ECPI BOND INDEX CALCULATION METHODOLOGY

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ECPI Srl is a member of Confluence

TABLE OF CONTENTS

INTRODUCTION

The present document defines the rules for the calculation and management of the ECPI Bond Indices.

The Index Rules and Index Constituents are available:

- on ECPI's website, at **www.ecpigroup.com** as well as
- on the Confluence website, at **https://www.confluence.com/index-governance/** and/or
- can be requested at **ecpi.indices@confuence.com**.

ECPI SUSTAINABLE INDICES

The objective of ECPI Indices is that of providing the user with tradable indices that in their construction and management take into account, in addition to traditional financial criteria, also non-financial dimensions.

All ECPI Indices are characterized by (i) either a rigorous exclusion of companies that operate in certain sectors in coherence with the ethical sensibility of the investor and/or by (ii) a positive selection of companies that demonstrate a solid ESG profile.

ECPI Indices may be used as the basis for various investment vehicles: they allow for an efficient implementation of socially responsible or sustainable mandates as well as index-tracking portfolios and exchange traded funds.

Socially Responsible and Sustainability criteria used to select the indices' constituents, offer a conduit for investors to jointly express their interest in sustainability and, thus, to collectively move the relevant issues up the corporate agenda.

StatPro, a Confluence Company, is the Index Administrator of the ECPI Bond Indices

GUIDING PRINCIPLES

The ECPI Socially Responsible & ESG Bond Indices family is built and maintained according to the following principles:

- **Market Representation**
  The indices represent the reference markets and reflect the opportunities available to the investors. The main criteria used to ensure market representation are market capitalization and sector composition.

- **Investible and Replicable**
  The indices should be capable of being replicated by users, this objective is achieved by: free float adjusting of constituent capitalization and selection of securities with reasonable size and liquidity.

- **Disciplined Approach**
  ECPI Indices are constructed and managed using a set of principles, rules and guidelines. This approach is followed to maintain the attributes of a benchmark, such as stability of the index, proper diversification across industries and securities and accurate respect of the socially responsible criteria.

- **Transparency**
  The indices are built and maintained using clear and transparent rules, available on public sources; moreover, the indices are published daily on the most important financial info providers worldwide (Bloomberg, Refinitiv, StatPro Revolution).

- **Independence and Objectivity**
  The indices are based on independent and objective content decisions. ECPI believes in an open dialogue with its clients, considering with objectivity their suggestions to enhance the indices' provision. Analysing all the feedback received by its clients, ECPI takes the final decision in order to preserve the quality of the indices via the adoption of a rigorous mechanism of "Approval of Index Rules Revisions".

- **Continuity and Indices' Turnover**
  ECPI Indices are managed to ensure the continuity of the indices. Continuity refers to the consistent application of the index methodology. The indices are also managed with the aim of keeping the level of index turnover relatively low, while at the same time reflecting the evolution of the reference market.

- **Sustainability**
  Every Instrument which composes the indices has to satisfy defined socially responsible investment criteria.

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SELECTION CRITERIA

The selection criteria for the inclusion of bonds in the ECPI Global Bond indices are:

- Bond Type
- Bond Classification
- Credit Rating
- Time to maturity
- Amount Outstanding
- Eligible Countries
- Eligible Currencies
- Sustainability

BOND TYPE

General inclusion criteria: only fixed rate bonds whose cash flow can be determined in advance are eligible for the indices.

In particular, bonds with the following characteristics are included:

- Fixed coupon bonds
- Zero coupon bonds
- Step-ups
- Event-driven bonds, such as rating- or tax-driven bonds with a maximum of one coupon change per period
- Dated and undated callable corporate bonds, including fixed-to-floater bonds that change to a floating rate note at or after the first call date. Undated bonds must be callable. In the index calculation, these bonds are always assumed to redeem at the first call date
- Inflation-linked bonds, exclusively for the indices belonging to the ECPI Inflation Linked Bond Index Family

The following bonds are specifically excluded: index-linked bonds, sinking funds and amortizing bonds, other callable and undated bonds, floating rate notes and other fixed-to-floater bonds, convertible bonds, private placements, subordinated bank or insurance debt with mandatory contingent conversion features or with any conversion options before the first call date, CDOs (Collateralized Debt Obligations) and bonds collateralized by CDOs, covered bonds (bonds secured by a general pool of assets).

BOND CLASSIFICATION

Each bond is classified into one of the three categories: Sovereigns, Sub-Sovereigns and Corporate Bonds as well as a number of category-specific subsectors.

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- **Sovereigns**: bonds issued by a central government

- **Sub-sovereigns**: bonds issued by local governments (e.g. German Bundeslaender) and bonds guaranteed or issued by entities guaranteed by governments such as government agencies (e.g. Cades, KfW), public banks or supranational entities (e.g. EIB, World Bank), bonds issued by unguaranteed financial institutions with an irrevocable and explicit guarantee issued by the government of the issuer country that covers amount and timeliness of all interest and principal payments until the maturity of the bond. The two main sub-sovereign sectors are: agencies and supranationals. Agency's bonds are issued by entities whose major business is to fulfill a government-sponsored role to provide public services. Supranational bonds are issued by supranational entities, i.e. entities that are owned by more than one central government.

- **Corporate bonds**: bonds issued by public or private corporations.

