recent paper entitled 'Sustainability Matters: Company SDG Scores Need Not Have Size, Location, and ESG Disclosure Biases'. The findings suggest this is not the case, meaning SDG-aligned investment portfolios avoid undesirable biases stemming from the way our SDG scores are constructed. This is an important finding considering that investors have more potential to create positive impact by investing in companies that face capital constraints, a situation more common among smaller companies and those operating in emerging markets.

Insight 5: 3D investing can jointly optimize risk, return and impact

A recent paper entitled '3D Investing: Jointly optimizing return, risk and sustainability' demonstrates how traditional mean-variance portfolio optimization can be enhanced by adding sustainability as a third goal to traditional risk/return considerations, using the Robeco SDG scores as example.

It found that a 3D investment approach generally outperforms a traditional 2D model with sustainability constraints, i.e., using only an exclusion-based approach. The historical simulations show that 3D investing yields higher sustainability metrics and expected returns compared to a constraint-only

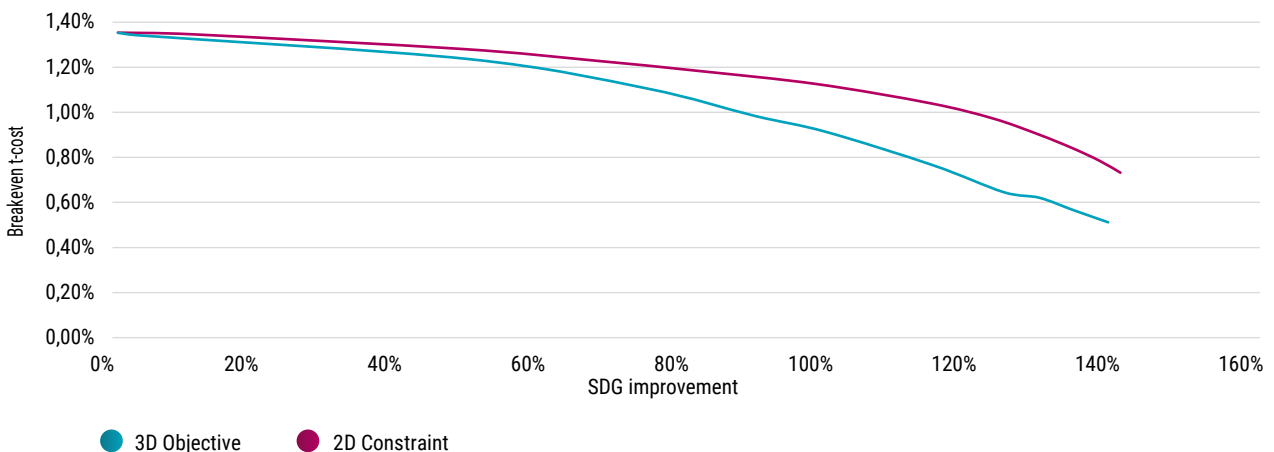
Figure 8 | The effects of size, location, and providing ESG data on SDG scores in comparison to ESG ratings



This figure illustrates the t-statistics of size (proxied by total assets), location (being listed in a developed market), and ESG resources (proxied by having a CSR committee) after estimating a linear mixed-effects model with the Robeco SDG and the Refinitiv ESG. These effects on SDG scores are either statistically insignificantly different from zero or show significant negative estimations. This is in stark contrast to the robust positive explanatory power of these factors on ESG ratings.

method. Still, using constraints in sustainable investing has merit. A combined strategy, blending a flexible sustainability constraint with integrating sustainability into the optimization process, offers a balance between return, risk and sustainability goals. For more ambitious sustainability aims, the 3D approach, which explicitly incorporates sustainability alongside alpha and risk, was found to be most effective.

Figure 9 | 3D vs 2D investing performance when targeting higher SDG scores



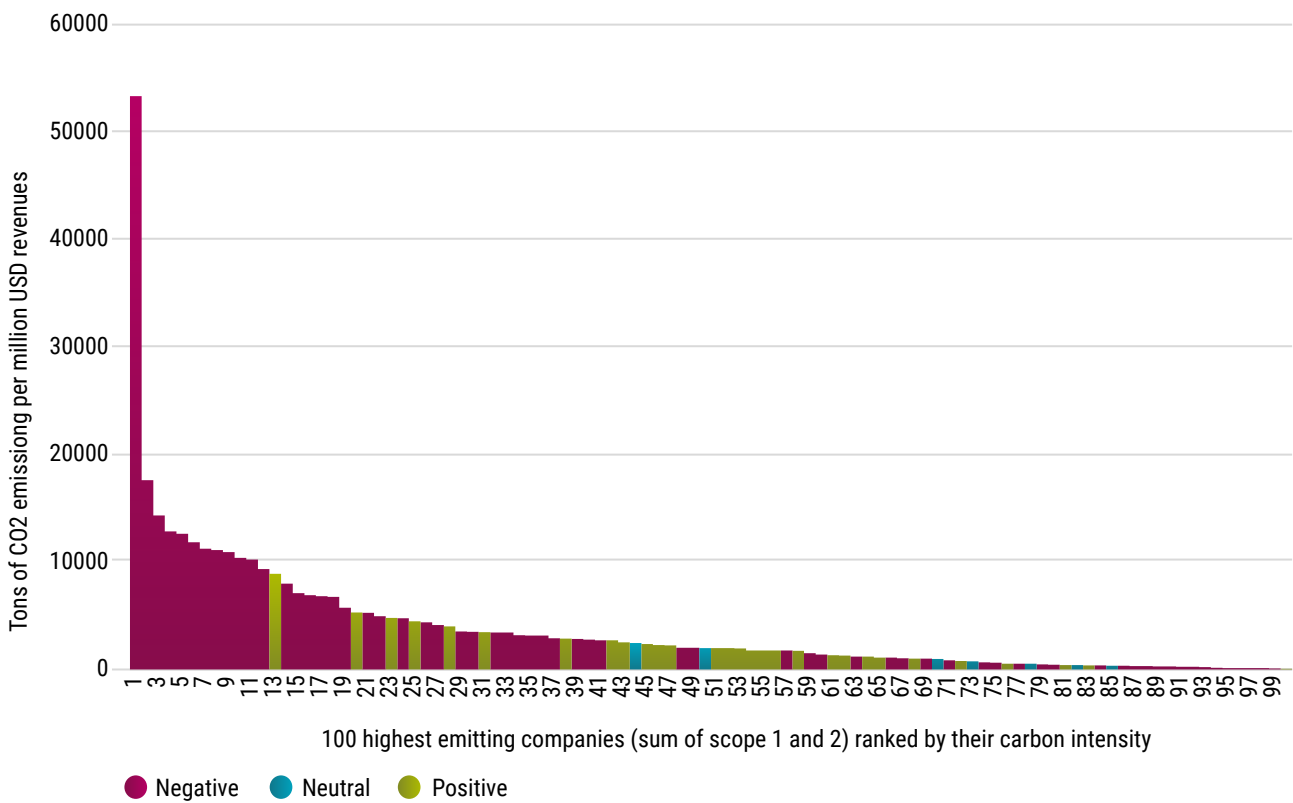
Source: Robeco. The graph shows that when targeting higher SDG scores above the benchmark, the 3D investing approach is superior to using a portfolio constraint from an after-cost return perspective. This is especially true when targeting more ambitious sustainability goals in lower tracking error quant portfolios.

