Tortoise.

The Responsibility100 Index

Methodology

1.0 Summary

The Responsibility100 Index is a comparative ranking of the FTSE 100 companies based on measurements of their contribution to the UN's Sustainable Development Goals for 2030. It uses data from a range of sources; including non-governmental organisation research, annual and sustainability reporting, web-based searching, and material from Companies House and regulatory bodies. The indicators that comprise the Index have been selected to measure contributions to the SDGs according to a variety of qualitative and quantitative measures and to provide as comprehensive a portrait of each company given the data available in order to establish comparability.

1.1 What does the methodology report show?

This document is a detailed explanation of the sources, definitions, indicators and weightings that form The Responsibility100 Index. It is intended to clarify our methodology and to outline the conceptual basis upon which we have put the data to use. It also addresses the aims of the investigation, and the ground for the presentation of the data in the form of a comparative index. In addition it contains a full table showing our indicators, the pillars into which they are organised, their respective weightings and the rationale for their inclusion in the Index. We comment on the quality of the data-set that underpins The Responsibility100 Index indicators and its impact on our reporting.

We hope that this paper will help to demonstrate the conceptual framework upon which the Index is based, and provide a transparent explanation of our process and thinking. The purpose of a comparative index is to accelerate a 'race to the top' by highlighting successful practices, as well as to put pressure on companies that are underperforming to adapt or improve.

Built into the Index is the recognition that the future of sustainable development relies upon cooperation, transparency and meaningful (rather than cosmetic) action. Our methodology has been developed with great care and in consultation with many outside authorities and experts.

However: it cannot be stressed enough that the Index is still in beta mode. We want to improve and enhance it in any way we can, and hope that companies, other stakeholders and Tortoise members will help us do this by responding to this initial launch with their comments, thoughts and observations.

1.2 Why is The Responsibility100 methodology important?

The United Nations ratified the Sustainable Development Goals in September 2015 as part of the 2030 Sustainable Development Agenda. The overall aim of that agenda is to promote cooperative action to combat the interrelated challenges of climate change, species extinction, social injustice, inequality, intolerance and many others besides. The goals can be seen as part of an 'indivisible whole'".

The drafting and ratification of the 2030 Agenda for Sustainable Development was hailed as a considerable geo-political achievement. But the very breadth (and, in some cases, studied vagueness) of these goals also makes their application much more challenging. Who, in truth, would declare themselves to be against human rights? The question is what measurable action those in power – economic, political or otherwise – are taking to enforce them.

Since the goals' publication in 2015, many publications and guidelines have been produced with a view to fleshing them out. Some of this work has been promising. But it has been hindered by the patchiness of collated data and argument over which metrics should be applied to judge the achievement of this or that SDG. The difficulty of comparing rhetoric with reality has been conspicuous.

Building a complete and dynamic portrait of the contributions that companies are making towards the 2030 Agenda is especially challenging. Companies are inherently complex entities, often leaving a remarkably intricate and widespread 'footprint' in relation to the SDGs.

The general character of the goals is matched by the intricacy of measuring them in the corporate sphere. What impact, for instance, does the supply chain of a particular company have upon its ethical performance? What impact do the portfolio investments made by businesses have? How best to include the role played by subsidiaries? How many less tangible contributions to global well-being are businesses making through – say – job security, adult learning opportunities or other initiatives? The quest for the best possible metrics remains open to debate – which we welcome.

Though the SDGs were set for the nations of the world – rather than the business sector in any specific sense – it should be self-evident that their achievement will be impossible without the active cooperation and participation of companies. It should be no less self-evident that the big corporations listed in the FTSE100 have a particularly central role.

1.3 What is the aim of Responsibility100?

The Responsibility100 Index is driven by the three core values of transparency, accountability and responsibility. We believe that we are providing one of the most accurate and comprehensive analysis of the SDGs to date. That said – and this cannot be stressed enough – we warmly welcome feedback on our methodology,

To be clear: this is not an abstract academic exercise, though we stand by its intellectual rigour. We want to accelerate a race to the top amongst the companies of the FTSE 100 – and those outside it. We aspire to build a tool that is of real consequence and value: constantly being refined, constantly improving as a spur to greater social responsibility.

2.0 Structure of the Index

The Responsibility100 Index is organised around pillars, sub-pillars and indicators. Our two main pillars are that of 'People' and 'Planet'. This broad categorisation reflects the fact that most of the Sustainable Development Goals can be defined as predominantly connected to ecological factors and processes – 'Planet' – or social and economic factors and processes – 'People'. Of course, the division is far from absolute. But it is a useful starting point.

The Index includes several thematic sub-categories; Poverty, Climate, Waste, Water, Gender Equality, Investments, Good Business, Charitable Support, Human Rights, Fines & Violations (both 'People' and 'Planet' related), Memberships (both 'People' and 'Planet' related) and Self-Reporting (both 'People' and 'Planet' related); into which the range of indicators is organised.

2.1 Walk and Talk

Each of the indicators in The Responsibility100 Index framework has been identified as either an 'action'-related or 'commitment'-related measure. These measures – for which we use the shorthand 'Walk' and 'Talk' respectively – are a way of comparing and contrasting the level of contributions by companies that require material effort and real output to their rhetoric and presentational claims.

Again, it is important not to be automatically dismissive of 'talk'. We want to encourage reporting and transparency of all kinds.

For example: companies are rewarded for the quality of their Sustainability Reports – a 'talk'-related indicator – and this variable contributes to their overall score according to our weightings. Similarly, companies are rewarded for the level of reduction they have achieved in CO_2 emissions – a 'Walk'-related indicator.

The difference between total scores for 'Walk' and 'Talk' indicators can be expressed as a delta which describes the gap between action and commitment for each company. It is important to stress that this element of the Index's structure is not fundamental to the ranking, or scoring, it is an investigative device to present a picture that we believe is important.

2.2 Scoring

The total score for a company is calculated as the sum of the indicator value multiplied by the respective weight designated to it. Therefore, all of the indicators regardless of being commitment or action add to the overall score, however they do so in varying amounts.

