

MSCI ESG Fund Ratings Methodology

MSCI ESG Research LLC

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1 Overview of fund metrics, ratings and scores

This document details the MSCI ESG Fund Ratings methodology. The Fund ESG Rating is designed to assess the resilience of a fund’s aggregate holdings to long-term, financially relevant, ESG risks. MSCI ESG Fund Ratings aim to provide fund-level transparency to help investors better understand the ESG characteristics of a fund and screen funds based on a diverse set of ESG exposure categories.

The Fund ESG Rating is assessed on a seven-point letter rating scale from CCC to AAA, with CCC and AAA being the lowest and highest possible fund scores, respectively. Highly rated funds consist of holdings from issuers with leading management of key ESG risks. Funds with a Fund ESG Rating of AAA or AA are assessed as Leaders (best in class relative to peers), funds with a Fund ESG Rating of B or CCC are assessed as Laggards (worst in class relative to peers) and funds with other Fund ESG Ratings are assessed as Average.

Exhibit 1: Fund ESG Rating descriptions

FUND ESG RATINGS		WHAT IT MEANS
AAA	LEADER	The fund is predominantly exposed to issuers that have strong management of financially relevant environmental, social and governance issues.
AA		
A	AVERAGE	The fund is exposed to issuers that tend to have average management of ESG issues, or a mix of issuers with both above-average and below-average ESG risk management.
BBB		
BB		
B	LAGGARD	The fund is predominantly exposed to issuers that do not demonstrate adequate management of the financially relevant ESG risks that they face.
CCC		

The Fund ESG Rating is derived from the Fund ESG Quality Score, assessed on a rating scale from 0 to 10, with 0 and 10 being the lowest and highest possible fund scores, respectively.

The Fund ESG Quality Score and the Fund ESG Rating are derived from the asset-weighted average of MSCI ESG Ratings of a fund’s underlying holdings. The individual issuer ratings are determined based on a granular breakdown of each

issuer’s business: its core product or business segments, the locations of its assets or revenues, and other relevant measures such as outsourced production.

For additional details on MSCI ESG Ratings of company issuers, refer to “ESG Ratings Methodology.” For additional details on MSCI ESG Ratings of sovereign issuers, refer to “ESG Government Ratings Methodology.”

2 Methodological steps for calculating top-level scores

2.1 Fund ESG Quality Score

The Fund ESG Quality Score is a 0-10 score calculated using the following steps:

2.1.1 Step 1: Rescale fund holding weights to account for ESG coverage

Calculating the Fund ESG Quality Score requires calculating the Weighted Average ESG Score as an intermediate step. Fund holding weights are typically available based on the total fund value, but the weights used to calculate the Weighted Average ESG Score need to be adjusted for differences in ESG coverage as follows:

1. Start with holding weights disclosed by the fund (w_d).
2. Recalculate holding weights after removing all short positions (w_s).
3. Remove all securities that do not have an Overall ESG Score (w_c).
4. Rebase the remaining weights to add up to 100% (w_r).

Exhibit 2: Example of rescaled fund holding weights that account for ESG coverage

Holding	Asset Class	Overall ESG Score	Weight (w_d)	Weight Excluding Short Positions (w_s)	Weight Excluding Uncovered Holdings (w_c)	Weight Rebased to 100% (w_r)
Corporate 1	Equity	5.8	36.4%	26.7%	26.7%	33.3%
Corporate 2	Equity	8.5	-36.4%			
Corporate 3	Bond	2.2	36.4%	26.7%	26.7%	33.3%
Sovereign 1	Bond	5	36.4%	26.7%	26.7%	33.3%
Corporate 4	Equity	Not rated	18.2%	13.3%		
Cash	Cash	Not rated	9.1%	6.7%		
Fund			100%	100%	80%	100%

Source: MSCI ESG Research.

2.1.2 Step 2: Calculate the Fund Weighted Average ESG Score

The Fund Weighted Average ESG Score is calculated as the weighted average of Overall ESG Scores of a fund’s underlying holdings using the rebased weights calculated in Step 1.

$$Fund\ Weighted\ Average\ ESG\ Score = \sum_{i=1}^n (ESG_i) \times (w_{i,r})$$

Where:

- *Fund Weighted Average ESG Score* is the Fund Weighted Average ESG Score.
- ESG_i is the Overall ESG Score of holding i .
- $w_{i,r}$ is the rebased weight of holding i .

The Overall ESG Score of a security held by a fund is assessed by taking either the Final Industry-Adjusted Company Score (for a company) or the Government Adjusted ESG Score (for a country) of the issuer. The methodologies used to determine issuer-level scores for companies and countries are described in “ESG Ratings Methodology” and “ESG Government Ratings Methodology,” respectively.