Insight 6: Integrating the SDGs helps decarbonize portfolios

We find that aligning portfolios with the SDGs also leads to decarbonization. The 100 companies with the highest greenhouse gas emissions (sum of scope 1 and 2), account for around 75% of all emissions in the MSCI All Country World Index. Of these hundred highest emitters, 63 have a negative SDG score. Furthermore, we find that even though only around

27% of the companies in the entire index have a negative SDG score, these are responsible for 72% of all emission. In turn, the 53% of companies with a positive SDG score account for only 21% of the index's emissions. Thus, by increasingly avoiding negative scoring companies, investors will indirectly reduce exposure to high emitting firms, and thereby align with decarbonization objectives. The figure below shows these results.

Figure 10 | SDG scores of top-100 highest emitting companies (MSCI ACWI; scope 1 and 2; 2024)



Source: Robeco

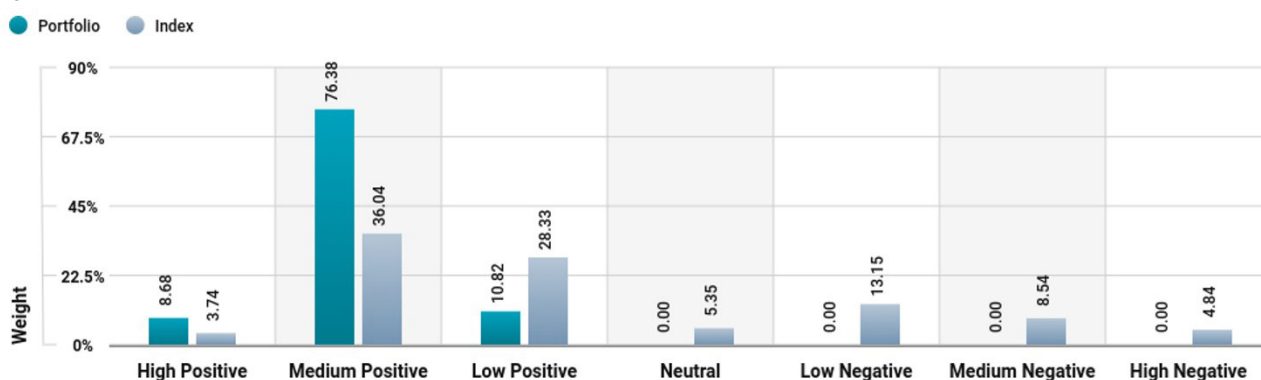
Impact measurement and reporting

'What gets measured gets managed'

Once portfolios have been constructed using the SDG scores, investors can report on the impact exposure of their portfolio across overall SDG scores or through individual SDGs. This is a powerful means of demonstrating to clients how their investments align with their sustainability commitments, and how the SDG alignment of their portfolio compares to the overall market.

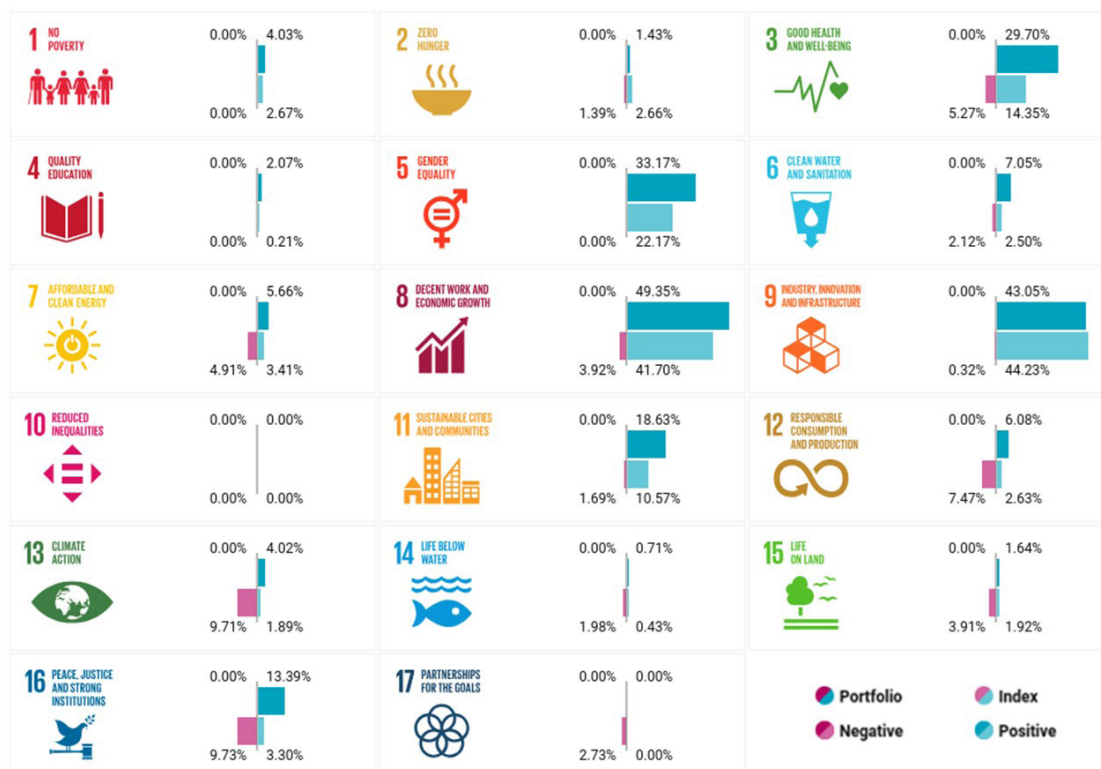
Robeco's SDG strategies seek to not only beat the market's financial returns, but also its SDG impact exposure. To illustrate the impact exposure of our SDG-focused products, we provide two reporting examples. The figures below show how the Robeco Global SDG Equities portfolio outperforms its respective benchmark on aggregate SDG impact (Figure 11) and in terms of impact on individual SDGs (Figure 12).

Figure 11 | Distribution across overall SDG scores



Robeco Global SDG Equities, Date as of 28-06-2024. Distribution across SDG scores: shows the portfolio weight allocated to holdings with a positive, neutral, and negative, alignment with the SDGs, for each type of score and compared to the index.

