METHODOLOGY BOOK FOR:
-MSCI WORLD ESG DIVIDEND SELECT 100 INDEX
- MSCI WORLD ESG DIVIDEND SELECT 100 3.5% DECREMENT INDEXES
- MSCI WORLD ESG DIVIDEND SELECT 100 3.6% DECREMENT INDEXES

April 2021

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1 Introduction

The MSCI World ESG Dividend Select 100 Index aims to represent the performance of a strategy that seeks higher dividend yield than the MSCI World index with control over ex-ante total risk, along with dividend growth and improved ESG characteristics. The index aims to achieve diversification with country and sector constraints.

The index is a Non-Market Capitalization Weighted Index, providing an alternative weighting construct using optimization.

The MSCI World ESG Dividend Select 100 3.5% Decrement Indexes and the MSCI World ESG Dividend Select 100 3.6% Decrement Indexes aim to represent the net performance of the MSCI World ESG Dividend Select 100 Indexes, while applying a constant markdown ('synthetic dividend') expressed in percentage terms as per the MSCI Decrement Indexes Methodology[1].

[1] Please refer to the MSCI Decrement Indexes methodology at www.msci.com/index-methodology

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2 ESG Research Framework

The MSCI World ESG Dividend Select 100 Index uses company ratings and research provided by MSCI ESG Research LLC. The index uses the following MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies and MSCI Business Involvement Screening Research.

For details on MSCI ESG Research's full suite of ESG products, please refer to: https://www.msci.com/esg-investing

2.1 MSCI ESG RATINGS

MSCI ESG Ratings provides research, data, analysis and ratings of how well companies manage environmental, social and governance risks and opportunities. MSCI ESG Ratings provides an overall company ESG rating - a seven-point scale from 'AAA' to 'CCC'. In addition, the product provides scores and percentiles indicating how well a company manages each key issue relative to industry peers, as well as underlying data and metrics used to compile the scores and ratings.

For more details on MSCI ESG Ratings, please refer to https://www.msci.com/esg-ratings

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies (formerly known as MSCI Impact Monitor) provides assessments of controversies concerning the negative environmental, social, and/or governance impact of company operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0-10 scale, with "0" being the most severe controversy.

For more details on MSCI ESG Controversies, please refer to https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b

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2.3 MSCI ESG BUSINESS INVOLVEMENT SCREENING RESEARCH

MSCI ESG Business Involvement Screening Research (BISR) aims to enable institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently.

For more details on MSCI ESG Business Involvement Screening Research, please refer to http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf

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3 Constructing the Index

The MSCI World ESG Dividend Select 100 Index is constructed from the MSCI World Index (the "Parent Index"). The following steps are applied at initial construction of the Index.

- Applicable Universe and the base currency for optimization
- Eligible Universe Screening
- Defining the Optimization objective and constraints
- Determining the optimized portfolio

In addition to the above steps, the following steps are applied to the MSCI World ESG Dividend Select 100 Index to construct the "MSCI World ESG Dividend Select 100 3.5% Decrement Indexes" and the "MSCI World ESG Dividend Select 100 3.6% Decrement Indexes".

- Applying the MSCI Decrement Indexes methodology[2]

3.1 APPLICABLE UNIVERSE AND THE BASE CURRENCY FOR OPTIMIZATION

Constructing the MSCI World ESG Dividend Select 100 Index (herein, "the Index) begins with the applicable universe and then applying screens to arrive at the eligible universe to perform the optimization. The optimization is performed from a base currency perspective and does not allow short selling of securities. The optimization base currency is US Dollar.

The optimization relies on factor exposures for all the securities in the Parent Index and the factor co-variance matrix of the relevant Barra Equity Model[3].

3.2 ELIGIBLE UNIVERSE SCREENING

3.2.1 LIQUIDITY CRITERIA

Securities with 12-month ADTV greater than or equal to EUR 20 Million are eligible for inclusion in the MSCI World ESG Dividend Select 100 Index.