Exhibit 3: Example showing calculation of Fund Weighted Average ESG Score

Holding	Asset Class	Overall ESG Score	Weight Rebased to 100% (w_r)	$ESG_i \times (w_{i,r})$
Corporate 1	Equity	5.8	33.33%	1.93
Corporate 2	Equity	8.5		
Corporate 3	Bond	2.2	33.33%	0.73
Sovereign 1	Bond	5	33.33%	1.67
Corporate 4	Equity	Not rated		
Cash	Cash	Not rated		
Fund Weighted Average ESG Score:				4.33

Source: MSCI ESG Research.

2.1.3 Step 3: Calculate the Fund ESG Quality Score.

The Fund ESG Quality Score is equal to the Fund Weighted Average ESG Score.

2.2 Fund ESG Rating

The Fund ESG Rating is calculated as a direct mapping of the 0-10 Fund ESG Quality Score to the letter rating categories of the Fund ESG Rating. The 0 to 10 scale is

divided into seven equal parts, each corresponding to a Fund ESG Rating letter rating. Every possible Fund ESG Quality Score falls within the range of only one letter rating.

Exhibit 4: Mapping of Fund ESG Quality Scores to Fund ESG Ratings

Fund ESG Quality Score	Fund ESG Rating
8.571-10.0	AAA
7.143-8.571*	AA
5.714-7.143	A
4.286-5.714	BBB
2.857-4.286	BB
1.429-2.857	B
0.0-1.429	CCC

Source: MSCI ESG Research. * Appearance of overlap in the score ranges is due to rounding.

3 Methodology for calculating metrics displayed in the MSCI ESG Fund Ratings and Climate Search Tool

MSCI ESG Fund Ratings include over 300 metrics in seven categories: summary, risk, impact, values alignment, Sustainable Development Goals (SDG) alignment, climate change, and European Union (EU) sustainable finance.

All fund metrics, except for the top-level scores described in Section 2 and Fund ESG Coverage (%), are calculated using holding weights excluding the value of short positions, rebased to 100%. Fund metrics displayed in the MSCI ESG Fund Ratings and Climate Search Tool are calculated according to one of the three methodologies described here:

3.1 Method 1: Weighted average

Metrics are calculated using the weighted average of a given metric. This methodology is typically applied to revenue-based data points, so that holdings without values are treated as having 0% revenue from the given theme.

The example below shows the calculation for the Revenue Exposure to Gambling of a fund:

1. Start with holding weights disclosed by the fund (w_d).
2. Recalculate holding weights after removing all short positions (w_s).
3. Sum the contributions to revenue from Gambling.

Exhibit 5: Example showing calculation of weighted average

Holding	Weight (w_d)	Gambling - Maximum Percentage of Revenue	Weight Excluding Short Positions (w_s)	Contribution to Revenue from Gambling
Corporate 1	20.00%	20	16.7%	3.3%
Corporate 2	-20.00%	10		
Corporate 3	20.00%	50	16.7%	8.3%
Sovereign	20.00%	Not covered	16.7%	
Corporate 4	50.00%	Not covered	41.7%	
Cash	10.00%	Not covered	8.3%	
Fund Revenue Exposure to Gambling:				11.7%

Source: MSCI ESG Research.

3.2 Method 2: Weighted average (normalized)

This calculation is a slight variation on the Weighted Average calculation described above in Method 1. The distinction is that it is used in cases where blank or missing values should not be treated as zero, so fund weights must be normalized to 100% for the portion of the fund that is within coverage. This methodology is typically applied to data points other than revenue-based ones. Normalization prevents fund-level figures from being misleadingly low due to low coverage of the given data point.

The example below shows the calculation for the Weighted Average Carbon Intensity of a fund.

1. Start with holding weights disclosed by the fund (w_d).
2. Recalculate holding weights after removing all short positions (w_s).
3. Remove all securities that do not have Carbon Emissions Intensity coverage (w_c).
4. Rebase the remaining weights to add up to 100% (w_r).
5. Calculate the fund-level contributions to Weighted Average Carbon Intensity and sum them.

Exhibit 6: Example showing calculation of weighted average (normalized)

Holding	Scope 1 & 2 Carbon Emissions Intensity	Weight (w_d)	Weight Excluding Short Positions (w_s)	Weight Excluding Uncovered Holdings (w_c)	Weight Rebased to 100% (w_r)	Contribution to Weighted Average Carbon Intensity
Corporate 1	350	36.4%	26.7%	26.7%	50.0%	175
Corporate 2	120	-36.4%				
Corporate 3	250	36.4%	26.7%	26.7%	50.0%	125
Sovereign 1	Not covered	36.4%	26.7%			
Corporate 4	Not covered	18.2%	13.3%			
Cash	Not covered	9.1%	6.7%			
Fund Weighted Average Carbon Intensity:					300	

Source: MSCI ESG Research.