As each indicator has a weighted value and we have assigned these indicators to groups, e.g, we have designated some of our indicators as commitment, we can create a score for those respective groups by summing the weighted values of the indicators in that group. This method forms the basis for a company's commitment – or walk – score and its action – or talk – score.

3.0 Factors affecting the ranking

The Responsibility100 Index produces relative scoring, comparing the companies of the FTSE 100; and whilst all aspects of the methodology have been configured to improve the relevance and accuracy of this scoring, some factors affecting the overall ranking must be explained and qualified.

3.1 Missing Values

There are a number of missing values across the Index data-set. This has several implications. In order to avoid adding arbitrary influences to the scoring we adopted two basic principles: the absence of data on some indicators is assumed to mean that the company in question is not engaged in a particular activity and that – accordingly – it should not be credited or penalised.

Dig deeper and we encounter a dilemma: in some cases, there may be missing data for a given company that – had it been available – might have scored negatively. Let us say that there is no available data for the 'Number of Employment Tribunal Cases Upheld' in the

case of a particular company – and that this absence contributes 'nil' to the company's overall score. It is possible that instances of misconduct have simply not been recorded – and that, in this respect at least, the company gets a free pass.

This is one of the principal reasons that we are launching in beta. We want to nudge companies to be more open and honest – and also for those who have reason to believe that they are not being transparent to let us know. The Index is an organic process, not a tablet in stone.

3.2 Imputed values

In some instances, missing values have been replaced with an imputed median value – where a value was needed to establish an average or sum against which other values could be compared. This is a standard practice in data analysis. Those companies that dislike imputation need only be more transparent to avoid its use in the case of their scoring.

3.3 Temporal Coverage

The data underlying The Responsibility100 Index refers to a range of years, rather than the single year of the edition, 2019. The inclusion of data is partly due to availability. Depending on the latest year available in which a given variable could be assessed. In order to maintain a wide ranging set of data-points, and improve the analytical usefulness of the data-set, some data is included from 2016 onwards. Please see the full indicator table in this report for more detailed information on the temporal range of each indicator.

We have sought to minimise the number of instances where companies are compared on the basis of data from different years; however, due to the varying cycles of reporting, and the irregular schedule on which some companies and other organisations disclose information this cannot be avoided completely.

3.4 Normalisation

The majority of the variables have been normalised to a [0,1] range so they can be easily compared when ranking. This was required as we had a range of different data types including binary, continuous, ordinal and proportion variables.

$$x_{new} = \frac{x - x_{min}}{x_{max} - x_{min}}$$

The remaining variables were also normalised to comparable scales, but due to the distribution of the data it was sometimes deemed necessary to transform the values, e.g square/square root transformations, before normalising.

A few of the variables we gathered had both positive and negative values, such as the 'Gender Pay Gap Improvement'. These were treated similarly, the positive and negative values being independently normalised around 0 to ranges of [0,1] and [-1,0].

3.5 Currency Adjustments

Average annual value of the currency was used where conversions were necessary. This means that the rate of exchange, between GBP (£) and USD ($), was calculated using the pair of annual average rates for a given year. Given the maximal variation in currency value across each year we have calculated the maximum potential distortion to a given value from the annual average-based conversion that we have applied across all data for each year.

Year	Year High	Year Low	Year Average	Max. Distortion from Annual Average to Annual High	Max. Distortion from Annual Average to Annual Low
2019*	1.33	1.2	**1.27801**	6.10%	4.07%
2018	1.43	1.25	**1.34355**	6.96%	6.43%
2017	1.36	1.2	**1.282692**	6.45%	6.03%
2016	1.49	1.21	**1.376045**	12.07%	8.28%

*correct up to September of 2019

The magnitude of potential distortions to the value of data points such as fines, and charitable donations is indicated by the percentage values shown above. This is an implicit result of the detail with which certain sources that inform our data-set are reported. Often, information about fines and violations is not labelled down to the specific date of occurence. We also contend that the annual average rate of charitable giving is an appropriate tool. All fines, and donations are treated equally within the framework.

4.0 How is the data weighted?

The Responsibility100 Index uses a four-tier weighting system: three weights, each with equal impact on the overall weighting of the indicator, and a fourth reliability factor.

The first tier is weighted for engagement, the second for relevance, the third for impact, and the fourth factor is determined according to the quality – reliability and comprehensiveness – of the data.

4.1 Weighting for Engagement

Each indicator is weighted according to the level of engagement that it demonstrates, specifically on progress towards the Sustainable Development Goals. Measurement of engagement is challenging; and the measurability of meaningful effects is often poor when considered on a large scale. In the case of the FTSE 100 certain activities are thoroughly reported, and widely considered to be important, yet their effect on the wider world remains difficult to assess. As part of The Responsibility100 methodology we have rated the indicators through a comparative engagement assessment based on our judgements, expert opinion and our extensive literature review. We have also referred constantly and directly to the UN Framework for the Sustainable Development Agenda and its constituent indicators; some of which we have directly proxied.

Each indicator received a five-point engagement score; based on a judgement of the indicators as either 'relatively low, medium or high engagement'. Our conceptual scheme

for this assessment asked whether the process being indicated required a significant degree of financial or procedural commitment – indicators that did so we weighted more heavily. Also featuring in this assessment was the question of whether the indicator demonstrates a bare minimum level of engagement; as our data-set is being used to create a comparative index, our assessments of impact are all relative. In this sense, the impactfulness of a factor is greater if it is an exemplar activity. We make the argument, therefore, that all companies should meet minimum standards, whether they are regulatory or conventional. By extension we aim to reward more engaged, and relatively impactful activities with higher weighting.

In reference to a range of scientific development and sustainability literature; we have considered the extent to which the Sustainable Development Goals can be viewed as either 'means' or 'ends'. Specifically, some of the Goals are framed with a view to reaching static end points, e.g. 'No Poverty' – whereas others are objectives that call for improvement by degree towards a putative final objective. So – for instance – 'reduced Inequalities' is a means of reaching the other 'end' goals.