Figure 12 | Distribution across individual SDG scores



Robeco Global SDG Equities, Date as of 28-06-2024. This report shows the portfolio's impact alignment with the Sustainable Development Goals. The graphs depict the portfolio weight allocated to holdings contributing to (or detracting from) each individual SDG. As a holding can have an impact on several SDGs (or none), the values shown in the report do not sum to 100%

Quantifying real-world impacts

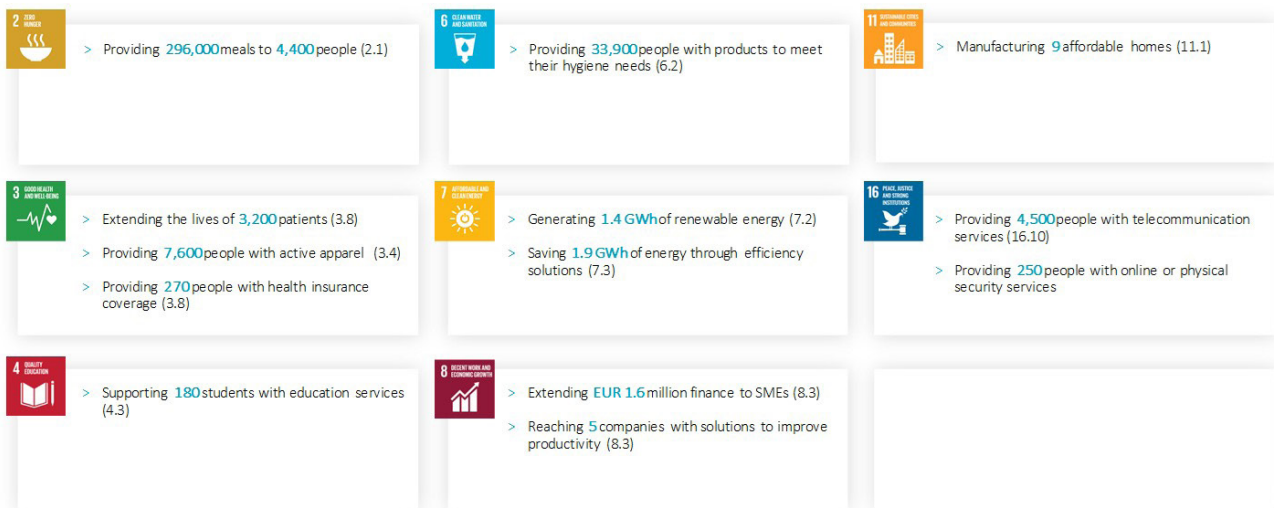
While the SDG Framework is a great tool to create investment strategies that are dedicated to the SDGs, it does not quantify the difference companies are making in the real world. For instance, a pharmaceutical company could receive an SDG score of +2 on SDG 3, indicating it has medium positive impact, thanks to its creation of adequate and safe medicines that help reduce mortality and morbidity. The next step is to quantify the outputs and outcomes such companies generate.

To this end, Robeco has created a related framework through which we quantify companies' contribution to relevant SDGs in a concise, consistent and

comparable manner. It consists of indicators that are linked to official SDG targets. For holdings with a positive SDG score, we measure the overall contribution and attribute part of this impact to our investment, based on the value of the holding relative to the company's enterprise value. In so doing, we only show the impact exposure that is attributable to our investment based on the capital we allocated. Next, the results are aggregated per impact indicator.

Below we provide an example of the impacts that are associated with the Robeco Global SDG Equities portfolio:

Figure 13 | In one year, a EUR 100 million investment in Robeco Global SDG Equities is associated with...



Source: Robeco, Sustainable Development Goals. The numbers in brackets represent the official UN SDG target or indicator the impact metric is linked to. The impact of 36 companies in the portfolio representing 69.9% of its market value has been aggregated, rounded and shown per EUR 100 million invested. The graphic displays an estimation of the associated impact of the companies in which Robeco Global SDG Equities is invested. It shall not be assumed that an investment in the portfolio does result in a direct or additional impact. Holdings as of July 31, 2024, assuming that stable proportion of the companies are held. Market value of the holding is normalized by the company's enterprise value.

Framework governance and maintenance

Ensuring continuous data quality and relevance

Governance

The job of ensuring continuous data quality and relevance requires input from and alignment between several important stakeholder groups. The governance around Robeco's SDG Framework is as follows:

SDG Governing Body – this is ultimately responsible for changes in and the final structure of the SDG Framework and its underlying methodology. It consists of Robeco's Impact Specialist, Head of SI Research, Head of Sustainability Integration, and Head of SI Thought Leadership.

SDG Operations – provides operational oversight of all functions related to the Framework.

SDG Committee – advises the SDG Governing Body on proposals for the SDG Framework, reviews SDG score distributions, and ensures effective implementation of SDG scores. Members include investment teams that apply SDG scores and analysts that use the SDG Framework to create those scores.

SDG Framework development

Robeco's SDG Framework is not static. Rather, we are continuously improving our approach using the latest scientific sustainability research and analysis. We frequently collaborate with academic researchers, members of the financial community and leading sustainability institutions in order to incorporate the latest data and analysis techniques that improve the Framework's ability to measure companies' SDG contributions.

Moreover, we welcome external feedback from SDG score users and the wider world through our SI Open Access initiative. Such feedback will enable us to capture more impact dimensions and further enhance the quality and reliability of SDG scores for the investment community.



Paul Ruijs
Impact Specialist



Rachel Whittaker
Head of SA Research



Masja van Zandbergen
Head Sustainability Integration



Lucian Peppelenbos
Head of SI Thought Leadership

Annex

Sector KPIs

In this annex we list the KPIs in Step 1 of the SDG Framework which determine the impact of the products and services that companies provide. If a company exceeds the threshold(s) of a particular KPI, a score will be assigned to the corresponding SDGs. Note that negative scores on an SDG override positive

scores. For instance, if a company in the beverages sector has a positive score for revenues from healthy beverages (KPI4) but also a negative score for soft drinks (KPI3), the total SDG score for this company will be negative.