3.3 Method 3: Percentage sum

Some fund metrics are aggregated as the sum of fund weights associated with positions flagged for a given criteria. Metrics calculated using the percentage sum method show the percentage of the fund that meets the criteria for the metric being measured. The percentage represents a minimum value, as there may be uncovered securities that also meet the criteria for a given metric. For instance, a value of 50% for the Fund Tobacco Involvement (%) metric means that 50% of the weight of the fund comes from securities with identified ties to tobacco. The actual percentage may be higher if the fund holds securities issued by companies involved in tobacco that are outside of the issuer coverage universe of tobacco.

While the security weights used in percentage sum calculations are set by excluding short positions and rebasing the remaining positions to 100%, cash positions are kept in the fund to avoid overstating exposure to the metric. Cash is treated as a portion of the fund that does not meet the criteria for the metric being measured.

The example below shows the calculation for the Fund Tobacco Involvement (%) of a fund.

1. Start with holding weights disclosed by the fund (w_d).
2. Recalculate holding weights after removing all short positions (w_s).
3. Sum the weights of holdings involved in tobacco.

Exhibit 7: Example showing calculation of percentage sum

Holding	Tobacco – Any Tie	Weight (w_d)	Weight Excluding Short Positions (w_s)	Contribution to Fund Tobacco Involvement
Corporate 1	T	36.4%	26.7%	26.7%
Corporate 2	T	-36.4%		
Corporate 3	F	36.4%	26.7%	
Sovereign	Not covered	36.4%	26.7%	
Corporate 4	Not covered	18.2%	13.3%	
Cash	Not covered	9.1%	6.7%	
Fund Tobacco Involvement (%):				26.7%

Source: MSCI ESG Research.

4 Methodology for calculating Fund Peer group and Global percentiles

4.1 Peer Group Percentiles

Each fund’s ESG Quality Score is also presented as a percentile ranking in the fund’s peer group. The Fund ESG Quality Score – Peer Percentile metric represents the percentage of funds in a fund’s peer group with an ESG Quality Score equal to, or lower than, the fund’s ESG Quality Score.

Exhibit 8: ESG Quality Score and Fund ESG Quality Score – Peer Percentile



The peer groups are defined using the Lipper Global Classification Scheme. The following criteria must be met for a fund to receive a Fund ESG Quality Score – Peer Percentile assessment:

1. The fund must be categorized by the Lipper Global Classification scheme.
2. The peer group must contain at least 30 funds.
3. The standard deviation of the Fund ESG Quality Score within the peer group must be greater than, or equal to, 0.1.

The Lipper Global Classification Scheme is detailed in Appendix 3.

4.2 Global percentiles

Every fund included in MSCI ESG Fund Ratings receives a Fund ESG Quality Score – Global Percentile. This metric denotes the percentage of funds covered by MSCI ESG Fund Ratings with a score lower than, or equal to, a fund’s ESG Quality Score. Considered together, the Fund ESG Quality Score – Global Percentile and Fund ESG Quality Score – Peer Percentile indicate the position of a fund from both an absolute (MSCI Fund Ratings universe-wide) and relative (within the peer group) perspective.

5 Methodology for calculating Implied Temperature Rise

MSCI’s fund-level aggregation approach to Implied Temperature Rise follows the recommendations of the Task Force on Climate-related Financial Disclosures’ (TCFD’s) Portfolio Alignment Team, using an “aggregated budget” approach.

6 MSCI ESG Fund Ratings inclusion criteria

MSCI ESG Fund Ratings holdings data is sourced from Lipper. To be included in the MSCI ESG Fund Ratings coverage universe, a fund must meet the following four criteria:

1. For funds with a fund asset class other than bond or money market, at least 65% of the fund’s gross weight must come from covered securities. For funds with a fund asset class of bond or money market, at least 50% of the fund’s gross weight must come from covered securities. The ESG Fund Ratings methodology imposes a lower coverage threshold on bond and money market funds because they generally have higher exposure to asset classes that are currently out of scope for ESG analysis, including asset-backed securities, mortgage-backed securities, and municipal bonds. The coverage criterion does not apply to funds that are part of the underlying holdings of another fund.

- a. Cash positions and other asset types not relevant for ESG analysis are removed prior to calculating a fund’s gross weight. See Appendix 2 for a full listing of excluded asset types.
 - b. The absolute values of short positions are included in a fund’s gross weight calculation but are treated as uncovered for ESG data purposes.
 - c. The security asset type must allow recourse to the rated issuer. See Appendix 1 for a list of eligible asset types.
2. The fund holdings date (the latest date that fund reported its holdings) must be less than 1 year old.
 3. The fund must have at least 10 securities (this criterion does not apply to funds of funds).
 4. The fund must not be in the commodity asset class.