The engagement weighting for each indicator also reflects the extent to which the process or outcome being measured is a meaningful step towards reaching the 'ends' of the Sustainable Development Goals, and therefore reach the 2030 Agenda. This aim is looking increasingly doubtful, and on a global scale more concerted recognition and action is needed. The engagement scoring in The Responsibility100 Index is intended to reflect the degree to which companies are accelerating the 'means' towards reaching the expressed 'ends'.

4.2 Weighting for Relevance

Each indicator is weighted according to an assessment of its relevance to the Sustainable Development Goals. Whilst we have developed our own thinking on the merits of the Goals, and considered their potential flaws, we have – as a general principle – developed our methodology in accordance with the Agenda.

As such, it is necessary to judge each indicator with respect to its relevance to the specific framework set out by the UN, and to make certain that we are indeed analysing and comparing companies on the basis of relevant and significant action towards the Goals.

Each indicator is identified as being orientated towards one particular Sustainable Development Goal of the 17. It subsequently received a three-point relevance score; the score was based on an assessment of whether the indicator was either; 'in the spirit of' the Sustainable Development Goals i.e. that it was linked through implicit meaning. For example, 'CEO Remuneration' is included as an indicator as it is 'in the spirit of' Sustainable Development Goal 10.0 'Reduced Inequalities'. It is, however, given relatively little weight, reducing its overall impact on the total score for a given company. This is because it does not feature as a specific indicator within the UN Framework, nor is it directly referenced as a significant factor in achieving the overall Goal.

Those indicators that are referenced by extension receive a higher relevance score. For example, 'Presence of Plastic Initiatives' is included as an indicator, and weighted according to the UN Framework section Goals and Targets for the 2030 Agenda for Sustainable Development – '14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution'.

The highest relevance scores are attributed to those indicators that directly referenced in the UN Framework – that is, verbatim reference to either a target or indicator within a given Goal represents high relevance. For example, 'Sustainability Report Relevance' is included as an indicator, and weighted according to the UN Framework Section Goals and Targets for the 2030 Agenda for Sustainable Development – 12.6 'Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle'.

4.3 Weighting for Impact

Each indicator is also weighted according to an assessment of the Sustainable Development Goals themselves, and their own relative degree of impact on the future. There is deeply complex and unresolved debate surrounding the Goals, and indeed the overall conception of the risks facing humanity. Sustainability challenges represent the most multifaceted, and urgent, of those currently being addressed by our institutions. The Sustainable Development Goals do not privilege any single goal with more significance than another; each of the 17 is notionally equal. We have, through a process of expert consultation, decided to apply to the weightings a consideration of the impact and urgency of the Sustainable Development Goals, with respect to the role that companies in the FTSE 100 may play in the achievement of the 2030 Agenda.

Redefinition of the term 'sustainable development', since the 1987 report from the UN World Commission on Environment and Development, has increasingly gravitated towards recognition that we require 'development that meets the needs of the present while safeguarding Earth's life-support system, on which the welfare of current and future generations depends'. This is to say that the most urgent requirement, given the existential threat it poses to our 'life support systems', is action on alleviating climate change. Global temperature rise, and consequent degradation of global ecosystems, does indeed threaten our civilisations on an unprecedented scale. We also recognise that these ecosystems form the basis of all human activity and that the environment that we inhabit is the vital context for all other aspects of human life.

We also view the recognition and protection of human rights, by governments, business, communities and individuals as of huge impact and urgency. The integrity of our societies is based upon our ability to recognise and protect common humanity; dignity, compassion and respect for life are all values that must be upheld. Recognition of the climate emergency and its primacy is wholly consistent with this value judgment.

The same process of conceptual assessment and consultation was made for each of our sub-pillars, and for the Sustainable Development Goals themselves to arrive as a theoretical hierarchy of impact and urgency against which it was possible to assign weights to our full range of metrics.

Each indicator was given a five-point score; based on a sliding scale of subjective assessment of the Goals to which the indicators were orientated. Defined conceptually as either; necessary, essential or existential, weighting were assigned to each sub-pillar, and constituent indicators.

4.4 Weighting for data quality

Each indicator is weighted for data quality; giving it a final five-point score, which acts as a factor by which the other weighting tiers are affected. The main considerations behind this aspect of the weighting are: the comprehensiveness of the data-set – the number of companies for which data is available,

4.5 Example weighting case

For example, 'Percentage Operational Renewable Energy Usage' is weighted as a 4.0 for impactfulness, acknowledging the financial and procedural commitment necessary to make changes toward renewable energy resource use. It is weighted as a 5.0 for relevance, in reference to Sustainable Development Goal & Target Section 7.2 'By 2030, increase substantially the share of renewable energy in the global energy mix'. It is assigned 5.0 for urgency, consistent with the view that divestment from fossil fuels, and switching to renewable sources of energy is a crucial process in reducing emissions of greenhouse gas. Finally, it is weighted as a 3.0 for data reliability; as the overall data-set is not comprehensive, this weighting adjust down the overall effect on the rankings and reflects the fact the reporting of this indicator is inconsistent. Whilst a majority of companies reporting the relevant data, there were too many missing values to reliably impute the remainder of the data-set for the indicator. To compensate for this lack of representation the data quality reduces the overall significance of the values for a company's overall score in the comparative ranking.

4.6 What is the impact of the weightings?

Each layer of the weighting system for The Responsibility100 Index adds to the accuracy, completeness and explanatory value of the comparative rankings. It is intended to account for the fact that contributions to the Sustainable Development Goals take many different forms, and have varying degrees of impact on the 2030 Agenda.

We recognise, however, that our weightings are based on subjective assumptions, and judgements applied in order to improve the coherence of the data. These subjective judgements affect the composite scoring for each company and therefore their position in the rankings.

5.0 Sensitivity Analysis & Testing

Our weighting system is one of many different potential approaches. It is therefore important that we test the sensitivity of the data to a range of those potential options. In this beta release of the Index we are using our base weighting approach rather than a randomised weighting. This is because our base weights are, we believe, more closely aligned with the real world, and the editorial values that Tortoise strives to uphold.