CREDIT RATING

All bonds in the ECPI Bond index family are categorized as either investment grade or sub-investment grade with substantial or high credit risk. Obligations that present a higher credit risk are excluded.

TIME TO MATURITY

All bonds must have a minimum remaining time to maturity of at least one year at the rebalancing date. For callable bonds, the first call date is always assumed to be the expected redemption date. The expected remaining life is calculated as the number of days between the rebalancing date and the expected redemption date.

AMOUNT OUTSTANDING

All bonds require a specific minimum amount outstanding in order to be eligible for the indices, as shown below. The minimum amount outstanding is defined for each bond classification used and for each eligible currency:

GLOBAL DEVELOPED GOVERNMENT BONDS

- AUD, CAD, EUR, GBP, SEK, USD: 2bn
- CHF, DKK, ILS, NOK, NZD: 1bn
- JPY: 150bn

SUB-SOVEREIGNS BONDS

- EUR: 1bn

EMERGING MARKETS GOVERNMENT BONDS
- EUR, USD: 500mln

INVESTMENT GRADE AND HIGH YIELD CORPORATE BONDS

- AUD, CAD, CHF, DKK, EUR, ILS, NOK, NZD, SEK, USD: 500mln
- GBP: 250mln
- JPY: 50bn

GLOBAL DEVELOPED ELIGIBLE COUNTRIES

The following list reports the eligible countries of incorporation for indices belonging to the ECPI Global Developed Indices:

- Australia
- Austria
- Belgium
- Canada
- Denmark
- Finland
- France
- Germany
- Greece
- Ireland
- Israel
- Italy
- Japan
- Luxembourg
- Netherlands
- New Zealand
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- United Kingdom
- United States

EUROZONE ELIGIBLE COUNTRIES

The following list reports the eligible countries of incorporation for indices belonging to the ECPI Euro Indices:

- Austria
- Belgium
- Finland
- France
- Germany
- Greece
- Ireland
- Italy
- Luxembourg
- Netherlands
- Portugal
- Spain

EMERGING MARKETS

Sovereigns and Sub-sovereigns incorporated in countries not belonging to the Global Developed Eligible Countries' list are eligible for inclusion in the ECPI Emerging Markets ESG Government Bond Index.

ELIGIBLE CURRENCIES

The following list reports the eligible currencies for indices belonging to the ECPI Bond Index Family:

- AUD
- CAD
- CHF
- DKK
- EUR
- GBP

- ILS
- JPY
- NOK
- NZD
- SEK
- USD

WEIGHTING

The market value of each bond is used to calculate its index weight. The indices are capitalization-weighted.

SUSTAINABILITY SCREENING

All bonds included in the ECPI Bond Index Family are issued by entities that are eligible according to ECPI Rating Methodology, in particular:

- For ECPI Ethical Indices, instruments issued by entities that are:

    o eligible according to ECPI ESG Screening Methodology (ECPI ESG rating equal to or greater than E-)
    o pass the ECPI Sector Screening (please refer to chapter "ECPI ESG COMPANY RATING" for the list of the eight excluded controversial sectors)
    o not involved in systematic violations of the UN Global Compact

- For ECPI ESG Indices instruments issued by entities that are:

    o eligible according to ECPI ESG Screening Methodology /ECPI Government Governance Rating Methodology (ECPI ESG rating equal to or greater than E-)
    o not involved in controversial weapons (Nuclear, Biological, Chemical, Cluster Munitions, Mines) production
    o not involved in the production of tobacco or products that contain tobacco
    o not involved in systematic violations of the UN Global Compact

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PERIODIC REVIEW

ECPI Bond indices are reviewed and re-balanced on a monthly basis. This includes:

BOND SELECTION

The universe of bonds is reviewed monthly; the issues meeting the criteria described above at the end of the month are included in the indices. The cut-off date for meeting the amount outstanding criteria is three business days prior to month-end. The rating information includes all rating actions published three trading days before the end of the month. Intra-month rating changes are reflected at the beginning of the following month. The time to maturity is measured from the rebalancing date to the final specified maturity date of the bond.

INDEX COMPOSITION

All bonds are assigned to the indices according to their classification. The assignment of a bond to a certain maturity bucket is based on its expected remaining life. The expected remaining life is expressed in years and calculated as follows:

- For plain vanilla bonds, the expected remaining life of the bond is its time to maturity, calculated as the number of days between the last calendar day of the current month and its maturity.
- For dated and undated callable bonds, the first call date is always assumed to be the expected redemption date. The expected remaining life is calculated as the number of days between the last calendar day of the month and the expected redemption date.

All bonds remain in their maturity bucket for the entire month.

WEIGHTING ADJUSTMENTS

Within an index, each bond is weighted according to its market value. Intra-month changes of the amount outstanding for each bond are reflected in the index through the rebalancing procedure at the beginning of the next month.

COUPON ADJUSTMENTS

Coupon changes to corporate bonds are taken into account in the calculation of the indices from the exact date on which the coupon was altered.

RE-BALANCING TIMEFRAME

Two business days before the end of each month, a final list of securities entering and exiting the index is published (Review).

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INDEX CALCULATION

CALCULATING THE INDICES

The indices are calculated based on bid prices. Bonds that currently are not in the index but become eligible at the next rebalancing will enter the indices at their ask price. If necessary, other pricing sources may be selected by ECPI in order to guarantee representativeness and the quality of the index.