Fund ESG Ratings and other fund-level metrics are still calculated for funds that fail to meet the 65% coverage criterion but pass the other criteria. However, ESG Fund Ratings reports are not issued for such funds, nor are these funds included in MSCI ESG Fund Ratings and Climate Search Tool. These funds do not impact the percentile calculations for other funds and the values for the Fund ESG Quality Score – Global Percentile and Fund ESG Quality Score – Peer Percentile metrics are not calculated for such funds. As with any fund, fund metrics will only be based on covered holdings.

7 Methodology for calculating Fund ESG Coverage (%) vs Fund ESG Coverage Overall (%)

MSCI ESG Fund Ratings includes two distinct coverage metrics: Fund ESG Coverage (%) and Fund ESG Coverage Overall (%). The Fund ESG Coverage (%) metric is used exclusively for determining MSCI ESG Fund Ratings eligibility.

7.1 Fund ESG Coverage (%)

Cash is excluded to avoid punishing funds for holding an asset type that is outside of ESG relevancy. Including cash would decrease the coverage percentage and could keep a fund out of MSCI ESG Fund Ratings. The absolute value of short positions is included so that coverage is not overstated. That is, it would be misleading to state that 100% of a fund is covered if there is a short component not considered in the assessment.

The example below shows the calculation for the Fund ESG Coverage (%) of a fund.

1. Start with holding weights disclosed by the fund (w_d).

2. Exclude cash.
3. Convert short and long holding weights to gross weights (w_g).
4. Rebase the remaining weights to add up to 100% (w_r).
5. Sum the weights of all securities that have coverage that are not short positions ($w_{s,c}$).

Exhibit 9: Example showing calculation of Fund ESG Coverage (%)

Holding	Overall ESG Rating	Weight (w_d)	Exclude Cash	Gross Weight (w_g)	Weight Rebased to 100% (w_r)	Weight Excluding Short and Uncovered Holdings ($w_{s,c}$)
Corporate 1	A	36.4%	36.4%	36.4%	22.2%	26.7%
Corporate 2	AA	-36.4%	-36.4%	-36.4%	22.2%	
Corporate 3	B	36.4%	36.4%	36.4%	22.2%	26.7%
Sovereign 1	BBB	36.4%	36.4%	36.4%	22.2%	26.7%
Corporate 4	Uncovered	18.2%	18.2%	18.2%	11.1%	
Cash	Uncovered	9.1%				
Fund ESG Coverage (%):						80%

Source: MSCI ESG Research.

7.2 Fund ESG Coverage Overall (%)

A separate Fund ESG Coverage Overall (%) metric is calculated to measure exposure to MSCI ESG Ratings.

Cash is included to avoid overstating exposure to specific metrics. For example, if cash were excluded, and weights were then normalized to 100%, exposure to CCC rated companies would be overstated.

Short positions, however, are excluded because different use cases suggest different treatment. Exclusion ensures a clear and consistent methodology.

The example below shows the calculation for the Fund ESG Coverage Overall (%) of a fund.

1. Start with holding weights disclosed by the fund (w_d).
2. Recalculate holding weights after removing all short positions (w_s).
3. Rebase the remaining weights to add up to 100% (w_r).
4. Remove all securities that do not have coverage (w_c).

- Sum the weights of all securities that have coverage (w_c).

10: Example showing calculation of Fund ESG Coverage Overall (%)

Holding	Overall ESG Rating	Weight (w_d)	Weight Excluding Short Positions (w_s)	Weight Rebased to 100% (w_r)	Weight Excluding Uncovered Holdings (w_c)
Corporate 1	A	36.4%	36.4%	26.7%	26.7%
Corporate 2	AA	-36.4%			
Corporate 3	B	36.4%	36.4%	26.7%	26.7%
Sovereign 1	BBB	36.4%	36.4%	26.7%	26.7%
Corporate 4	Uncovered	18.2%	18.2%	8.2%	
Cash	Uncovered	9.1%	9.1%	6.7%	
Fund ESG Coverage Overall (%):					80%

Source: MSCI ESG Research.

8 Treatment of cash

Cash holdings (and other asset types listed in Appendix 2) are excluded prior to calculating Fund ESG Coverage (%). Cash is removed because it is outside the scope of ESG relevancy. Including it in the coverage figure would lead to the undesired result of funds failing to meet the coverage threshold due to cash allocations.

The weight of cash is included in all metrics that measure exposure to specific criteria (e.g., tobacco, fossil fuel reserves, ESG laggards, etc.). Excluding cash from exposure metrics would generate overstated results.

9 Treatment of short positions

When calculating Fund ESG Coverage (%), short positions are always treated as uncovered, even if they are held as securities of issuers within the scope of MSCI ESG coverage. By including the absolute value of short positions in the uncovered portion of a fund, the coverage percentage will not overstate ESG coverage.

Although short positions are included in the gross value when calculating coverage, they are removed prior to calculating the rest of the MSCI ESG Fund Ratings results. This is because the interpretation of short positions, from an ESG perspective, varies widely based on the use case and the specific metric being considered.