ADTV is defined as Average Daily Traded Volume and is calculated as:

[2] Please refer to the MSCI Decrement Indexes methodology at www.msci.com/index-methodology

[3] Please refer to Appendix 1 for the detailed information on model usage

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$$ADTV_{3M} = \frac{ATV_{3M}{}^{4}}{252}$$

Where ATV_{3M} is annualized 12-month Average Traded Volume of the security.

To avoid multiple securities of the same company in the final index, only the most liquid security for each issuer per its 12-month ADTV is eligible for inclusion in the Index. For any issuer, should two securities have the same 12-month ADTV, the one with the higher free float-adjusted market capitalization is included.

3.2.2 CONTROVERSIAL BUSINESS INVOLVEMENT CRITERIA

The MSCI World ESG Dividend Select 100 Index uses MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics to identify companies that are involved in the following business activities. Companies that meet the below values- and climate change-based criteria are excluded from the eligible universe. Please refer to Appendix 5 for details on these criteria.

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3.2.3 ESG CONTROVERSIES SCORE ELIGIBILITY

The MSCI World ESG Dividend Select 100 Index uses MSCI ESG Controversies Scores to identify those companies that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services. Companies are required to have an MSCI ESG Controversies Score of 1 or higher to be eligible for inclusion in the MSCI World ESG Dividend Select 100 Index[5].

3.2.4 ESG RATINGS ELIGIBILITY

The MSCI World ESG Dividend Select 100 Index uses MSCI ESG Ratings to identify companies that have demonstrated an ability to manage their ESG risks and

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[4] MSCI Index Calculation Methodology at

https://www.msci.com/index-methodology

MSCI Global Investable Market Indexes Methodology at

https://www.msci.com/index-methodology

[5] Unrated companies (Companies not assessed by MSCI ESG Research on MSCI ESG Controversies Score) are excluded from the eligible universe. For more details refer to the MSCI ESG Universal Index: https://www.msci.com/eqb/methodology/meth_docs/ESG_Universal_Index_Methodology.pdf

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opportunities. Companies having MSCI ESG Rating of ‘BB’ or higher are eligible for inclusion in the MSCI World ESG Dividend Select 100 Index[6].

3.2.5 ESG SCORE SCREENING

After applying all the above screens, the Index excludes bottom 30% of the securities from the remaining universe, as ranked based on their industry-adjusted ESG Score.

In case of two or more securities having the same industry-adjusted ESG Score the security with the higher weight in the Parent Index is given higher rank.

3.2.6 DIVIDEND SCREENING

After applying the above ESG score screening, securities with the current Dividend per share lower than the Dividend per share 12-month prior are excluded from the index.

3.3 DEFINING THE OPTIMIZATION OBJECTIVE AND CONSTRAINTS

3.3.1 OPTIMIZATION OBJECTIVE

The Optimization objective is to maximize the alpha score (representative of the exposures to the set of target factors) under the “risk upper bound” constraint where the risk upper bound is equal to or lower than a fixed proportion of the (predicted) total risk of the MSCI World Index at the time of rebalancing, along with various other optimization constraints as specified in 3.3.2.

CALCULATION OF THE ALPHA SCORE

$$\alpha(i) = DYF(i)$$

Where,

$\alpha(i)$ = Alpha score for each security i

$DYF(i)$ = Factor exposure of each security i to the target Dividend Yield [7]factor

3.3.2 OPTIMIZATION CONSTRAINTS

The MSCI World ESG Dividend Select 100 Index is constructed using the Barra Open Optimizer in combination with the relevant Barra Equity Model. The optimization uses

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[6] Unrated companies (Companies not assessed by MSCI ESG Research on MSCI ESG Rating) are excluded from the eligible universe. For more details refer to the MSCI ESG Universal Index: https://www.msci.com/eqb/methodology/meth_docs/ESG_Universal_Index_Methodology.pdf

[7] Please refer to appendix 2

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the above selected securities as the universe of eligible securities and the specified optimization objective and constraints to determine the Index.

At each quarterly rebalance, the following optimization constraints are applied which aim to ensure investability while achieving higher dividend yield than the Parent Index with control over ex-ante total risk.