Sector: Banking

No.	KPI	Threshold	Score	SDGs
1	% SME loans / total loans	≥ 15	+1	8, 9
		≥ 25	+2	8, 9
2	% mortgage loans / total loans	≥ 25	+1	11
		≥ 50	+2	11
3	% EM loans / total loans	≥ 33	+1	8, 9
		≥ 67	+2	8, 9
4	% public or social finance / total loans	≥ 33	+1	1, 8, 9, 10
		≥ 67	+2	1, 8, 9, 10
5	% public or social finance / total loans in EM	≥ 33	+2	1, 8, 9, 10
		≥ 67	+3	1, 8, 9, 10
6	% consumer loans in DM	≥ 20	0	1, 8, 9, 10, 11
If the company meets this threshold, all scores from KPI 1-5 become neutral				
7	% PPI from market income or investment banking	≥ 20	0	1, 8, 9, 10, 11
If the company meets this threshold, all scores from KPI 1-5 become neutral				
8	% PPI from (U)HNW individuals	≥ 20	0	1, 8, 9, 10, 11
If the company meets this threshold, all scores from KPI 1-5 become neutral				

Source: Robeco

Sector: Metals and Mining

No.	KPI	Threshold	Score	SDGs
1	% revenues from industrial materials	>= 67	+1	9, 11
2	% recycled materials used	>= 33	+2	9, 11, 12
3	Does the company have thermal coal expansion plans (Y/N)	Yes	-2	7, 13
4	% revenues from thermal coal	>= 10	-3	7, 13
5	% revenues from transition metals	>= 33	+1	7
		>= 67	+2	7
6	% equipment and services for mining	>= 33	0	12
7	% revenues from uranium mining	>= 10	+1	7
If the company meets this threshold, KPI 8, 9 & 10 are mandatory				
8	Does the company have operations in nations that have not signed the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management? (Y/N)	Yes	-2	12, 16
9	Does the company have operations in countries that have an NTI Nuclear Security Index score <60 (Y/N)	Yes	-2	12, 16
10	Does the company have explicit guidelines not to sell uranium for weapon manufacturing? (Y/N)	No	-2	12, 16
11	Has the company adopted or committed to adopt the Global Industry Standard on Tailings Management (GISTM)	No	-1	12, 15

Sector: Beverages

No.	KPI	Threshold	Score	SDGs
1	% revenues from tea and/or coffee	>= 33	0	2
2	% revenues from alcoholic beverages	>= 10	-1	3
		>= 33	-2	3
		>= 67	-3	3
3	% revenues from soft drinks	>= 10	-1	3, 12, 14, 15
		>= 33	-2	3, 12, 14, 15
		>= 67	-3	3, 12, 14, 15
4	% revenues from healthy beverages	>= 33	+1	2, 3
		>= 67	+2	2, 3
5	% revenues from bottled water	>= 33	+1	6
6	% revenues from equipment and services for beverages	>= 5	-2	3

Integration of PAIs in Robeco's SDG Framework

Robeco's SDG Framework provides a consistent, rules-based approach for assessing companies' impacts on sustainable development. Following a three-step process - products, operations and controversies - companies are assigned a score ranging from -3 to +3 on the 17 individual SDGs. These are consolidated into an overall score according to a so-called 'min-max' rule: a company without any negative scores on individual SDGs is assigned the highest (max) of these 17 individual scores as its overall SDG score. But if a company has a negative score on any of the SDGs, it will receive the lowest (min) of these scores.

Our SDG Framework focuses on significant impact. Scores (other than 0) are only assigned when we deem a company to have significant on the relevant SDG, taking into account a materiality principle. This is assessed through industry-specific KPIs and corresponding thresholds. For instance, solar panels are considered positive for SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action). However, companies need to generate at least 33% of their revenues from this product category to receive a positive score on these SDGs. Similarly, we consider coal-fired power generation to have a significant adverse impact on SDGs 7 and 13 due to the high carbon intensity. If companies generate more than 10% of their revenues from this activity, a negative score is assigned. Based on the SDG framework, Robeco's approach to the Do No Significant Harm Assessment applies the following thresholds:

- All negative SDG scores (-3, -2, -1) indicate that there is Significant Harm. The corresponding company will not qualify as Sustainable Investment under the Sustainable Finance Disclosure Regulation.
- All companies with a positive overall SDG score (1, 2, 3) qualify as Sustainable Investment under the Sustainable Finance Disclosure Regulation (SFDR).

A positive overall SDG score indicates, amongst others, that the Do No Significant Harm principle is upheld, as companies that are considered to cause significant negative impact via the abovementioned KPIs will receive a negative SDG score on the relevant SDG, and through the 'min-max' rule are unable to receive a positive overall score¹. This means that, in line with the DNSH principle, companies cannot

qualify as Sustainable Investment while simultaneously causing material harm elsewhere. Alongside the SDG Framework, Robeco's Exclusion Policy and Controversy Screening are used to flag companies causing significant harm through product-based and events-based criteria respectively. Firms listed under Robeco's Exclusions or involved in major controversies receive a negative SDG score, disqualifying them from being classified as Sustainable Investments.

Our SDG Framework considers and incorporates the PAIs as relevant factors to evaluate DNSH, as will be described in detail in the Table below. For some PAIs we apply direct thresholds, such as for exposure to controversial weapons (PAI 14) and violations of UNGC and OECD guidelines (PAI 10). For other PAIs, we use a more nuanced, indirect approach in order to avoid unintended and undesired sustainability outcomes. For instance, producing windfarms is associated with substantial GHG emissions due to the amount of steel that is required, but their positive climate outcomes in terms of avoided emissions are higher. Disqualifying these companies for their high emissions intensities through a direct quantitative threshold would be counterproductive from a climate impact perspective.

The Table below provides a high-level overview of how the PAIs are incorporated into Robeco's SDG Framework as a way to identify and mitigate Significant Harm. It will illustrate our nuanced approach to DNSH assessment, which is based on more than industry-specific 200 KPIs that are carefully selected and tested for capturing the positive and negative impacts that are material to a specific industry.

Following the Table, we present statistical evidence on the correlations between individual PAIs and the SDG scores. This analysis demonstrates the effectiveness of the SDG Framework in identifying and mitigating adverse impacts as measured by these PAIs.

¹ Under SFDR, an investment may only be classified as "sustainable" if no significant harm is done to other environmental or social objectives. In other words, the investment does not materially compromise any other sustainability objective