CURRENCY OF CALCULATION

The indices are calculated in EURO using 4pm UK time spot rates for conversion.

MINIMUM NUMBER OF BONDS

An index is calculated if at least one available bond matches all index criteria. If no more bonds qualify for an index, that index is no longer calculated and the index level remains at the last published level. If at least one bond qualifies again, calculation of the index is resumed.

MATURITY BUCKETS

All bonds are categorized into maturity buckets. As a principle, the bands are defined as 1-3, 1-5, 1-10, 1-20, 3-5, 5+, 5-7, 5-10, 5-15, 7+, 7-10 and 10+ years.

BONDS TRADING FLAT OF ACCRUED

If a bond is identified as trading flat of accrued, the accrued interest of the bonds is set to 0 in the total return index calculation and the bond is excluded from the calculation of all bond and index analytical values.

REINVESTMENT OF CASH

Payments from coupons and scheduled partial and unscheduled full redemptions are held as cash until the next rebalancing when the cash is reinvested in the index.

SETTLEMENT CONVENTIONS

The settlement convention is t+0.

INDEX FORMULAS

The indices are calculated as basket indices based on real bonds. All indices are published as total return indices.

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The ECPI Bond indices are calculated on a capitalization-weighted basis that recognizes the relative changes in value compared to the beginning of each month. The composition and weightings of the index are adjusted at the beginning of each month.

INTRA MONTH EVENTS

CALLED BONDS

Bonds that are called during the month are treated immediately: the value of the called bond is kept constant at the call price plus accrued interest as of the call date and brought forward until the next rebalancing.

FUNGED BONDS

Bonds may be issued in several tranches. The different tranches are initially legally separate and therefore trade independently for a certain period. On and after the funge date, the tranches will be combined into one bond, i.e. the parent tranche will contain the original security, as well as the additional notional(s) from the new tranche(s). After the funge date, the prices for both the securities are the same, because they constitute one uniform bond. This is reflected in the indices as follows:

- After the funge date, the price from the parent tranche is used for the funged tranche;
- Funged tranche leaves the index at the next rebalancing and parent amount outstanding increases accordingly.

EX-DIVIDEND CONVENTION

Some markets have ex-dividend conventions. Ex-dividend means that the next coupon is detached from the bond several days in advance of the coupon payment date. The date on which the next coupon is detached is the ex-dividend date and the period between the ex-dividend date and the coupon payment date is the ex-dividend period. If a bond is in the ex-dividend period, the next coupon payment will not be paid to a buyer of this bond, but will be paid to the original bond holder.

The treatment of such bonds is as follows:

- At the rebalancing: a bond is not included as a new component of the index if it is under the ex-dividend period.

- For index components with ex-dividend conventions: the index calculation will consider the coupon on the relevant payment date.

TOTAL RETURN BOND INDICES

DEFINITION

ECPI bond indices are calculated as capitalization-weighted indices.

A capitalization-weighted (or "cap-weighted") index, also called a market-value-weighted index is a bond market index whose components are weighted according to the total market value of their outstanding bonds.

TOTAL RETURN INDEX

For total return indices the monthly adjustment involves the reinvestment of coupon payments into the index at the beginning of the new month.

Total return indices are calculated as follows:

$$\text{TR}_t \; = \; \text{TR}_{t\text{-}s} \, \frac{\sum_{i=1}^{n}\big(P_{i,t} + A_{i,t} + XD_{i,t\text{-}s} * (CP_{i,t}+G_{i,t})\big) * N_{i,t\text{-}s}}{\sum_{i=1}^{n}(P_{i,t\text{-}s}+A_{i,t\text{-}s}+XD_{i,t\text{-}s}*CP_{i,t\text{-}s}) * N_{i,t\text{-}s}}$$

NOTATION

- $A_{i,t}$ = Accrued interest of bond i at time t
- $A_{i,t\text{-}s}$ = Accrued interest of bond i on the last calendar day of the previous month
- $CP_{i,t}$ = Value of the next coupon payment of bond i during an ex-dividend period (because the next coupon is separated from the bond during the ex-dividend period). Outside the ex-dividend period, the value is 0
- $CP_{i,t\text{-}s}$ = Value of the next coupon payment of bond i (at the last re-balancing) during an ex-dividend period (because the next coupon is separated from the bond during the ex-dividend period). Outside the ex-dividend period, the value is 0
- $G_{i,t}$ = Coupon payment received from bond i between the day of the payment and month-end. If none the value is set to 0
- n = Number of bonds resp. number of future cash flows in the index
- $N_{i,t\text{-}s}$ = Notional of bond i at the last rebalancing
- $P_{i,t}$ = Price of bond i at time t
- $P_{i,t\text{-}s}$ = Closing price of bond i on the last trading day of the previous month
- $PI_{i,t}$ = Price Index level at time t
- $PI_{i,t\text{-}s}$ = Closing price index level on the last calendar day of the previous month
- s = Time since last rebalancing
- t = Time of calculation
- TR_t = Total return index level at time t
- $\text{TR}_{t\text{-}s}$ = Closing total return index level on the last calendar day of the previous Month

- $XD_{i,t-s} = 0$, if the bond enters the index during its current ex-dividend period (to ensure that the next coupon payment is not included in the total return calculation)
- $XD_{i,t-s} = 1$, if (a) the bond does to have ex-dividend conventions, (b) has not entered the index during an ex-dividend period, or (c) entered the index during a previous ex-dividend period

INFLATION LINKED BOND INDICES

DEFINITION

Inflation-linked bonds, primarily issued by sovereign governments, are indexed to inflation so that the principal and interest payments rise and fall with the rate of inflation.