- The maximum weight of an index constituent will be 2.5%.
- The minimum weight of an index constituent will be 0.25%.
- The number of constituents in the index will be 100.
- For countries with weight greater than 2.5% in the Parent Index, the weight in the MSCI World ESG Dividend Select 100 Index will not deviate more than +/-10% from the country weight in the Parent Index.
- For countries with weight less than 2.5% in the Parent Index, the weight in the MSCI World ESG Dividend Select 100 Index will be capped at 5 times their weight in the Parent Index.
- The sector weights of the MSCI World ESG Dividend Select 100 Index will not deviate more than +/-10% from the sector weights of the Parent Index.
- The exposure of the MSCI World ESG Dividend Select 100 Index to the Quality and Momentum Barra style factors will be restricted to be between 0 and +0.75 standard deviations relative to the Parent Index
- The exposure of the MSCI World ESG Dividend Select 100 Index to the Growth, Liquidity, Value and Size Barra style factors will be restricted to +/-0.75 standard deviations relative to the Parent Index
- The MSCI World ESG Dividend Select 100 Index total risk will be less than or equal to 1.1 times the ex-ante total risk of the Parent Index.
- The one-way turnover of the MSCI World ESG Dividend Select 100 Index is constrained to a maximum of 100% at each quarterly index review.

3.4 DETERMINING THE OPTIMIZED INDEX

The weights of the securities are an outcome of the optimization process. The optimization uses the eligible universe as the universe of eligible securities and the specified optimization objective and constraints to determine the MSCI World ESG Dividend Select 100 Index.

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3.5 APPLYING THE MSCI DECREMENT INDEXES METHODOLOGY

The MSCI Decrement Indexes Methodology[8] is applied on the MSCI World ESG Dividend Select 100 Index to construct the MSCI World ESG Dividend Select 100 3.5% Decrement Indexes and the MSCI World ESG Dividend Select 100 3.6% Decrement Indexes. The parameters for the application of the decrement methodology in the above index is noted in Appendix 3 and Appendix 4.

[8]Please refer to the MSCI Decrement Indexes methodology at www.msci.com/index-methodology

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4 Maintaining the Index

4.1 QUARTERLY INDEX REVIEWS

The MSCI World ESG Dividend Select 100 Index is reviewed on a quarterly basis as per the steps described in Section 3, coinciding with the May and November Semi-Annual Index Reviews and the February and August Quarterly Index Reviews of the Parent Index. The MSCI World ESG Dividend Select 100 Index is rebalanced over five days T-4,T-3, T-2, T-1 and T, where T Is the effective date of the May and November Semi-Annual Index Review (SAIR) and the February and August Quarterly Index Reviews of the Parent Index.

The pro forma MSCI World ESG Dividend Select 100 Index (herein, "Pro forma Index") in general is announced nine business days before T (T-9).

4.1.1 STAGGERED REBALANCE

The rebalance changes of the Pro forma Index are then staggered for implementation by spreading the change in Index Number of Shares (NOS) for each security over five days leading into the rebalancing effective date (T). For each $t \in$ {T-4, T-3, T-2, T− 1, T}, number of shares for each security included in the MSCI World ESG Dividend Select 100 Index ($Staggered\ Index\ NOS\ (t)$) are calculated as below:

$Staggered\ Index\ NOS\ (t) = Pro\ forma\ Index\ NOS\ (t) + [Adjusted\ Pro\ forma\ Index\ NOS\ (T) - Pro\ forma\ Index\ NOS\ (t)] * (N/5)$

Where:

$t : Effective\ date\ of\ the\ staggering$

$T: Rebalancing\ effective\ date\ of\ the\ Pro\ forma\ Index$

$Pro\ forma\ Index\ NOS\ (t): It\ is\ the\ number\ of\ shares\ of\ a\ security\ in\ the\ Pro\ forma\ Index\ effective\ on\ t\ (as\ of\ close\ t-1). It\ is\ calculated\ as\ a\ product\ of\ the\ end\ of\ day\ security\ number\ of\ shares\ on\ t-1\ and\ Full\ Market\ Cap\ Adjustment$ Factor[9] $in\ the\ Pro\ forma\ Index\ on\ t$