#	Mandatory PAI	How this PAI is integrated in the SDG Framework
1	GHG emissions	The SDG Framework assesses whether companies cause significant adverse impacts on climate change by considering the GHG emissions associated with the production and use of a company's products/ services. Companies whose products/services are associated with high GHG emissions, such as those active in the fossil fuel or airline industries, are likely to get negative SDG scores through the revenue-based KPIs for these products. Companies whose products/services are in scope of Robeco's Exclusion Policy for the climate-related criteria receive a negative SDG score. As such, they will not classify as sustainable investments. For some products that are important for sustainable development but are associated with high emissions, we have specific KPIs that assess their impact on climate change. For instance, for cement production (sector: Building Materials) and power generation (sector: Utilities) we have KPIs in place that assess the GHG intensity per unit of production. For cement producers, this threshold is set at 532 kg of GHG emissions per ton of cement, meaning cement producers with higher emissions intensities cannot attain a positive SDG score. For Utilities, the power generation threshold is set at 335 gCO ₂ /KWh. As a result, more carbon-efficient companies active in these industries qualify as sustainable investment, while others with higher emission intensities do not. This is to reflect that these products and/or services contribute to sustainable development as long as GHG emissions remain below respective sector decarbonization pathways.
2	Carbon footprint	See PAI 1
3	GHG intensity of investee companies	See PAI 1
4	Exposure to companies active in the fossil fuel sector	For relevant sectors, including Energy (exploration and production; oil and gas storage and transportation; refineries; services), Utilities (electric and gas), and Metals and Mining, the SDG framework measures to what extent issuers have significant exposure to the fossil fuel sector. Additional checks are made to gauge whether issuers also have exposure to unconventional oil and gas activity. Companies with significant exposure to thermal coal, oil, unconventional oil and gas, and natural gas, will obtain negative or neutral SDG scores and therefore will not qualify as sustainable investments.
5	Share of nonrenewable energy consumption and production	Robeco's SDG Framework assesses the share of nonrenewable energy production of companies active in relevant sectors, including Energy (exploration and production) and Utilities (electric and gas). Companies in these sectors with a high share of nonrenewable energy production will get a negative or neutral SDG score and therefore do not classify as a sustainable investment. Robeco's SDG Framework does not assess the share of nonrenewable energy consumption of issuers in other sectors as this is highly context dependent. For instance, the availability of renewable energy (production) varies market-by-market and some (production) processes of products we consider essential for societal development, such as steelmaking, with renewable energy are not yet technologically feasible at scale.
6	Energy consumption intensity per high impact climate sector	Robeco's SDG Framework evaluates whether companies cause significant adverse impacts on climate change by assessing the GHG emissions linked to their products and operations (see PAIs 1–4). Given the close relationship between GHG emissions and energy use, this focus on GHG intensities in high-impact climate sectors (e.g., cement, utilities) ensures that non-renewable energy consumption is reflected in companies' SDG scores and that companies with high energy consumption will get a negative or neutral SDG score and therefore do not classify as a sustainable investment.
7	Activities negatively affecting biodiversity sensitive areas	Robeco's SDG Framework gauges the adverse impacts on biodiversity rich areas of companies operating in sub-sectors with a negative influence on ecosystems. This includes the paper and pulp sector, where companies with low rates of recycling and sustainability certification get neutral SDG scores; the food sector, where companies producing significant volumes of beef, lamb, and mutton get negative SDG scores; and the fish sector, where companies with low rates of sustainability certification get negative or neutral SDG scores. As a result, they will not classify as sustainable investments.
8	Emissions to water	Robeco's SDG Framework assesses whether companies are involved in controversies, which includes significant adverse impacts through emissions to water. When this occurs, we qualitatively evaluate the severity of the harm and whether the company has effectively remediated the harm it caused and implemented measures to prevent such events from occurring in the future. If this is deemed insufficient, a negative SDG score is assigned, and the company will not be eligible as a sustainable investment.

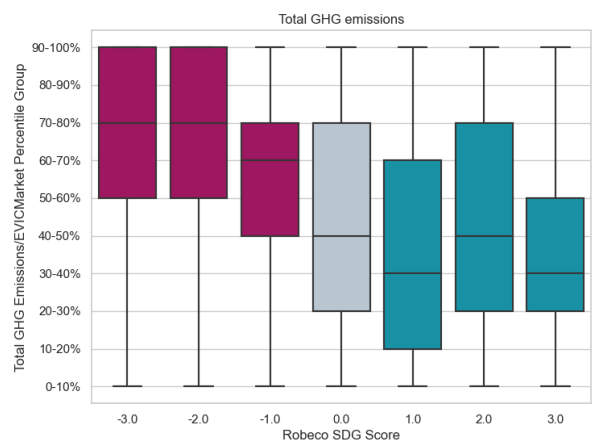
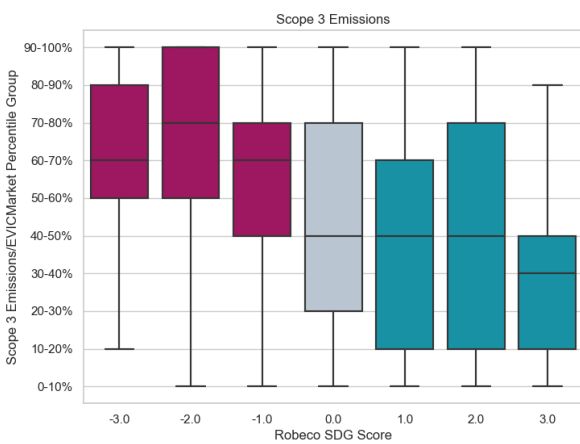
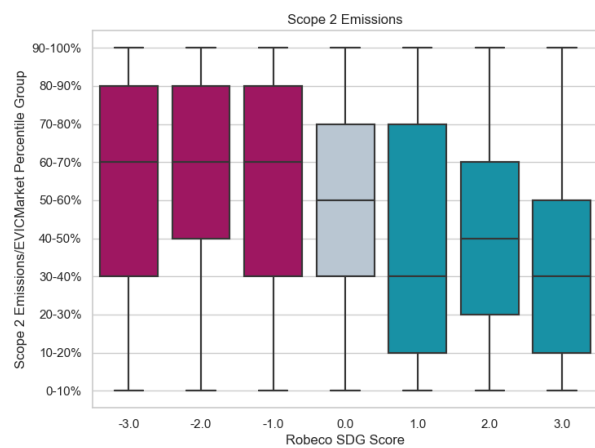
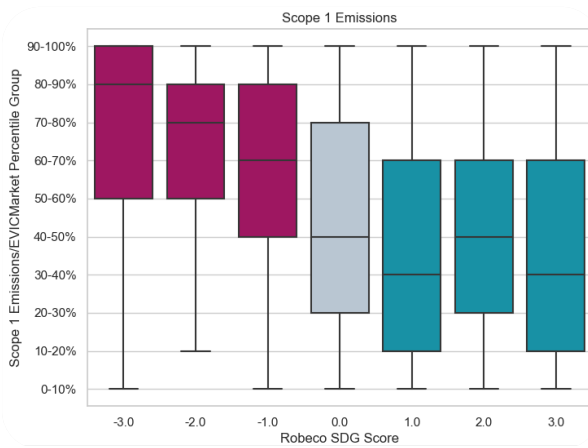
9	Hazardous waste ratio	For various sectors, Robeco's SDG Framework assesses the hazardous waste generated by companies. For instance, mining companies involved in uranium mining and utilities involved in nuclear energy without a robust and credible approach for dealing with radioactive waste will get a negative SDG score and, as a result, cannot qualify as sustainable investments. Mining companies that have not committed to the Global Industry Standards on Tailings Management while having tailings stored in facilities with a high or more severe hazard classification similarly receive a negative SDG score. Relatedly, chemical companies are assessed on hazardous products in their portfolio and whether they have phase-out plans in place, which may result in a negative SDG score. The SDG Framework also assesses whether companies are involved in controversies related to disposal of hazardous substances. When this occurs, we qualitatively evaluate the severity of the harm and whether the company has effectively remediated the harm it caused and implemented measures to prevent such events from occurring in the future. If this is deemed insufficient, a negative SDG score is assigned, and the company will not be eligible as a sustainable investment.
10	Violations of UNGC and OECD Guidelines for Multinational Enterprises	Robeco's SDG Framework assesses whether companies are respecting international guidelines for responsible behavior, including the UNGC principles or OECD Guidelines for Multinational Enterprises. Companies violating such guidelines and principles are assigned a negative SDG score and will therefore not qualify as a sustainable investment.
11	Lack of processes and compliance mechanisms to monitor compliance with UNGC and OECD Guidelines for Multinational Enterprises	Robeco's SDG Framework evaluates the maturity of companies' processes and compliance mechanisms in relation to international guidelines for responsible business conduct, including the UNGC principles and OECD Guidelines for Multinational Enterprises. Companies where there is serious concern about the absence of processes and mechanisms, a negative SDG score is assigned and will therefore not qualify as a sustainable investment. Rather than screening for the existence of policies or compliance mechanisms, the framework focuses on assessing the actual outcomes of these policies (see PAI 10).
12	Unadjusted gender pay gap	Robeco's SDG Framework applies a gender screening that evaluates companies across several criteria aimed at advancing gender equality. The gender pay gap is one of the five criteria that is being used. The other criteria are: board gender diversity, the management gender diversity, the ratio of women in management related to women in total workforce, and the quality of parental leave policies. Companies that perform well on 3 out of the 5 criteria receive a positive SDG score and can therefore qualify as sustainable investments, while poor performers are not necessarily assigned a negative SDG score because performance is typically culturally dependent and heavily varies by region. Companies do receive negative scores in case of controversies, in which case these will not qualify as sustainable investments.
13	Board gender diversity	Robeco's SDG Framework applies a gender screening that evaluates companies across several criteria aimed at advancing gender equality. Board gender diversity is one of the five criteria that is being used. The other criteria are: gender diversity in management, ratio of women in management related to women in total workforce, the pay gap, and the quality of parental leave policies. Companies that perform well on 3 out of the 5 criteria receive a positive SDG score and can therefore qualify as sustainable investments, while poor performers are not assigned a negative SDG score.
14	Exposure to controversial weapons (antipersonnel mines, cluster munitions, chemical weapons and biological weapons)	Robeco's SDG Framework screens whether companies are involved in the manufacture or selling of controversial weapons. Companies generating any amount of revenues (>0%) from controversial weapons are assigned a negative SDG score and will therefore not qualify as a sustainable investment.