ECPI Inflation-linked bond indices are calculated as capitalization-weighted indices.

A capitalization-weighted (or "cap-weighted") index, also called a market-value-weighted index is a bond market index whose components are weighted according to the total market value of their outstanding bonds.

INFLATION LINKED TOTAL RETURN INDEX

For total return indices the monthly adjustment involves the reinvestment of coupon payments at the beginning of the month.

Consequently, total return indices are calculated as follows:

$$\text{TR}_t \;=\; \text{TR}_{t\text{-}s} \frac{\sum_{i=1}^{n}\left(P_{i,t} * IR_{i,t} + A_{i,t} * IR_{i,t} + \left(CP_{i,t} * IR_{i,t} + G_{i,t} * IR_{i,t}\right)\right) * N_{i,t\text{-}s}}{\sum_{i=1}^{n}(P_{i,t\text{-}s} + A_{i,t\text{-}s} + CP_{i,t\text{-}s}) * N_{i,t\text{-}s} * IR_{i,t-s}}$$

$$N_{i,t}^{N} = N_{i,t} * IR_t$$

$$IR_t = \frac{CPI_t}{CPI_{t0}}$$

NOTATION

- $A_{i,t}$ = Accrued interest of bond i at time t
- $A_{i,t\text{-}s}$ = Accrued interest of bond i on the last calendar day of the previous month
- $CP_{i,t}$ = Value of the next coupon payment of bond i during an ex-dividend period (because the next coupon is separated from the bond during the ex-dividend period). Outside the ex-dividend period, the value is 0
- $CP_{i,t\text{-}s}$ = Value of the next coupon payment of bond i (at the last re-balancing) during an ex-dividend period (because the next coupon is separated from the bond during the ex-dividend period). Outside the ex-dividend period, the value is 0
- $G_{i,t}$ = Coupon payment received from bond i between the day of the payment and month-end. If

none the value is set to 0

- n = Number of bonds resp. number of future cash flows in the index
- $N_{i,t-s}$ = Notional of bond i at the last rebalancing
- $P_{i,t}$ = Price of bond i at time t
- $P_{i,t-s}$ = Closing price of bond i on the last trading day of the previous month
- $PI_{i,t}$ = Price Index level at time t
- $PI_{i,t-s}$ = Closing price index level on the last calendar day of the previous month
- s = Time since last rebalancing
- t = Time of calculation
- TR_t = Total return index level at time t
- TR_{t-s} = Closing total return index level on the last calendar day of the previous Month
- $XD_{i,t-s}$ = 0, if the bond enters the index during its current ex-dividend period (to ensure that the next coupon payment is not included in the total return calculation)
- $XD_{i,t-s}$ = 1, if (a) the bond does to have ex-dividend conventions, (b) has not entered the index during an ex-dividend period, or (c) entered the index during a previous ex-dividend period
- CPI_t = Reference Consumer Price Inflation on settlement date t
- CPI_{t0} = Base index level applying to the interest accrual date of the bond

HEDGED BOND INDICES

DEFINITION

A currency hedged index is constructed by adding a layer of currency forward contracts to the underlying unhedged indexes. The Hedged Indexes are calculated as daily return indexes and hedged on a monthly basis. The Hedged Indexes are designed to represent returns for global investment strategies that involve hedging currency risk, but not the underlying constituent risk.

HEDGING ALGORITHM

The hedged index performance is calculated as the performance of the unhedged index in the base currency plus the hedge impact in the base currency, as derived from the forward positions.

The hedge impact (HI) is calculated according to the following formula:

$$HI(t) = NAF \times \sum_{i=1}^{n} \left\{ Weight_{i,M-2} \times FXRate_{i,M-2} \times \left(\frac{1}{FF\ Rate_{i,M-1}} - \frac{1}{FF\ Rate_{i,old-days_t}} \right) \right\}$$

Where

t = Index calculation date.

$NAF = \dfrac{HedgedIndex_{M-2}}{HedgedIndex_{M-1}}$

M = First calendar day of the month.

$HI(t)$ = Index Hedge Impact at time t.

$Weight_{i,M-2}$ = Currency weight in the index 2 days before next month first day.

$FXRate_{i,M-2}$ = Spot rate of the currency i two business days before the start of the current calendar month. This term determines the notional amount of the foreign currency to be sold corresponding to its weight in the index.

$FFRate_{i,M-1}$ = 1-month Forward for the currency i one business day before the start of the current calendar month (or last business day of the previous calendar month)

$FF\ Rate_{i,old-days_t}$ = Interpolated odd-days forward rate of the currency i on day t.