$Adjusted\ Pro\ forma\ Index\ NOS\ (T) : Pro\ forma\ Index\ NOS\ (T)\ adjusted\ for\ change\ in\ number\ of\ shares\ due\ to\ events\ like\ Rights\ Issues, Split, Consolidation, Stock\ Dividend, effective\ between\ t\ and\ T$

$N = nth\ day\ of\ staggering, e.g.\ t-4\ is\ 1st\ day\ of\ staggerring$

[9] Full Market Cap Adjustment Factor (FMCAF): A factor that is used in index constituent weighting calculation defined as (Inclusion Factor (i.e. FIF)) *(Constraint Factor) * (Variable Weighting Factor). For more details, please refer to section 2.7 of the MSCI corporate Events Methodology book at http://www.msci.com/index-methodology

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4.2 DAILY DECREMENT CALCULATION

The performance of MSCI World ESG Dividend Select 100 3.5% Decrement Indexes and MSCI World ESG Dividend Select 100 3.6% Decrement Indexes is computed by reducing the performance of the MSCI World ESG Dividend Select 100 Index, by a fixed percentage, on a daily basis using parameters detailed in Appendix 3 and Appendix 4.

4.3 ONGOING EVENT RELATED CHANGES

Corporate event treatment for the MSCI World ESG Dividend Select 100 Index depends on whether the effective date of the event falls within the staggering period (T-4, T-3, T-2, T-1, T), or outside the staggering period.

The MSCI Corporate Events methodology book is available at: https://www.msci.com/Index-methodology

4.3.1 EVENTS EFFECTIVE OUTSIDE THE STAGGERING PERIOD

The general treatment of corporate events effective outside the staggering period in the MSCI World ESG Dividend Select 100 Index aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor's participation in an event based on relevant deal terms and pre-event weighting of the index constituents that are involved. Further, changes in index market capitalization that occur as a result of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

The following section briefly describes the treatment of common corporate events within the MSCI World ESG Dividend Select 100 Index.

No new securities will be added (except where noted below) to the Index outside the Staggering Period. Parent Index deletions outside the staggering period will be reflected simultaneously.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will not be added to the Index at the time of event implementation. Reevaluation for

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	continued inclusion in the Index will occur at the subsequent Index Review.
Merger/Acquisition	For Mergers and Acquisitions, the acquirer's post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index. If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.
Changes in Security Characteristics	A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.) Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology book under the sections detailing the treatment of events in Capped Weighted and Non-Market Capitalization Weighted Indexes.

The MSCI Corporate Events methodology book is available at:
https://www.msci.com/Index-methodology

4.3.2 EVENTS EFFECTIVE DURING THE STAGGERING PERIOD

The impact of event on the MSCI World ESG Dividend Select 100 Index depends on the type of event and calculation date of the Index as elaborated below.

4.3.2.1 CALCULATION ON T-9

a) Before effective date
The pro forma MSCI World ESG Dividend Select 100 Index in general is announced nine business days before T (T-9). If there is an event already confirmed on T-9 with an effective date in the staggering period, the change in numbers of shares for the security due to the rebalancing will not be staggered for such security until the event

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effective date. In case of multiple events, the staggering will be postponed till the effective date of the earliest event.

b) On and after effective date

In case of Rights Issues and market neutral events (like Split, Consolidation, Stock Dividend etc.) which involve change in security number of shares but does not involve change in the full market cap adjustment factor, staggering will start from the next day of the event effective date.

For all other events, staggering will start from the effective date of the event.

4.3.2.2 CALCULATION AFTER T-9

a) Before Effective Date

In case of an event effective in the staggering period, the numbers of shares for the security involved in the event as announced on T-9 will hold until a day before the effective date. In case of multiple events, the effective date of the earliest event will be taken into account.

b) On and after the Effective Date

In case of Rights Issues and market neutral events (like Split, Consolidation, Stock Dividend etc.) which involve change in security number of shares but does not involve a change in inclusion factor, staggering will be applied again from the next day of the event effective date, taking into account the new post event number of shares in the Index.