In future, we will be reiterating the Index's findings according to both an Equally Weighted approach and a Randomised Weighted approach. The intention will be to make sure that the weighting system is playing a secondary role to the values within the data-set itself. We expect to find a significant degree of consistency between the rank-ordered comparisons, or ranking pairings, of companies across several different weighting approaches. The results of this sensitivity analysis will be published in subsequent reporting.

6.0 Ongoing Investigation

The Beta release date of the Responsibility100 index is 23rd September 2019. The Index was pre-released to the FTSE100 7 days before to review any incorrect values.

To allow the Index to be built in time for the pre-release date, there was a cut-off for new data sources of 3 days before the release. This means that if a company published any new data after this time then it is not included in this iteration of the Index.

The Responsibility100 is not a one off Index however, and will receive minor updates once every quarter when the FTSE reshuffle happens and will receive a full data refresh and review every 6 months.

END NOTES

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Methodology table

Bucket	Indicator	Description	Source	Source Validity	Engagement Weight	Relevance Weight	Impact Weight	Data Weight	Raw Min Value	Raw Max Value	Missing Data Strategy	Rationale	SDGs
Charitable Support	Community Investment Proportional to Pre-Tax Profit	The total amount of money attributed to charity donations and community investment proportional to a company's profit before tax.	Annual Reports and Charities' Websites	Primary Data Source - companies direct reporting of community investment.	3	3	3	3	0	3.76%	Impute missing values with 0, implying Community investment is taken from companies annual reports, and we reward transparency of this information and don't	Putting your money where your mouth is is at the heart of converting words into impact. Charity is an excellent way to achieve the SDGs by employing the specialised knowledge and abilities of the charity sector. The indicator requires a medium financial and procedural commitment.	11.4.1
Charitable Support	Presence of Charity Partnership(s)	This indicator is a binary variable indicating whether a company has a long-term and transparent partnership with at least one charity.	Annual Reports, Company Websites and Charities' Websites	Primary Data Source - Mentions or Partnership links from either the Company or the Charity.	2	5	3	3	0	1	Impute missing values with 0, implying no presence of charity partnerships.	Putting your money where your mouth is is at the heart of converting words into impact. Charity is an excellent way to achieve the SDGs by employing the specialised knowledge and abilities of the charity sector. While this indicator is important, the unclear and potentially low procedural and financial commitment required to achieve it has reduced its weighting.	17
Climate	CDP Membership	This indicator is a binary variable indicating whether a company agreed to, and supplied sufficient information to be ranked by the CDP (formerly the Carbon Disclosure Project).	Carbon Disclosure Project	CDP are a Climate Disclosure Standards Board partners for the Sustainable development Goals. https://sustainabledevelopment.un.org/partnership/?p=1784	1	3	1	5	0	1	Impute missing values with 0, implying no membership	Signing up to have your disclosure reports independently rated demonstrates an element of engagement with the SDGs. The indicator requires low financial and procedural commitment.	13
Climate	Plastic Initiative Membership	This indicator is a binary variable indicating whether a company has signed up to either the New Plastics Economy initiative or has signed up to the UK Plastics Pact.	The New Plastic Economy & The UK Plastics Pact	The New Plastic Economy is an initiative by the Ellen MacArthur Foundation who have direct ties to the United Nations Environment Programme. The UK Plastics Pact is an initiative run by the UK based charity WRAP who focus on circular economy and resource efficiency issues.	1	3	1	5	0	1	Impute missing values with 0, implying no membership.	Company's awareness of their plastic impact is important if there are to be any steps to reduce it. The indicator requires low financial and procedural commitment.	14.1
Climate	Total Reported Carbon Emissions (Tonnes)	The total of all reported CO2e emissions. Scope 1&2 required and Scope 3 if available.	Annual Reports	Direct reporting of a companies total emissions, scope 1&2 are required and scope 3 is used if available.	4	5	5	4	0	71000000	No missing values as companies are required to publish emissions.	Stewardship of our planet requires that companies to play their part in avoiding the catastrophe of climate change. The indicator requires a high financial and procedural commitment.	9.4.1
Climate	Change in Emissions (YoY)	The percentage difference between a companies most recent reported emissions and its previously reported emissions.	Annual Reports	Calculated from using the total emissions value from a company's two most recent reports.	5	5	5	4	-116%	58%	Impute missing values as 0, implying no change in emissions whether positive or negative.	The indicator requires an exceptional and systemic commitment towards changing business practices and has a higher weighting than the absolute variable, because change has been viewed as a more important variable. The indicator requires a high financial and procedural commitment.	9.4.1
Climate	Climate Score from the CDP	A weighted score related to a company's climate change score from the CDP. The mapping form CDP to our score is as follows: A = 20, A- = 16, B = 10, B- = 8, C = 5, C- = 4, D = 2, D- = 1, F = 0, U = 0	Carbon Disclosure Project	CDP are a Climate Disclosure Standards Board partners for the Sustainable development Goals. https://sustainabledevelopment.un.org/partnership/?p=1784	3	3	5	5	U	A	CDP rank is between A and D-, or F if the company replied but not with enough information. We have created another value "U" treated the same as "F" if the company data was unavailable.	The indicator requires a medium financial and procedural commitment and to some degree is measured in CO2 data already.	9.4.1
Climate	Percentage of Operational Energy Usage form Renewable Sources	The reported percentage of a company's operations run on renewable energy.	Annual and Sustainability reports	The direct reported value from a company about the percentage to renewable energy used in their operations.	4	5	5	3	0	100	Impute missing values with 0, implying no reported renewable energy usage.	Using renewable energy is impactful towards taking on climate change. The indicator requires a high financial and procedural commitment.	7.2