The interpolated odd-days forward rate is calculated according to the following formula:

$$FFRate_{odd-days_t} = FXRate_t + \left\{ (FFRate_{1-month_t} - FXRate_t) \times \frac{Odd-days_t}{TotNbOfCalcDaysDuringMonth} \right\}$$

Where

$FXRate_t$ = Spot rate at time t

$FFRate_{1-month_t}$ = 1 month forward rate at time t

$Odd-Days_t$ = Number of days until the last business day of the current month (not counting t)

The performance of the hedged index total return net is calculated as:

$$Hedged\ Index = \frac{I(TRNet)_t}{I(TRNet)_{M-1}} - 1 + HI(t)$$

BALANCED INDICES

DEFINITION

The Index tracks a rules-based strategy comprised of a government bond index and an equity index with predetermined index weights.

INDEX FORMULA

The index strategy daily return is calculated as follows:

$$R_t^{ECAPBI} = 0.7 * R_t^{ECAPEGB} + 0.3 * R_t^{ECAPGP}$$

and the index strategy daily level is calculated as:

$$I_t^{ECAPBI} = (1 + R_t^{ECAPBI}) * I_{t-1}^{ECAPBI}$$

NOTATION

- R_t^{ECAPBI} = ECPI Ethical Index Balanced daily return at time t
- $R_t^{ECAPEGB}$ = ECPI Euro Ethical Government Bond daily return at time t
- R_t^{ECAPGP} = ECPI Global Ethical Equity daily return at time t
- I_t^{ECAPBI} = ECPI Ethical Index Balanced level at time t

COMPLIANCE STATEMENT

Retrospective Changes

The ECPI Index Methodology does not allow retrospective changes to previously published index values ("Backfilling"). Divisor corrections, index input changes due to late dividend announcements and other similar adjustments are not considered "backfilling".

Conflict of Interests

ECPI keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units ECPI may have information that is not available to other business units.

ECPI has established policies and procedures that prohibit constituents to its indices to be included in an index on the basis of payment volunteered from them.

Frequency of the Index Rules review

This Index Rules document is subject to periodic review to ensure that it remains representative of the relevant market it was created to evaluate and continues to meet the current and future requirements of index stakeholders.

Such a review will take place at a frequency determined by a number of factors outlined below, but will be undertaken at least annually.

Revisions to the Index Rules

Revisions to the Index Rules may originate as a result of recommendations from internal review, modifications to the regulatory regime, feedback from clients or in response to changes in the financial markets structure.

In the case of material alterations, for example, those with the potential to change the composition of an index, such as index eligibility criteria, frequency of index reconstitution or index construction rules, a wider consultation with relevant stakeholders may also be undertaken.

Approval of Index Rules revisions

The final approval of an Index Rules revision is made by The Index Governance Committee. Following the approval of a revision to the Index Rules, index users and other stakeholders are notified through the publication of a notice.
Such notices can be found on the Confluence website at:
- **https://www.confluence.com/index-governance/**

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Any feedback received from stakeholders following the implementation of revised Index Rules may be considered by The Index Governance Committee as part of the ongoing management and development of future index rules and methodologies.

Potential limitations of the Index Rules methodology

Given the objective and robust methodology of the ECPI indices, any limitations are most likely to arise due to external factors. Such factors could include an inadequate availability of market data, poor quality data or an insufficient number of eligible constituents available for inclusion in the index. In the unlikely event that such periods of stress were prolonged, then it is probable that The Index Governance Committee would consider decommissioning the index or index series. This would be essential if the index was unable to continue to adequately measure the market or economic reality it was intended to evaluate.

Decommissioning an index

ECPI have a documented procedure which is followed when considering decommissioning an index or index series. Any decommissioning proposal must be approved by The Index Governance Committee. The reasons for decommissioning an index may include those mentioned above, and additionally, an absence of clients using the index or that it is uneconomic to continue to produce the index.

In the event that an index or index series is decommissioned the following process will occur to facilitate the stakeholder's transitions to alternative indices:

- Identification of stakeholders of the index
- Publish notice to stakeholders of the index decommission at least three months prior to the decommissioning date
- Remind stakeholders one month prior to the decommission
- Publish a notice confirming decommission of the index on ECPI website

EU BENCHMARK REGULATION DISCLOSURE

In adherence with EU sustainability-related disclosures regulation for benchmarks, ECPI provides explanations of how environmental, social and governance factors are reflected in each benchmark belonging to either the fixed income family or the equity family.

Regulation References

The published texts of the Delegated Acts can be found at the following links:

- Commission Delegated Regulation (EU) 2020/1816 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published

- Commission Delegated Regulation (EU) 2020/1817 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation on how environmental, social and governance factors are reflected in the benchmark methodology

- Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks

Indices in scope

All ECPI indices aim to attain certain ESG Objectives, and therefore ECPI publishes ESG factors, including Environmental, Social and Governance Dimensions for all its Indices.
At the date this document goes public, ECPI does not offer any Index referrable to as "Climate Transition Benchmark" or "EU Paris-Aligned Benchmark".

Frequency of update and publication of ESG metrics

All ESG Metrics are calculated for each index on a monthly basis, immediately following the last business day of the month and are published within 5 business days following month end for each index in the relevant Index factsheet and published on the Company website (www.ecpigroup.com).

Data Sources

ESG metrics are calculated based on ECPI research methodology, and third-party data, Including Trucost data and publicly available data sources.