For all other events, staggering will be applied from the effective date of the event incorporating the post event number of shares.

4.3.2.3 TREATMENT OF SUSPENDED SECURITIES

A suspension treatment will be applied to any security suspended on any day starting from T-6 until T-2. On the day of suspension (t), the pro-forma Full Market Cap Adjustment Factor in MSCI World ESG Dividend Select 100 Index announced for the security for the next day (t+1) will be held constant until T. However, in case, on T-2, if a new addition to the Parent Index is reverted due to suspension and the security is no longer a part of the Parent Index on T, the security will also be deleted from the MSCI World ESG Dividend Select 100 Index effective on T.

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Appendix 1: New release of Barra® Equity Model or Barra® Optimizer

The methodology presently uses MSCI Barra Global Equity Model for Long-Term Investors ("GEMLTL") for the optimization. A new release of the relevant Barra Equity Model or Barra Optimizer may replace the former version within a suitable timeframe.

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Appendix 2: Dividend Yield Factor Definition

The Dividend Yield factor is described using MSCI's Barra Global Equity Model for Long-Term Investors (GEMLTL). The precise choice of component factors used to represent each broad factor group is governed by the current model used for the optimization, which may change with a new release of the Barra Equity Model.

Dividend Yield

Definition = 0.5*DTOP + 0.5*DTOPF

Where,

DTOP = Dividend Yield

Computed by dividing the trailing 12-month dividend per share by the price at the last month end.

DTOPF = Analyst-Predicted Dividend-to-Price

Computed by dividing the 12-month forward-looking dividend per share (DPS) by the current price. Forward-looking DPS are defined as a weighted average between the average analyst-predicted DPS for the current and next fiscal years.

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Appendix 3: Parameters used for the MSCI World ESG Dividend Select 100 3.5% Decrement Indexes

The following parameters are used for the calculation of MSCI World ESG Dividend Select 100 3.5% Decrement Indexes

	MSCI Decrement Indexes Methodology Parameters	Parameters
1	Currency of Calculation	USD/EUR
2	Return Variant of the MSCI World ESG Dividend Select 100 Index	Daily Net Total Return
3	Decrement Type	Fixed Percentage Decrement
4	Decrement Application	Geometric Application
5	Decrement Value	3.5%
6	Day-count Convention	Actual / 365
7	Index Floor	0
8	Decrement Frequency	Daily

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Appendix 3: Parameters used for the MSCI World ESG Dividend Select 100 3.6% Decrement Indexes

The following parameters are used for the calculation of MSCI World ESG Dividend Select 100 3.6% Decrement Indexes

	MSCI Decrement Indexes Methodology Parameters	Parameters
1	Currency of Calculation	USD/EUR
2	Return Variant of the MSCI World ESG Dividend Select 100 Index	Daily Net Total Return
3	Decrement Type	Fixed Percentage Decrement
4	Decrement Application	Geometric Application
5	Decrement Value	3.6%
6	Day-count Convention	Actual / 365
7	Index Floor	0
8	Decrement Frequency	Daily

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Appendix 5: Values-Based Exclusion Criteria

The MSCI World ESG Dividend Select 100 Index is constructed with an aim to reflect the performance of companies that are consistent with specific values- and climate change-based criteria.

Values-based Exclusions Criteria

- **Tobacco**
  - All companies classified as a "Producer".
  - All companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products.

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Appendix 6: Handling Infeasible Optimizations

During the quarterly Index review, in the event that there is no optimal solution that satisfies all the optimization constraints defined in Section 3.3.2, the number of constituents, minimum weight of a single security and total risk upper bound constraints are relaxed automatically by setting both thematic exposure and market cap exposure as a Soft Constraint in the Barra Optimizer, to find an optimal solution.

In the event that there is no optimal solution after the above constraints have been relaxed, the MSCI World ESG Dividend Select 100 Index will not be rebalanced for that Index review.

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