10 Treatment of funds of funds

Funds that are held by a fund of funds are eligible to be included in the ESG assessment of the fund of funds. To qualify for inclusion, the held fund must have at least 10 securities, and the holdings date must be less than one year old, and the fund must not be in the commodity asset class. If the held fund fails to meet the criteria, it is treated as an uncovered portion of the fund of funds. The held fund does not need to meet the 65% coverage threshold required for the fund of funds itself, although the weight of the held fund is adjusted downward to account for coverage less than 100%. Exhibit 11 shows how the eligibility and coverage adjustment work.

Exhibit 11: Example showing calculation of eligibility and coverage adjustment

Holding	Weight (w _d)	Fund Latest Holding Date	Fund Holdings Count	Fund Eligibility	Fund ESG Coverage Overall (%)	Weight Adjusted for Coverage (w _c)	Weight Rebased to 100% (w _r)
Fund 1	60%	< 1 yr old	2,050	Eligible	100%	60%	85.7%
Fund 2	20%	< 1 yr old	85	Eligible	50%	10%	14.3%
Fund 3	10%	< 1 yr old	5	Not eligible	20%		
Fund 4	10%	> 1 yr old	1,400	Not eligible	85%		
	100%					70%	100%

Source: MSCI ESG Research.

The coverage adjustment may vary by ESG data point since different MSCI ESG products have different coverage.

For the calculation of metrics for funds of funds, held funds are treated in the same manner as issuer's securities are treated for the calculation of metrics for funds. Because funds of funds can hold individual issuer's securities as well as funds, calculations can be made using either issuers or funds, or a combination of the two (after adjusting weights for coverage). When funds hold both issuers and funds, the issuer securities are included using the issuer level ESG metrics, and the fund securities are included using the comparable fund ESG metric.

For example, the Fund Weighted Average Carbon Intensity metric for a fund of funds would use the Carbon Emissions – Scope 1 & 2 Intensity metric for underlying holdings that are securities, and the Fund Weighted Average Carbon Intensity for underlying holdings that are funds. Exhibit 12 shows examples for both weighted

average and percentage sum calculations for a fund with holdings of both securities and funds.

12: Example showing fund of funds weighted average and percentage sum calculations

		Weighted Average Example		Percentage Sum Example	
		Fund	Issuer	Fund	Issuer
		Fund Weighted Average Carbon Intensity	Carbon Emissions Scope 1 & 2 intensity	Fund Tobacco Involvement	Tobacco - Any Tie
Fund A	75%	200	n/a	10%	n/a
Corporate 1	25%	n/a	100	n/a	True
	100%	175		32.5%	

Note: Calculation assumes 100% coverage of Fund A

The Fund ESG Quality Score calculation of a fund of funds differs from the methodology of other scored metrics for a fund of funds. It cannot be calculated simply as a weighted average of the underlying funds, as that would lead to double-counting of the adjustment metrics Fund ESG Laggards (%), Fund ESG Trend Negative (%) and Fund ESG Trend Positive (%). Instead, it is calculated in the same way that a Fund ESG Quality Score is calculated.

When funds are held as short positions, they are treated the same as issuer securities held as short positions. When calculating the Fund ESG Coverage (%) metric, the gross weight of the short fund is considered as an unrated allocation in the fund of funds. For all other metrics, the short positions are removed, remaining holdings are normalized to 100% weight, and calculations are run on the long-only portion of the fund of funds.

11 Frequency of updates

Fund holdings and weights are updated on a weekly basis. Fund ESG scores and data may be updated daily to reflect updates to the ESG data of underlying holdings..

12 ESG Fund Ratings Update History

Date	Update	Description
April 24, 2023	Revision to Fund ESG Quality Score calculation	The Adjustment Factor(s) was removed from the calculation of the Fund ESG Quality Score. The Fund ESG Quality Score was made to equal the Fund Weighted Average ESG Score.
April 24, 2023	Adjustment of inclusion criteria for bond and money market funds	The coverage inclusion threshold for funds with a fund asset class classification of bond or money market was decreased from 65% to 50%.
December 1, 2021	Addition of new categories	Addition of 2 new categories were added to ESG Fund Ratings to accommodate prior and new metric releases: Climate Change and EU Sustainable Finance.
December 9, 2020	Addition of SDG alignment metrics	<p>Addition of 137 Sustainable Development Goals (SDG) metrics to help measure a fund's alignment to the 17 UN SDGs.</p> <p>Also, the addition of 18 new Sustainable Impact metrics to measure the binary exposure to companies involved in Sustainable Impact themes, for example Green Building Involvement (%). Previously we included metrics that measured only the revenue exposure to Sustainable Impact themes.</p>
June 25, 2020	Inclusion of Fund of Funds	<p>Funds that are held by a fund of fund are now included in the ESG assessment, rather than being treated as an unrated allocation of the fund of fund.</p> <p>The methodology was revised in the following ways: For calculating ESG metrics, the held funds are generally treated as if there was look-through capability into the underlying holdings. Funds of funds are not subject to the criteria that requires a fund to have at least ten holdings in order to be included in MSCI ESG Fund Ratings coverage. Additionally, funds held within a fund of fund, do not need to meet the 65% minimum coverage criteria to be included in the calculation of the fund of fund.</p>