Disclosed Data and definitions

ECPI publishes, as foreseen in Annex II to the EU Delegated Act, mandatory and voluntary ESG metrics based on the underlying assets of the index.

Sovereign Bond Indices

Combined ESG Factors		
DISCLOSURES	**TYPE**	**FORMULA**
Weighted average ESG rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * ESG_i)$$ ω_i = index weight for security i ESG_i = Overall ESG score of security i
Overall ESG rating of top ten benchmark constituents by weighting in the benchmark.	Voluntary	List of Top 10 Holding and securities' ESG ratings
Environmental Factors		
Weighted average environmental rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * ENV_i)$$ ω_i = index weight for security i ENV_i = Environments pillar score of security i
Greenhouse gas (GHG) intensity of the benchmark.	Compulsory	$$\sum_i (\omega_i * CarbonIntensity_i)$$ ω_i = index weight for security i $CarbonIntensity_i$ = Territorial GHG emissions of country i, including land use, land use change and forestry, as reported by the WRI, divided by GDP (mtCO2e/million GDP)
Percentage of GHG emissions reported versus estimated.	Compulsory	$$\sum_i (\omega_i * CarbonDisclosure_i)$$ ω_i = index weight for security i $CarbonDisclosure_i$ = Percentage of GHG emissions reported for security i
Percentage of green bonds in the benchmark portfolio.	Compulsory	$$\sum_i (\omega_i * GB\_Exposure_i)$$ ω_i = index weight for security i $GB\_Exposure_i$ = 1, if security i is a Green Bond $GB\_Exposure_i$ = 0, otherwise

Social Factors

Weighted average social rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * SOC_i)$$ $\omega_i =$ index weight for security i $SOC_i =$ Social pillar score of security i
Number of benchmark constituents subject to social violations (absolute number and relative number divided by all benchmark constituents), as referred to in international treaties and conventions, United Nations principles and, where applicable, national law.	Compulsory	$$\sum_i SV\_Exposure_i$$ $SV\_Exposure_i = 1,$ if issuer i is subject to very severe controversies related to international treaties and conventions, United Nations principles on social righs $SV\_Exposure_i = 0,$ otherwise
Average human rights performance of the issuers (including a quantitative indicator and the methodology used to calculate it).	Compulsory	$$\sum_i (\omega_i * HRS_i)$$ $\omega_i =$ index weight for security i $HRS_i =$ human rights score of security i issuer
Average income inequality score, measuring the distribution of income and economic inequality among the participants in a particular economy (including a quantitative indicator and the methodology used to calculate it).	Compulsory	$$\sum_i (\omega_i * IIS_i)$$ $\omega_i =$ index weight for security i $IIS_i =$ income inequality score of security i issuer
Average freedom of expression score measuring the extent to which political and civil society organizations can operate freely (including a quantitative indicator and the methodology used to calculate it).	Compulsory	$$\sum_i (\omega_i * FH_i)$$ $\omega_i =$ index weight for security i $FH_i =$ freedom of expression score of security i issuer

Governance Factors

Weighted average governance rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * GOV_i)$$ $\omega_i =$ index weight for security i $GOV_i =$ Governance pillar score of security i issuer
Average corruption score measuring the perceived level of public sector corruption (including a	Compulsory	$$\sum_i (\omega_i * CPI_i)$$ $\omega_i =$ index weight for security i

quantitative indicator and the methodology used to calculate it).		$CPI_i = $ perceived levels of public sector corruption score of security i issuer
Average political stability score, measuring the likelihood that the current regime will be overthrown by the use of force (including a quantitative indicator and the methodology used to calculate it).	Compulsory	$$\sum_i (\omega_i * PSS_i)$$ $\omega_i = $ index weight for security i $PSS_i = $ political stability score of security i issuer
Average rule of law score, based on the absence of corruption, respect for fundamental rights, and the state of civil and criminal justice (including a quantitative indicator and the methodology used to calculate it).	Compulsory	$$\sum_i (\omega_i * RLS_i)$$ $\omega_i = $ index weight for security i $RLS_i = $ rule of law score of security i issuer

Calculation and display methodology

- **ESG RATING**: Weighted average ESG rating of the benchmark.
- **ENV RATING**: Weighted average environmental rating of the benchmark.
- **SOC RATING**: Weighted average social rating of the benchmark.
- **GOV RATING**: Weighted average governance rating of the benchmark.
- **TOP 10 POSITIONS**: Overall ESG rating of top ten benchmark constituents by weighting in the benchmark.
- **GHG intensity (tonnes CO2e/USD mn)**: Greenhouse gas (GHG) intensity of the benchmark.
- **GHG reported vs estimated (%)**: Percentage of GHG emissions reported versus estimated.
- **Green Bonds (%)**: Percentage of green bonds in the benchmark portfolio.
- **Number of Social Violations**: Number of benchmark constituents subject to social violations, as referred to in international treaties and conventions, United Nations principles and, where applicable, national law.
- **Human Rights Performance**: Average human rights performance of the issuers (Weighted average Fragile State Index - P3: Human Rights and Rule of Law). Scores are represented as values from 1 (highest human rights performance) to 10 (lowest human rights performance)
- **Income Inequality Score**: Average income inequality score, measuring the distribution of income and economic inequality among the participants in a particular economy (Weighted average Fragile State Index - E2: Uneven Economic Development). Scores are represented as values from 1 (most equal) to 10 (least equal).
- **Freedom of Expression Score**: Average freedom of expression score measuring the extent to which political and civil society organizations can operate freely (Weighted average Freedom House Index). Scores are represented as values from 1 (lowest level of freedom) to 100 (highest level of freedom).