Category	Metric	Description	Source	Source Notes				Value	Imputation	Rationale	SDG
Climate	Biodiversity Effort	A binary variable indicating whether a company reported a measurable, beneficial action on biodiversity.	Annual and Sustainability reports	Direct reporting of a companies transparent, measurable biodiversity effort. Measurable in this context means provided valid data on action that could be comparable to another companies data, i.e. an improvement of X hectares of wildlife sanctuary, rather than talking about an initiative with no data.	1 / 5	5 / 1	0	1	Impute missing valuesa as 0, implying no biodiversity action.	Any effort to combat species loss or promote biodiversity is beneficial and demonstrates a commitment above that of simply reducing damage. Taking action against The indicator requires a medium financial and procedural commitment.	15.5
Climate	Timber Forestry Score from the CDP	A weighted score related to a company's Forestry - Timber score from the CDP. The mapping form CDP to our score is as follows: A = 20, A- = 16, B = 10, B- = 8, C = 5, C- = 4, D = 2, D- = 1, F = 0, U = 0	Carbon Disclosure Report	CDP are a Climate Disclosure Standards Board partners for the Sustainable development Goals. https://sustainabledevelopment.un.org/partnership/?p=1784	3 / 3	3 / 5 U	A	A	CDP rank is between A and D-, or F if the company replied but not with enough information. We have created another value "U" treated the same as "F" if the company data was unavailable.	The CDP forestry score is a well-renowned holistic measure of a firm's impact on forests. The indicator requires a medium financial and procedural commitment.	15.2
Fines & Violations	Total Amount (£) of Fines Relating to People SDGs	The total monetary amount (£) of fines that a company included are as follows, with the USA bodies having been compiled by Good Jobs First a US national policy resource center for grassroots groups considered to support people.	The regulatory bodies included are as follows, with bodies in the US or the UK either directly or aggregated by the Violation Tracker by Good Jobs First, a US national policy resource center for grassroots groups and public officials. FMCSA (USA), USAO (USA), EPA (USA), OFCCP (USA), FRA (USA), OSHA (USA), CFTC (USA), DOJ (USA), ACPD (USA), MSHA (USA), EA (UK), BSEE (USA), OFGEM (UK), HSE (UK), OFAC (USA), FED (USA), FAA (USA)	-4 / -3	-1 / 4	0 £8,036,039,507.73		Impute missing values with 0, implying no fines or discretions.	Fines are a good way of assessing quantitatively the impact of the firm's impact on a high financial commitment and procedural commitment and should be seen as a 'basic minimum'. No firm seriously aiming to achieve the SDGs should have any fines at all.	16.B
Fines & Violations	Total Amount (£) of Fines Relating to Planet SDGs	The total monetary amount (£) of fines that a company received from various governing bodies from 2016 compiled by Good Jobs Firsts Violations Tracker (https://www.goodjobsfirst.org/violation-tracker). ICO (UK), FMCSA (USA), USAO (USA), EPA (USA), OFCCP (USA), FRA (USA), OSHA (USA), CFTC (USA), DOJ (USA), ACPD (USA), MSHA (USA), EA (UK), BSEE (USA), OFGEM (UK), HSE (UK), OFAC (USA), FED (USA), FAA (USA)	The regulatory bodies included are as follows, with the USA bodies having been compiled by the Violation Tracker by Good Jobs First, a US national policy resource center for grassroots groups and public officials.	-4 / -3	-3 / 4	0 £4,908,207,863.13		Impute missing values with 0, implying no fines or discretions.	Fines are a good way of assessing quantitatively the impact of the damage a firm does. Fines imbue a high financial commitment and should be seen as a 'basic minimum'. No firm seriously aiming to achieve the SDGs should have any fines at all.	16.B

Category	Indicator	Description	Source						Value	Note	SDG
Fines & Violations	Total Number of Fines Relating to People SDGs	The total number of fines included are as follows, with the USA bodies having been either directly or aggregated by the Violation Tracker by Good Jobs First, a US national policy resource center for grassroots groups and public officials. The regulatory bodies included are as follows, with the US bodies in the US or the UK governing bodies from 2016 to present relating to issues that align to the SDGs considered to support people. FMCSA (USA) USAO (USA) EPA (USA) OFCCP (USA) FRA (USA) OSHA (USA) CFTC (USA) DOJ (USA) ACPD (USA) MSHA (USA) EA (UK) BSEE (USA) OFGEM (UK) HSE (UK) OFAC (USA) FED (USA) FAA (USA)	Sourced from government bodies in the US or the UK fines that a company received from various governing bodies from 2016 to present relating to issues that align to the SDGs considered to support people. (https://www.goodjobsfirst. org/violation-tracker); ICO (UK)	-4	-3	-3	4	0	23 Impute missing values with 0, implying no fines or discretions.	Fines are a good way of assessing quantitatively the negative impact a firm does. Fines imbue a high financial commitment and procedural commitment and should be seen as a 'basic minimum'. No firm seriously aiming to achieve the SDGs should have any fines at all.	16.B
Fines & Violations	Total Number of Fines Relating to Planet SDGs	The total number of fines included are as follows, with the USA bodies having been either directly or aggregated by Good Jobs First, a US national policy resource center for grassroots groups and public officials. The regulatory bodies included are as follows, with the US bodies in the US or the UK governing bodies from 2016 to present relating to issues that align to the SDGs considered to support the planet. FMCSA (USA) USAO (USA) EPA (USA) OFCCP (USA) FRA (USA) OSHA (USA) CFTC (USA) DOJ (USA) ACPD (USA) MSHA (USA) EA (UK) BSEE (USA) OFGEM (UK) HSE (UK) OFAC (USA) FED (USA) FAA (USA)	Sourced from government bodies in the US or the UK fines that a company received from various governing bodies from 2016 to present relating to issues that align to the SDGs considered to support the planet. (https://www.goodjobsfirst. org/violation-tracker); ICO (UK)	-4	-3	-3	4	0	92 Impute missing values with 0, implying no fines or discretions.	Fines are a good way of assessing quantitatively the impact of the damage a firm does. Fines imbue a high financial commitment and procedural commitment and should be seen as a 'basic minimum'. No firm seriously aiming to achieve the SDGs should have any fines at all.	16.B
Gender Equality	Gender Pay Gap	The absolute percentage difference between Men's and Women's pay.	Annual Reports and GOV. UK	-4	-5	-3	5	0	45.8 Impute missing value with 0, this implies that a company has no gender pay gap.	The indicator requires a high financial and procedural commitment and signals a wider corporate view about equality.	5
Gender Equality	Gender Pay Gap Improvement (YoY)	The percentage difference year on year of a companies gender pay gap.	Annual Reports an GOV.UK Calculated using the reported Gender Pay Gap values from a company's two most recent reports.	5	5	3	5	-11	14.9 Impute missing values with 0, implying that a company has no improvement increase year on year.	The indicator requires an exceptional and systemic commitment and has a higher weighting than the absolute variable, because change has been viewed as more important for impact than the starting point.	5
Gender Equality	Gender Bonus Pay Gap	The absolute percentage difference between Men's and Women's bonus pay.	Annual Reports and GOV. UK The required bonus pay gap report from a company.	-2	-3	-3	5	0	78 Impute missing value with 0, this implies that a company has no gender bonus pay gap.	This indicator has been reduced in weight because the bonus has been largely already measured by the pay gap, although it is worthy of a separate indicator because bonuses are a way for gender inequality to present itself.	5
Gender Equality	Director Gender Appointments Proportion	The proportion of recent hires (since 2016) of directors to a companies board. Given that very few of the FTSE 100 boards were evenly proportioned, and that the highest hiring proportion is 75% we have decided that the higher hiring proportion the better.	Companies House Companies House is the United Kingdom's registrar of companies and is an executive agency and trading fund of Her Majesty's Government.	4	5	3	5	0	0.75 No missing values	Appointing women to leadership positions demonstrates an embedded commitment towards equality throughout a firm. The indicator requires a high procedural commitment.	5.5.2
Gender Equality	Director Gender Proportion	The proportion of a company's board of directors that is female. As there has been a historic hiring proportion the better.	Companies House Companies House is the United Kingdom's registrar of companies and is an executive agency and	4	5	3	5	0	5/11 No missing values	Appointing women to leadership positions demonstrates an embedded commitment towards equality throughout a firm. The	5.5.2