Date	Update	Description
May 20, 2020	Exclusion of Commodity Funds	<p>Funds in the Commodity Asset Class are now excluded from MSCI ESG Fund Ratings coverage universe.</p> <p>The methodology was revised in the following ways: Commodity funds commonly hold short term instruments as collateral for commodity-linked futures. As the held instruments do not reflect the ESG risk exposure of the derivatives, commodity funds are being removed</p>
April 8, 2019	Addition of Fund ESG Rating and revised ESG Quality Score	<p>Addition of ESG letter rating.</p> <p>The methodology was revised in the following ways: ESG Quality Score enhanced to reflect fund exposure to laggards, downward trending assets, and upward trending assets.</p>
December 16, 2016	Revised calculation of Sustainable Impact metrics	<p>The methodology was revised in the following ways: The 14 Sustainable Impact metrics are now calculated as the fund weighted average of each issuer's percent of revenue generated by Sustainable Impact Solutions goods and services. Previously, the metrics were calculated as the percentage of fund market value coming from issuers that generate 50% or more of revenue from Sustainable Impact goods and services.</p>
December 5, 2016	Exclusion of out-of-scope asset types	<p>The methodology was revised in the following ways: Asset types that are out of scope for ESG analysis, such as cash (complete list in Appendix 2), are excluded from fund holdings prior to calculating coverage percentages and exposure to ESG metrics. The number of fund portfolios meeting the ESG coverage threshold increased from ~23,000 to ~24,000.</p>
November 29, 2016	ESG Fund Quality Badges	<p>ESG Fund Quality Badges available for funds meeting qualifying criteria as Top 10% in their peer group or globally.</p>
November 9, 2016	MSCI ESG Fund Ratings Reports	<p>PDF reports for each fund share class made available. The reports feature fund exposure to over 100 metrics, top 10 holdings, ESG Quality Score and peer group average, ESG Rating distribution and trend, fund Carbon Intensity compared against peer group average and five MSCI Equity Indexes.</p>

July 5, 2016	Addition of fund share classes	Product coverage expanded to include the individual share classes within each fund portfolio. The addition of share classes facilitates matching by unique identifiers.
March 8, 2016	Product launch	Launch of MSCI ESG Fund Ratings

Appendix 1: Eligible asset types

MSCI ESG Research generally conducts ESG assessments at the issuer level. Where an asset has exposure to an underlying issuer, we attempt to map the ESG characteristics of that issuer. For instance, we would map issuer analysis to both a bond and to a derivative based on that bond, to the extent possible. We do not, however, map in cases where there is exposure to multiple underlying issuers, such as index futures. Asset types that are eligible for ESG coverage are listed below:

Asset Type		
• Agency Security	• Depository Receipt	• Option on Future
• American Depository Receipt	• Equity Future	• Preference Shares
• Bank Loan	• Equity Option	• Preferred Security
• Bond Future	• Equity Warrant	• Provincial Bond
• Certificate	• Global Depository Receipt	• Real Estate Invst. Trust
• Commercial Paper	• Government Debt	• Rights
• Common Shares	• International Depository Receipt	• Supranational
• Convertible Bond	• Limited Partnership	• Tracking Instrument
• Convertible Note	• Loan	• Treasury Bill
• Corporate Debt	• Municipal bond	• Units

Appendix 2: Excluded asset types

Some asset types are out of scope for ESG analysis. They are removed from a fund’s holdings prior to calculating ESG Coverage to avoid penalizing funds for allocations in these asset types. ESG Coverage is reflective only of the portion of the fund relevant to ESG considerations. Asset types that are removed prior to calculating ESG Coverage are listed below:

Asset Type		
• Cash	• Cash Equivalent	• FX Forward
• Cash 120 days	• Cash Options	• Interest Rate Swap
• Cash 30 days	• Currency	• Time/Term Deposit
• Cash 60 days	• Currency Future	• Commodity
• Cash 90 days	• Foreign Exchange	• Repurchase Agreement

Appendix 3: Lipper Global Classification Scheme

Lipper categorizes funds into the 365 distinct categories listed in the table below (as of April 1, 2019).