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- **Corruption Score**: Average corruption score measuring the perceived level of public sector corruption (Weighted average Corruption Perception Index) Scores are represented as values from 1 (most corrupt) to 100 (least corrupt).
- **Political Stability Score**: Average political stability score, measuring the likelihood that the current regime will be overthrown by the use of force (Weighted average Political Stability and absence of Violence Index). Scores are represented as values from 0 (lowest political stability performance) to 10 (highest political stability performance).
- **Rule of Law Score**: Average rule of law score, based on the absence of corruption, respect for fundamental rights, and the state of civil and criminal justice (Weighted average Rule of Law Index). Scores are represented as values from 0 (lowest rule of law performance) to 10 (highest rule of law performance).

Corporate Bond Indices

Combined ESG Factors		
DISCLOSURES	**TYPE**	**FORMULA**
Weighted average ESG rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * ESG_i)$$ $\omega_i = \text{ index weight for security } i$ $ESG_i = \text{Overall ESG score of security } i$
Overall ESG rating of top ten benchmark constituents by weighting in the benchmark.	Voluntary	List of Top 10 Holding and securities' ESG ratings
Environmental Factors		
Weighted average environmental rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * ENV_i)$$ $\omega_i = \text{ index weight for security } i$ $ENV_i = \text{ Environments pillar score of security } i$
Exposure of the benchmark portfolio to climate-related physical risks, measuring the effects of extreme weather events on companies' operations and production or on the different stages of the supply chain (based on issuer exposure)	Voluntary	$$\sum_i (\omega_i * PhysicalRiskScore_i)$$ $\omega_i = \text{index weight for security } i$ $PhysicalRiskScore_i$ $= \text{climate related physical risks for security } i, \text{expressed as a weighted average physical risk score}$ $\text{with exposure to a moderate climate change scenario in the year 2030.}$
Degree of exposure of the portfolio to the sectors listed in Sections A to H and Section L of Annex I to Regulation (EC) No 1893/2006 of the European Parliament and of the Council as a percentage of the total weight in the portfolio (NACE Revision 2 Sector classification codes: A-H, L).	Compulsory	$$\sum_i (\omega_i * HCIS\_Exposure_i)$$ $\omega_i = \text{ index weight for security } i$ $HCIS\_Exposure_i$ $= 1, \text{if issuer } i \text{ belongs to a high climate impact sector listed in Sections A to H and Section L of}$ $\text{Annex I to Regulation (EC) No } 1893 - 2006 \text{ of the European Parliament and of the Council}$ $HCIS\_Exposure_i = 0, \text{otherwise}$
Greenhouse gas (GHG) intensity of the benchmark.	Compulsory	$$\sum_i (\omega_i * CarbonIntensity_i)$$ $\omega_i = \text{index weight for security } i$ $CarbonIntensity_i = \text{ Greenhouse gases divided by revenue for security } i \text{ (tonnes CO2e}$ $\text{/USD mn), calculated as}$ $\text{emissions from direct operations of the company and those of its suppliers}$

Percentage of GHG emissions reported versus estimated.	Compulsory	$$\sum_i (\omega_i * CarbonDisclosure_i)$$ $\omega_i =$ index weight for security i $CarbonDisclosure_i =$ Percentage of GHG emissions reported for security i
Exposure of the benchmark portfolio to companies the activities of which fall under Divisions 05 to 09, 19 and 20 of Annex I to Regulation (EC) No 1893/2006. (NACE Revision 2 Sector division codes: 05-09, 19 and 20)	Compulsory	$$\sum_i (\omega_i * BS\_Exposure_i)$$ $\omega_i =$ index weight for security i $BS\_Exposure_i$ $= 1,$ if issuer i belongs to a brown sector falling under Divisions 05 to 09, 19 and 20 of Annex I to Regulation (EC) No 1893/2006 $BS\_Exposure_i = 0,$ otherwise
Percentage of green bonds in the benchmark portfolio.	Compulsory	$$\sum_i (\omega_i * GB\_Exposure_i)$$ $\omega_i =$ index weight for security i $GB\_Exposure_i = 1,$ if security i is a Green Bond $GB\_Exposure_i = 0,$ otherwise
Social Factors		
Weighted average social rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * SOC_i)$$ $\omega_i =$ index weight for security i $SOC_i =$ Social pillar score of security i
International treaties and conventions, United Nations principles or, where applicable, national law used in order to determine what constitutes a 'controversial weapon'.	Compulsory	ECPI considers depleted uranium weapons and nuclear weapons, chemical, biological weapons, anti-personnel mines, cluster munitions to be controversial weapons. Exclusion rules follow the prohibitions defined in the following treaties and conventions: 1) Conventions and Treaties on Cluster Munitions (The Ottawa Treaty 1997, The Convention on Cluster Munitions 2008); 2) Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons (1975); Treaty on the Non-Proliferation of Nuclear Weapons (1968); The Chemical Weapons Convention (1997).
Weighted average percentage of benchmark constituents in the controversial weapons sector.	Compulsory	$$\sum_i (\omega_i * CW\_Exposure_i)$$ $\omega_i =$ index weight for security i $CW\_Exposure_i = 1,$ if issuer i belongs to controversial weapons sector $CW\_Exposure_i = 0,$ otherwise
Weighted average percentage of benchmark constituents in the tobacco sector.	Compulsory	$$\sum_i (\omega_i * T\_Exposure_i)$$ $\omega_i =$ index weight for security i $T\_Exposure_i = 1,$ if issuer i belongs to tobacco sector $T\_Exposure_i = 0,$ otherwise
Number of benchmark constituents subject to social violations, as referred to in international treaties and conventions, United Nations	Compulsory	$$\sum_i HRLR\_Exposure_i$$ $HRLR\_Exposure_i$ $= 1,$ if issuer i is subject to very severe controversies related to Human Rights and Labour Rights $HRLR\_Exposure_i = 0,$ otherwise