Category	Indicator	Description	Source						Imputation / Value	Explanation	
Good Business	Global Governance MSA Report Ranking	Ranking of FTSE 100 compliance and conformance with the UK Modern Slavery Act (MSA) (2015) and good practice in human rights	BRE Group	2	1	1	4	2	88 Imputed ranking with median value	The Modern Slavery Act is at the centre of the UK's response to human trafficking and slavery, by measuring the extent to which companies implement its values in their supply chain, a good estimate of engagement with human rights related SDGs can be made. The impact weight has been increased because this indicator requires impact weight has been increased board members signing off and therefore indicates more commitment than a simple signing-up exercise.	8.7
Good Business	BHRRC Modern Slavery Report Ranking	A ranking by the Business and Human Rights Resource Centres of the FTSE100 companies on their compliance with the modern slavery act.	The Business and Human Rights Resource Centre are a resource partner of the UN Global Compact for Human Rights and Labour.	2	1	1	4	2	91 Imputed ranking with median value	The Modern Slavery Act is at the centre of the UK's response to human trafficking and slavery, by measuring the extent to which companies implement its values in their supply chain, a good estimate of engagement with human rights related SDGs can be made. The impact weight has been increased because this indicator requires board members signing off and has some 'walk talk element'.	8.7
Good Business	ICRS Membership	This indicator is a binary variable indicating whether a company has signed up as an organisation to the Institute of Corporate Responsibility and Sustainability.	Institue of Corporate Responsibility and Sustainability. The ICRS is a UK professional body for Corporate Responsibility and Sustainability. It provides a network for members and fellows to enhance their skills and share knowledge and experience.	2	3	1	5	0	1 Impute missing values with 0, implying no membership	Joining the ICRS demonstrates engagement with the goals, suggesting future impact. Due to requiring a financial commitment, this indicator has been increased in weighting from one to two over that of a simple 'talk talk' indicator.	17,14, 12,7
Good Business	Proportion of Employee Tribunal Cases Upheld	The proportion of UK Employee Tribunal cases where the accusation was upheld.	UK Employment Tribunal Government body, run by the HM Courts & Tribunals Service.	-3	-3	3	3	0	0.01% Impute missing value with 0 implying no employee tribunal cases.	If a company is regularly losing employment tribunal cases, it may suggest that the company has poor employment practices. The indicator requires a medium financial and procedural commitment.	8.8
Good Business	Proportion of Employee Tribunal Cases Withdrawn	The proportion of UK Employee Tribunal cases where the accusation was withdrawn.	UK Employment Tribunal Government body, run by the HM Courts & Tribunals Service.	-3	-3	1	1	0	0.20% Impute missing value with 0 implying no employee tribunal cases.		
Good Business	Accredited Living Wage Provider	This indicator is a binary variable indicating whether a company is an accredited living wage provider or not.	Living Wage Foundation The Living Wage Foundation is a campaigning organisation that independently calculates a minimum wage based on the cost of living in the UK.	4	5	5	5	0	1 Impute missing values with 0, implying company is not living wage accredited.	A company's first priorities in good practice should be towards their own employees. A company's best way of ensuring good work the world over is to implement it in their own firm. The indicator requires a high financial and procedural commitment.	8.5
Good Business	CEO Remuneration Ratio	The ratio of a company's total CEO remuneration to the Median UK Wage.	Annual Reports The direct reportable figure for a CEO's total remuneration.	-2	-1	-3	4	3	2187 Missing values were imputed with the CEO Total Remuneration (not missing for all companies) divided by the median average of the average worker wage of the remaining ftse 100 companies.	CEO remuneration has been included because it acts as a signal for wider wage practices. The indicator requires a very low financial and procedural commitment towards inequality and commitment towards the firm or the market, rather than any particular effort towards equality. As of 1st January 2019, companies are required to report the ratio of their Total Ceo Remuneration to the median wage of their employees. Due to reporting cycles, not all companies have reported this yet so the UK Median Average has been used instead.	10.4