Absolute Return AUD High	Commodity Agriculture	Hedge/Multi Strategies
Absolute Return AUD Low	Commodity Blended	Loan Participation Funds
Absolute Return AUD Medium	Commodity Energy	Mixed Asset AUD Aggressive
Absolute Return CHF	Commodity Other	Mixed Asset AUD Balanced
Absolute Return EUR High	Equity Argentina	Mixed Asset AUD Conservative
Absolute Return EUR Low	Equity ASEAN	Mixed Asset AUD Flexible
Absolute Return EUR Medium	Equity Asia Pacific	Mixed Asset BRL Aggressive
Absolute Return GBP High	Equity Asia Pacific ex Japan	Mixed Asset BRL Balanced
Absolute Return GBP Low	Equity Asia Pacific Sm&Mid Cap	Mixed Asset BRL Conservative
Absolute Return GBP Medium	Equity Australasia	Mixed Asset BRL Flexible
Absolute Return Other	Equity Australasia Sm&Mid Cap	Mixed Asset CAD Aggressive
Absolute Return USD High	Equity Australia	Mixed Asset CAD Balanced
Absolute Return USD Low	Equity Australia Sm&Mid Cap	Mixed Asset CAD Conservative
Absolute Return USD Medium	Equity Austria	Mixed Asset CAD Flexible
Absolute Return ZAR High	Equity Belgium	Mixed Asset CHF Aggressive

Absolute Return ZAR Low	Equity Brazil	Mixed Asset CHF Balanced
Absolute Return ZAR Medium	Equity Canada	Mixed Asset CHF Conservative
Alternative Credit Focus	Equity Canada Sm&Mid Cap	Mixed Asset CHF Flexible
Alternative Currency Strategies	Equity Chile	Mixed Asset CLP Conservative
Alternative Equity Market Neutral	Equity China	Mixed Asset CNY Balanced
Alternative Event Driven	Equity China Small & Mid Cap	Mixed Asset CNY Flexible
Alternative Global Macro	Equity Denmark	Mixed Asset EUR Agg - Europe
Alternative Long/Short Equity Europe	Equity Emerging Markets Global Small & Mid-Cap	Mixed Asset EUR Agg - EuroZone
Alternative Long/Short Equity Global	Equity Emerging Mkts Asia	Mixed Asset EUR Agg - Global
Alternative Long/Short Equity Japan	Equity Emerging Mkts Europe	Mixed Asset EUR Bal - Europe
Alternative Long/Short Equity UK	Equity Emerging Mkts Global	Mixed Asset EUR Bal - EuroZone
Alternative Long/Short Equity US	Equity Emerging Mkts Latin Am	Mixed Asset EUR Bal - Global
Alternative Managed Futures	Equity Emerging Mkts Other	Mixed Asset EUR Cons - Europe
Alternative Multi Strategies	Equity Europe	Mixed Asset EUR Cons - EuroZone
Alternative Other	Equity Europe ex UK	Mixed Asset EUR Cons - Global
Alternative Relative Value	Equity Europe Income	Mixed Asset EUR Flex - Europe

Bond ARS	Equity Europe Sm&Mid Cap	Mixed Asset EUR Flex - EuroZone
Bond ARS Short Term	Equity EuroZone	Mixed Asset EUR Flex - Global
Bond Asia Pacific HC	Equity EuroZone Sm&Mid Cap	Mixed Asset GBP Aggressive
Bond Asia Pacific LC	Equity Finland	Mixed Asset GBP Balanced
Bond AUD	Equity France	Mixed Asset GBP Conservative
Bond BRL	Equity France Sm&Mid Cap	Mixed Asset GBP Flexible
Bond BRL Short Term	Equity Frontier Markets	Mixed Asset HKD Balanced
Bond CAD	Equity GCC (Gulf Coop Cncl)	Mixed Asset INR Aggressive
Bond CAD High Yield	Equity German Sm&Mid Cap	Mixed Asset INR Balanced
Bond CAD Short Term	Equity Germany	Mixed Asset INR Conservative
Bond CHF	Equity Global	Mixed Asset INR Flexible
Bond CHF Government	Equity Global ex Japan	Mixed Asset JPY Aggressive
Bond CHF Medium Term	Equity Global ex UK	Mixed Asset JPY Balanced
Bond CHF Short Term	Equity Global ex US	Mixed Asset JPY Conservative
Bond CLP	Equity Global ex US Sm&Mid Cap	Mixed Asset JPY Flexible
Bond CNY	Equity Global Income	Mixed Asset KRW Aggressive