Ex-post assessment

In this section we show the results of an analysis we conducted into the correlations between individual PAIs and the SDG scores. To do so, we merged the SDG scores of over 11,000 issuers with their latest PAI data from MSCI, TruCost, Sustainalytics, S&P and Robeco's own metrics (mainly FY2023 data). The PAI data comprises a mix of numerical (e.g. GHG emissions) and categorical variables (e.g. UNGC violations). Issuers were grouped by their SDG scores and we created decile groups for the relevant metrics to allow for easier interpretation and comparison despite large outliers. Finally, per metric we carried out significance tests between the different SDG groups to check the validity of our conclusions.

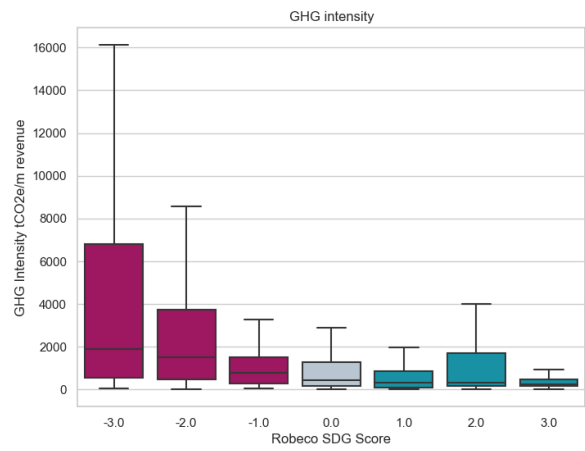
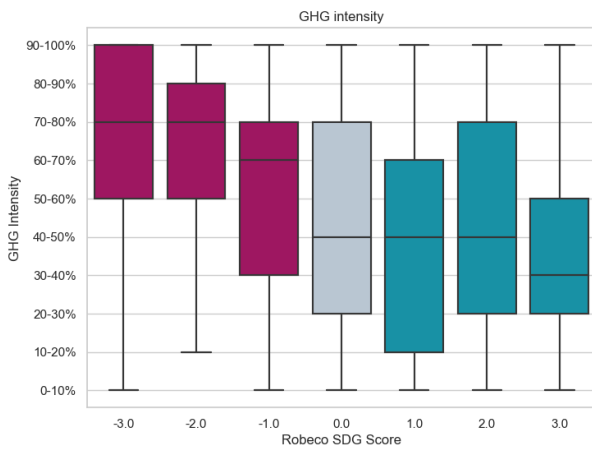
PAI 1 ex post assessment

There is a high negative correlation between companies' SDG scores and GHG emissions. Companies with negative SDG scores have substantially higher GHG emissions and thus perform worse on these PAIs compared to companies with positive SDG scores. High GHG emitters are found in all groups but especially those with negative SDG scores. High emitters with positive SDG scores are solution providers (though not necessarily climate/biodiversity solutions).



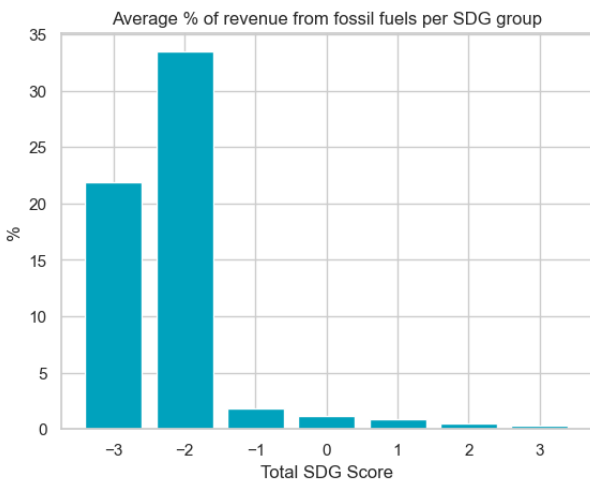
PAI 3 ex post assessment

There is a high negative correlation between companies' SDG scores and GHG emission intensities. Companies with negative SDG scores have substantially worse GHG intensity performance on these compared to companies with positive SDG scores. Very high emitters are mainly concentrated in the -2 and -3 scoring cohort