Category	Indicator	Description	Source							Imputation	SDG
Good Business	Total Number of Subsidiaries not residing in Tax Havens	The proportion of subsidiaries of a company not residing in a tax haven, as defined by the EU's blacklist and greylist of tax havens as of December 2018. Blacklisted countries: American Samoa, Guam, Samoa, Trinidad and Tobago, US Virgin Islands; Greylisted countries: Albania, Anguilla, Antigua and Barbuda, Armenia, Aruba, Bahamas, Bahrain, Barbados, Belize, Bermuda, Bosnia and Herzegovina, Botswana, British Virgin Islands, Cabo Verde, Cayman Islands, Cook Islands, Dominica, South Korea, Curacao, UAE, Faroe Islands, Fiji, Granada, Greenland, Guernsey, Hong Kong, Jamaica, Jersey, Jordan, Labuan Island, Macao, Qatar, North Macedonia, Malaysia, Maldives, Isle of Man, Marshall Islands, Morocco, Mauritius, Mongolia, Montenegro, Namibia, Nauru, Niue, New Caledonia, Oman, Palau, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Serbia, Seychelles, Switzerland, Eswatini, Taiwan, Thailand, Tunisia, Turkey, Turks and Caicos Islands, Uruguay, Vanuatu, Vietnam	Subsidiaries from company annual reports on their majority controlled subsidiaries. The tax havens are defined by the EU's blacklist and greylist of tax havens as of December 2018.	-4	-3	-1	0		140	Impute missing values with 0, implying no transparent/visible provision of public goods such as healthcare by paying tax. The way a company participates in the provision of public goods such as healthcare is by paying tax, without this participation the degree to which national governments are able to pursue the 2030 Agenda for Sustainable Development is limited. Subsidiaries in tax havens indicate that a company's obligation is being avoided. The indicator requires a high financial and procedural commitment.	17.1
Good Business	Effective Tax Rate	The amount of tax a company paid proportional to its earnings before tax.	Income Statements	3	3	1	4	-58.30%	83.56%	Impute missing values with the median average. The way a company helps in the provision of public goods such as healthcare is by paying tax. The indicator requires a medium financial and procedural commitment.	7.1
Human Rights	Number of Human Right Accusations Not Responded To	The absolute number of human rights accusations compiled by the Business and Human Rights Resource Centre, that have not been replied to.	Business and Human Rights Resource Centre. The Business and Human Rights Resource Centre are a resource partner of the UN Global Compact for Human Rights and Labour.	-4	-3	-1	5	0	2	Impute missing values with 0, implying no unresponsed human rights accusations. A lack of responsiveness to human rights allegations demonstrates a lack of engagement in the SDGs. Companies should be willing to discuss their human rights record. The weighting has been increased because replying to human rights cases is a 'bare minimum' requirement of any firm that is engaged with the SDGs	16.B
Human Rights	Response Rate to Human Rights Accusations	The response rate to accusations as compiled by the Business and Human Rights Resource Centre.	Business and Human Rights Resource Centre	-1	-1	-5	1	0%	100%	Impute missing values with 100% response rate, implying no misconduct. A lack of responsiveness to human rights allegations demonstrates a lack of engagement in the SDGs. Companies should be willing to discuss their human rights record. The weighting has been increased because replying to human rights cases is a 'bare minimum' requirement of any firm that is engaged with the SDGs	16.B
Investments	R&D Spend Proportional to Revenue	The amount of reported spend on Research and Development proportional to a company's Revenue.	Annual Report	-1	-1	-1	3	0	6.46	Impute missing values with 0, implying no reported investment. FTSE 100 companies have an enormous role to play in achieving the SDGs by developing new technologies to face their challenges. The indicator requires a medium financial and procedural commitment.	2A.1, 3.B, 7.A, among others
Investments	Proportion of Recent Investment Funding deemed Sustainable	The proportion of other investments into other companies since 2016 judged to align with the SDGs. Calculated by running running a search for keywords over company	CrunchBase, formerly owned by TechCrunch is a platform for finding business and investor related information about comapnies. Their data is sourced through machine learning, in house data teams	3	5	1	3	0 ?		Impute missing values with 0, implying no reported investment. FTSE 100 companies have an enormous role to play in achieving the SDGs by developing new technologies to face their challenges. In particular, sustainable technology is vital to facing the long-term difficulties	2A.1, 3.B, 7.A, among others