Bond Convertibles Europe	Equity Global Sm&Mid Cap	Mixed Asset KRW Balanced
Bond Convertibles Global	Equity Greater China	Mixed Asset KRW Conservative
Bond Convertibles Japan	Equity Greece	Mixed Asset MYR Aggressive
Bond Convertibles Other	Equity Hong Kong	Mixed Asset MYR Bal - Global
Bond Convertibles US	Equity Iberia	Mixed Asset MYR Bal - Malaysia
Bond CZK	Equity India	Mixed Asset MYR Conservative
Bond DKK	Equity Indonesia	Mixed Asset MYR Flexible
Bond Emerging Markets Europe	Equity Israel	Mixed Asset NOK Balanced
Bond Emerging Markets Global Corporates	Equity Italy	Mixed Asset Other Aggressive
Bond Emerging Markets Global HC	Equity Italy Sm&Mid Cap	Mixed Asset Other Balanced
Bond Emerging Markets Global LC	Equity Japan	Mixed Asset Other Conservative
Bond Emerging Markets Latin Am	Equity Japan Income	Mixed Asset Other Flexible
Bond Emerging Markets Other	Equity Japan Sm&Mid Cap	Mixed Asset SEK Aggressive
Bond EMU Government	Equity Korea	Mixed Asset SEK Balanced
Bond EMU Government LT	Equity Malaysia	Mixed Asset SEK Conservative
Bond EMU Government MT	Equity Malaysia Diversified	Mixed Asset SGD Balanced

Bond EMU Government ST	Equity Malaysia Income	Mixed Asset SGD Conservative
Bond EUR	Equity Malaysia/Singapore	Mixed Asset THB Balanced
Bond EUR Corporates	Equity MENA	Mixed Asset THB Conservative
Bond EUR Corporates Short Term	Equity Mexico	Mixed Asset THB Flex - Global
Bond EUR High Yield	Equity Netherlands	Mixed Asset THB Flex - Thai
Bond EUR Inflation Linked	Equity New Zealand	Mixed Asset USD Aggressive
Bond EUR Long Term	Equity Nordic	Mixed Asset USD Bal - Global
Bond EUR Medium Term	Equity Norway	Mixed Asset USD Bal - US
Bond EUR Short Term	Equity Other	Mixed Asset USD Conservative
Bond Europe	Equity Philippines	Mixed Asset USD Flex - Global
Bond Europe High Yield	Equity Poland	Mixed Asset USD Flex - US
Bond GBP	Equity Portugal	Mixed Asset ZAR Aggressive
Bond GBP Corporates	Equity Russia	Mixed Asset ZAR Balanced
Bond GBP Government	Equity Saudi Arabia	Mixed Asset ZAR Conservative
Bond GBP High Yield	Equity Sector Biotechnology	Mixed Asset ZAR Flexible
Bond GBP Inflation Linked	Equity Sector Consumer Discretionary	Money Market ARS
Bond GBP Short Term	Equity Sector Consumer Staples	Money Market AUD

Bond Global	Equity Sector Energy	Money Market CAD
Bond Global AUD Hedged	Equity Sector Financials	Money Market CHF
Bond Global Corporates	Equity Sector Gold&Prec Metals	Money Market CLP
Bond Global EUR Hedged	Equity Sector Healthcare	Money Market CZK
Bond Global High Yield	Equity Sector Industrials	Money Market EUR
Bond Global Inflation Linked	Equity Sector Information Tech	Money Market EUR Leveraged
Bond Global JPY Hedged	Equity Sector Materials	Money Market GBP
Bond Global Short Term	Equity Sector Real Est Asia Pacific	Money Market Global
Bond Global USD Hedged	Equity Sector Real Est Australia	Money Market HKD
Bond HKD	Equity Sector Real Est Europe	Money Market INR
Bond HUF	Equity Sector Real Est Global	Money Market JPY
Bond IDR	Equity Sector Real Est Japan	Money Market MXN
Bond INR	Equity Sector Real Est Other	Money Market MYR
Bond INR Government	Equity Sector Real Est US	Money Market SEK
Bond JPY	Equity Sector Telecom Srvcs	Money Market SGD
Bond KRW	Equity Sector Utilities	Money Market USD
Bond MXN	Equity Singapore	Money Market ZAR
Bond MXN Short Term	Equity South Africa	Protected
Bond MYR	Equity Spain	Real Estate Australia
Bond NOK	Equity Sweden	Real Estate Global

Bond NZD	Equity Sweden Sm&Mid Cap	Real Estate Other
Bond Other	Equity Swiss Sm&Mid Cap	Real Estate UK
Bond Other CHF Hedged	Equity Switzerland	Real Estate US
Bond Other EUR Hedged	Equity Taiwan	Target Maturity Bond EUR 2015
Bond Other Hedged	Equity Thailand	Target Maturity Bond EUR 2020+
Bond Other Inflation Linked	Equity Turkey	Target Maturity MA EUR 2020
Bond Other USD Hedged	Equity UAE	Target Maturity MA EUR 2025
Bond PLN	Equity UK	Target Maturity MA EUR 2030
Bond RUB	Equity UK Diversified	Target Maturity MA EUR 2035
Bond SEK	Equity UK Income	Target Maturity MA EUR 2040
Bond SGD	Equity UK Sm&Mid Cap	Target Maturity MA EUR 2045+

Contact us

esgclientservice@msci.com

AMERICAS

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
São Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 *
Thailand	0018 0015 6207 7181 *
Tokyo	+ 81 3 5290 1555

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