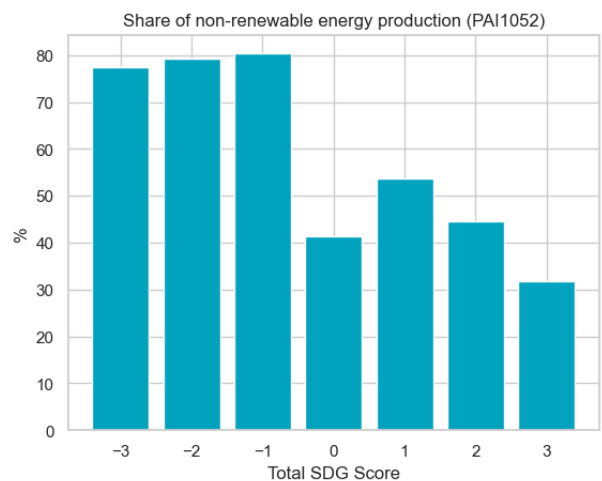
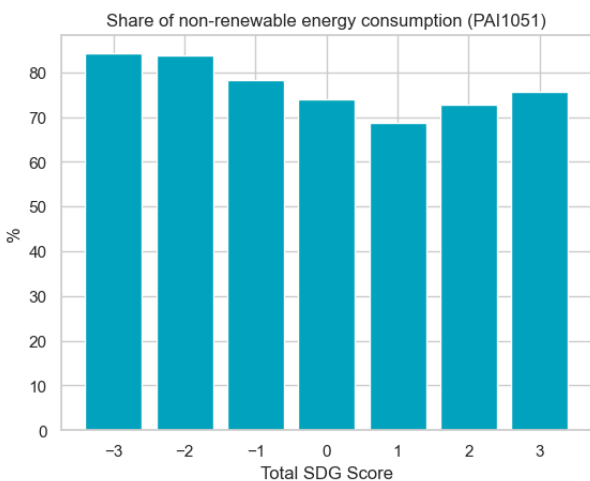
PAI 4 ex post assessment

Fossil fuel exposure is heavily associated with negative SDG scores. Companies that perform poorly on this PAI are unlikely to qualify as sustainable investment. Relatedly, the average fossil fuel revenues of companies with positive SDG scores is <1%.



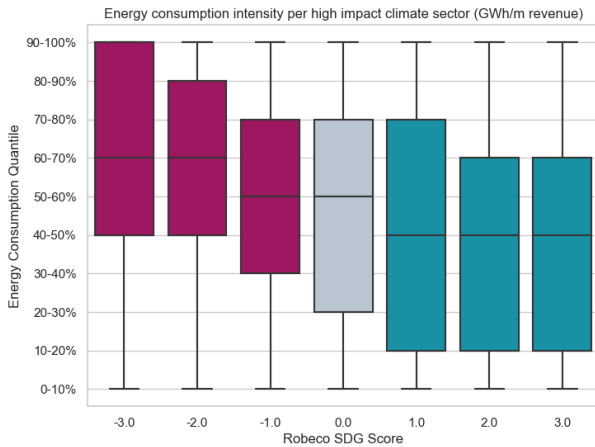
PAI 5 ex post assessment

High shares of non-renewable energy production is heavily associated with negative SDG scores, with the share of non-renewable energy production of companies with neutral and positive scores being significantly lower than for negatively SDG-scoring companies. Also the share of non-renewable consumption is typically lower for positively scoring companies, though this link is less strong.



PAI 6 ex post assessment

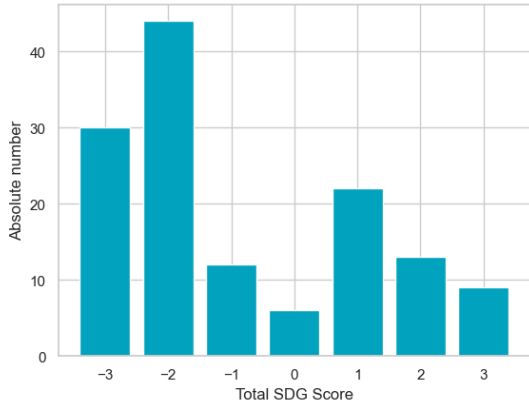
Energy consumption intensity for high-impact climate sectors is typically lower in positive rated issuers. One explanation for this is that companies in energy intensive industries are more likely to be assigned low SDG scores.



PAI 7 ex post assessment

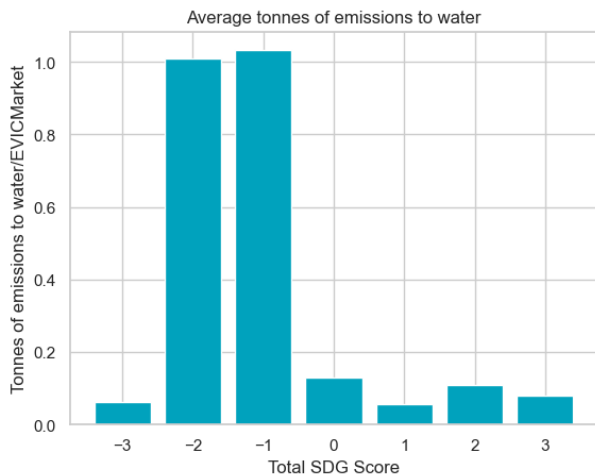
The majority of companies with operations that negatively affect biodiversity-sensitive areas receive negative SDG ratings. Several companies that are being flagged by the data also receive positive scores, including pharmaceutical companies.

Number of companies with activities negatively affecting biodiversity-sensitive areas



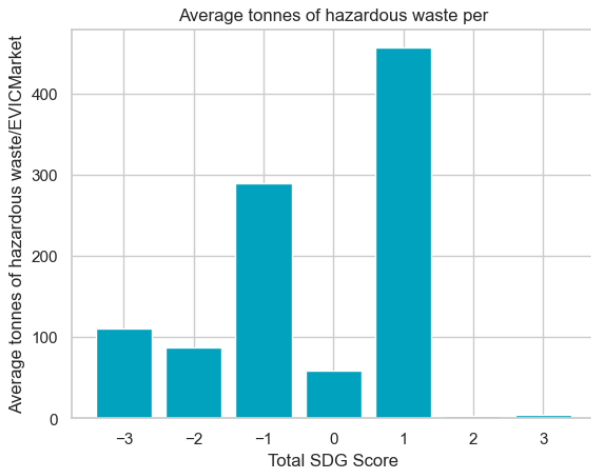
PAI 8 ex post assessment

Emissions to water is heavily associated with negative SDG scores. On average, these emissions are concentrated among -1 and -2 rated issuers, which are ineligible to qualify as sustainable investment.



PAI 9 ex post assessment

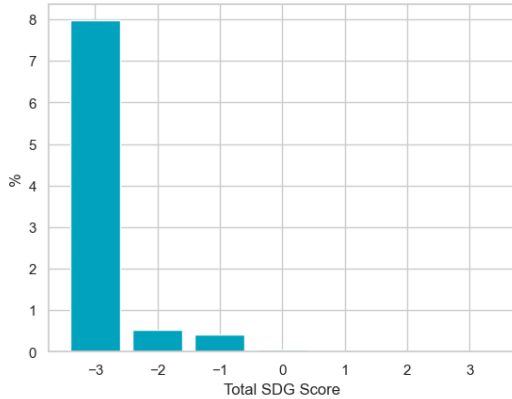
We do not observe a clear relationship between SDG scores and hazardous waste. On average, companies with a +1 score produce the most hazardous waste. These results are heavily skewed by the metals and mining sector, which, by nature, accounts for the highest average volume of hazardous waste per company by a large margin. It is good to note that average hazardous waste for +2 and +3 scoring companies is minimal.