Category	Indicator	Description	Source							Imputation	Rationale	SDG
Investments	Proportion of Recent Acquisitions deemed Sustainable	The proportion of acquisitions of other companies since 2016 judged to align with the SDGs. Calculated by running running a search for keywords over company descriptions in crunchbase.	Crunchbase. Crunchbase, formerly owned by TechCrunch is a platform for finding business and investor related information about companies. Their data is sourced through machine learning, in house data teams and voluntary submissions.	3	5	3		0 ?		Impute missing values with 0, implying no reported investment.	Acquiring, funding, and expanding smaller sustainability initiatives is a fantastic way for a large company to make an impact. The indicator requires a high financial and procedural commitment.	2A.1, 3.B, 7.A, among others
Membership	UN Global Compact Membership	This indicator is a binary variable indicating whether a company has signed up to the UN Global Compact or not.	UN Global Compact. The United Nations Global Compact is the world's largest corporate sustainability initiative to encourage companies to adopt socially responsible policies.	2	5	1	5	0		Impute missing values with 0, implying no membership	The UN Global Compact is a non-binding agreement made by CEOs to pursue global sustainability which is at the core of this index. Due to requiring a financial commitment, the weighting has been increased from one to two over that of a simple talk indicator.	17
Membership	Business Fights Poverty Membership	This indicator is a binary variable indicating whether a company has signed up to Business Fights Poverty initiative or not.	Business Fights Poverty	1	3	1	5	0		Impute missing values with 0, implying no membership	Signing up with the intent of fighting poverty demonstrates a commitment, albeit small, towards SDG1. The indicator requires low financial and procedural commitment.	1.A
Planet Membership	RE 100 Membership	This indicator is a binary variable indicating whether a company has signed up to the RE100 initiative or not.	The Climate Group. Led by The Climate Group in partnership with CDP, as part of the We Mean Business coalition, RE100 is a global corporate leadership initiative bringing together influential businesses committed to 100% renewable electricity.	4	5	5	3	0		Impute missing values with 0, implying no membership	Committing to use 100% renewable energy is at the basis of any chance for the world to meet the climate challenge by 2030. The indicator requires low financial and procedural commitment.	7.2
Planet Membership	We Mean Business Coalition Membership	This indicator is a binary variable indicating whether a company has signed up to the We Mean Business initiative or not.	We Mean Business. We Mean Business is a global coalition of nonprofit organisations including UN resource partners such as CDP and The Climate group.	1	3	1	5	0		Impute missing values with 0, implying no membership	Joining organisations such as We Mean Business makes sure firms have their eyes set on the climate challenge. The indicator requires low financial and procedural commitment.	17.14, 12.7
Poverty	Food Donations	A binary variable indicating whether a company reported donations to a food bank.	Annual and Sustainability reports. Direct reporting of a companies transparent, measurable food donations effort.	2	3	5	1	0		Impute missing values as 0, implying no reported direct donations to food banks and initiatives.	By utilising food that may have otherwise gone to waste, a company can demonstrate that they aim to use their resources to combat societal issues, such as poverty and homelessness. The indicator requires a low financial and procedural commitment.	2.1, 12.3
Self Reporting	Sustainability Word Score	This is the number of mentioned key words from each SDG multiplied by their relative importance. E.g a business relating to good keyword would be worth 1 point, whereas a word about climate is worth 3. Therefore two companies who mention the same number of important keywords but on different topics may get different score.	Annual Reports; Sustainability Reports; Company Websites. Analysis of a primary data source.	1	1	1	4	380	14626	No missing values	The significance of the sustainability reporting conducted by each company is relatively low, mostly due to the fact that it is a basic requirement, and requires only a low level of procedural and financial commitment within the business.	17.14, 12.6
Self Reporting	Relevance of Sustainability Reporting	Defined as the total number of keywords mentioned as a proportion of all words reported. This reflects the importance of what a company is talking about, not just the length.	Sustainability Documentation. Analysis of a primary data source.	1	5	1	4	0%	100%	No missing values	The significance of the sustainability reporting conducted by each company is relatively low, mostly due to the fact that it is a basic requirement, and requires only a low level of procedural and financial commitment within the business. Whilst it is important that companies of all kinds continue this practice, the Responsibility100 Index is seeking to highlight best practices and announce the performance of businesses that are going above and beyond the minimum requirements. The inclusion of the sustainability report length as an indicator is justified mostly by its approximation of the extent to which companies are committed to the conversation about sustainability.	17.14, 12.7
Waste	Waste Reduction	A binary variable indicating whether a company reported a measurable waste reduction.	Annual and Sustainability reports. Direct reporting of a companies transparent, measurable waste reduction	1	5	3	1	0	1	Impute missing valuesa as 0, implying no waste reduction.	Reducing waste has a measurable impact on our environment and combating the use of pollutants.	12.5

Theme	Indicator	Description	Source	Measurement						Imputation note	Rationale	Weight
Waste	Percentage of Waste created to Landfill	The percentage of a company's waste going to landfill. The ideal is 0% of wate to landfill.	Annual and Sustainability reports	Direct reporting of a companies transparent, measurable percentage fo waste sent to landfill.	1	5	3	1	0	100 Impute missing valuesa as 0, implying 0% of waste being sent to landfill.	Landfill is a poor waste treatment method. Ideally, firms would recycle. Avoiding the use of landfill is an imperative for any FTSE100 company to follow. The indicator requires a medium financial and procedural commitment.	12.5
Waste	Plastic Reduction	A binary variable indicating whether a company reported a measurable decrease in the use of plastics.	Annual and Sustainability reports	Direct reporting of a companies transparent, measurable plastic reduction effort.	1	5	3	1	0	1 Impute missing valuesa as 0, implying no plastics reduction.	Plastic waste presents a threat to global ecosystems and supply chains. Reduction in a firm's 'plastic footprint' is engagement with the SDGs. The indicator requires a medium financial and procedural commitment.	6.3
Waste	Paper Reduction	A binary variable indicating whether a company reported a measurable decrease in the use of paper.	Annual and Sustainability reports	Direct reporting of a companies transparent, measurable paper reduction effort.	1	1	3	1	0	1 Impute missing valuesa as 0, implying no paper reduction.	Reducing the business world's extensive use of paper can have large impacts on global forest resources. The indicator requires a medium financial and procedural commitment.	15.2
Water	Water Score from the CDP	A weighted score related to a company's water score from the CDP. The mapping form CDP to our score is as follows: A = 20 A- = 16 B = 10 B- = 8 C = 5 C- = 4 D = 2 D- = 1 F = 0 U = 0	Carbon Disclosure Report	CDP are a Climate Disclosure Standards Board partners for the Sustainable development Goals. https://sustainabledevelopment.un.org/partnership/?p=11784	3	3	3	5 U	A	CDP rank is between A and D-, or F if the company replied but not with enough information. We have created another value "U" treated the same as "F" if the company data was unavailable.	The CDP water score is a well-renowned holistic measure of a firm's impact on water. The indicator requires a medium financial and procedural commitment.	6.3
Water	Water Reduction	A binary variable indicating whether a company reported a measurable decrease in the use of water.	Annual and Sustainability reports	Direct reporting of a companies transparent, measurable paper reduction effort.	1	5	3	1	0	1 Impute missing valuesa as 0, implying no water reduction.	Poor use of our water resources presents a threat to global ecosystems and supply chains. Reduction in water usage is engagement with this threat. The indicator requires a medium financial and procedural commitment.	6.3