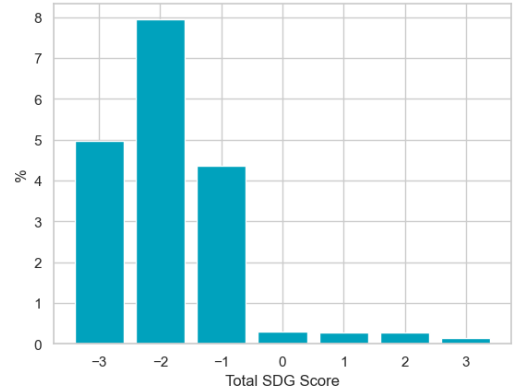
PAI 10 ex post assessment

There is a clear link between this PAI and SDG scores: all issuers which have violated the UNGC principles or OECD guidelines have negative ratings. Issuers on watch-lists generally receive negative ratings, with a few exceptions.

Proportion of companies that have violated the UNGC principles or OECD guidelines



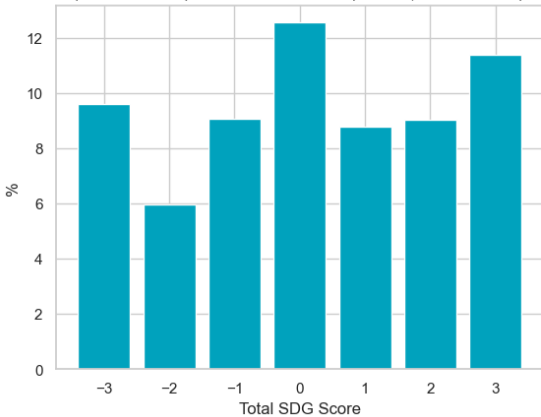
Proportion of companies on the watch-list for the UNGC principles or OECD guidelines



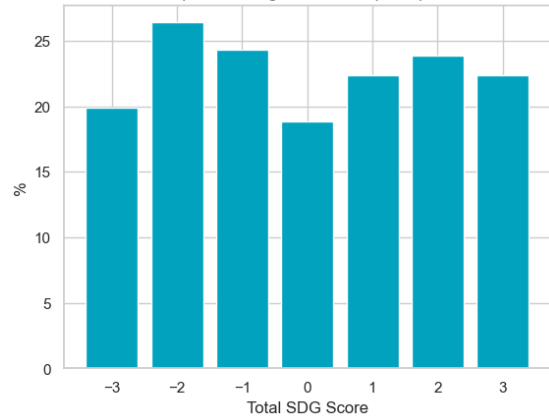
PAI 11 ex post assessment

There is no strong relationship between SDG scores and the presence of monitoring or compliance procedures, since the scoring reflects real-world impacts rather than policies and governance structures.

% of companies without policies to monitor compliance (UNGC/OECD principles)

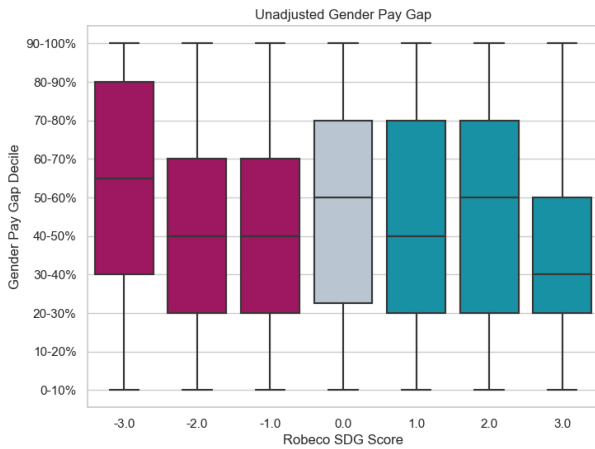


% of companies with grievance complaint procedures



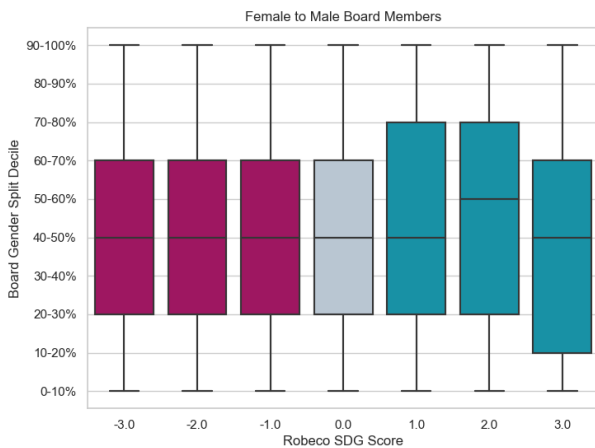
PAI 12 ex post assessment

There is no strong relationship between the unadjusted gender pay gap and SDG scores. The unadjusted pay gap does not vary significantly across companies with positive, neutral, or negative scores. This is primarily because the framework evaluates gender equality holistically rather than focusing on a single indicator.



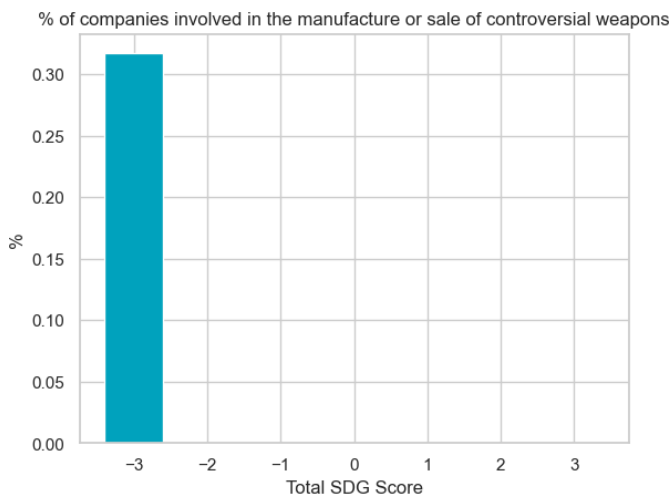
PAI 13 ex post assessment

There is no strong relationship between board gender diversity and SDG scores. The proportion of female board members does not vary significantly across companies with positive, neutral, or negative scores. This is primarily because the framework evaluates gender equality holistically rather than focusing on a single indicator.



PAI 14 ex post assessment

All companies with exposure to controversial weapons receive high negative (-3) SDG scores.



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