principles and, where applicable, national law.		
Exposure of the benchmark portfolio to companies without due diligence policies on issues addressed by the fundamental International Labor Organization Conventions 1 to 8.	Compulsory	$$\sum_i (\omega_i * ILO\_Exposure_i)$$ $\omega_i = $ index weight for security i $ILO\_Exposure_i = 1$, if issuer i is not involved in significant labour related controversy $ILO\_Exposure_i = 0$, otherwise
Weighted average gender pay gap.	Compulsory	$$\sum_i (\omega_i * GenderPayGapPercentage_i)$$ $\omega_i = $ index weight for security i $GenderPayGapPercentage_i = $ Gender Pay Gap of issuer i
Weighted average ratio of female to male board members.	Compulsory	$$\sum_i \left(\omega_i * \frac{BoardFemaleRatio_i}{1 - BoardFemaleRatio_i} \right)$$ $\omega_i = $ index weight for security i $BoardFemealeRatio_i = $ Percentage of female board members of issuer i
Weighted average percentage of benchmark constituents with health & safety related controversies	Compulsory	$$\sum_i (\omega_i * OHS\_Exposure_i)$$ $\omega_i = $ index weight for security i $OHS\_Exposure_i = 1$, if issuer i is involved in significant occupational health and safety related controversy $OHS\_Exposure_i = 0$, otherwise
Weighted average percentage of benchmark constituents with corruption/bribery related controversies	Compulsory	$$\sum_i (\omega_i * C\&B\_Exposure_i)$$ $\omega_i = $ index weight for security i $C\&B\_Exposure_i = 1$, if issuer i is involved in significant corruption and bribery related controversy $C\&B\_Exposure_i = 0$, otherwise
Governance Factors		
Weighted average governance rating of the benchmark.	Voluntary	$$\sum_i (\omega_i * GOV_i)$$ $\omega_i = $ index weight for security i $GOV_i = $ Governance pillar score of security i
Weighted average percentage of board members who are independent.	Compulsory	$$\sum_i (\omega_i * IndependentBoardRatio_i)$$ $\omega_i = $ index weight for security i $IndependentBoardRatio_i = $ Percentage of independent board members of issuer i
Weighted average percentage of female board members.	Compulsory	$$\sum_i (\omega_i * BoardFemaleRatio_i)$$ $\omega_i = $ index weight for security i $BoardFemealeRatio_i = $ Percentage of female board members of issuer i

Calculation and display methodology

- **ESG RATING**: Weighted average ESG rating of the benchmark.
- **ENV RATING**: Weighted average environmental rating of the benchmark.
- **SOC RATING**: Weighted average social rating of the benchmark.
- **GOV RATING**: Weighted average governance rating of the benchmark.
- **TOP 10 POSITIONS**: Overall ESG rating of top ten benchmark constituents by weighting in the benchmark.

- **High Climate Impact Sector Exposure (%)**: Benchmark exposure to activities included in Sections A to H and Section L of Annex I to Regulation (EC) No 1893/2006.
- **GHG intensity (tonnes CO2e/USD mn)**: Greenhouse gas (GHG) intensity of the benchmark.
- **GHG reported vs estimated (%)**: Percentage of GHG emissions reported versus estimated.
- **Brown Sector Exposure (%)**: Benchmark exposure to activities included in Divisions 05 to 09, 19 and 20 of Annex I to Regulation (EC) No 1893/2006.
- **Green Bonds (%)**: Percentage of green bonds in the benchmark portfolio.
- **Climate-related physical risk score**: Exposure of the benchmark portfolio to climate-related physical risks, expressed as a weighted average physical risk score with exposure to a moderate climate change scenario in the year 2030. Scores are represented as values from 1 (lowest risk) to 100 (highest risk).
- **Controversial Weapons Exposure (%)**: Weighted average percentage of benchmark constituents in the controversial weapons sector. Controversial Weapons definition covers cluster munitions, landmines, nuclear and depleted uranium weapons, biological/chemical weapons.
- **Tobacco Exposure (%)**: Weighted average percentage of benchmark constituents in the tobacco sector.
- **Number of Social Violations**: Number of benchmark constituents subject to very severe controversies related to Human Rights and Labour Rights.
- **Adherence to ILO Principles**: Weighted average percentage of benchmark constituents with no significant labour related controversies.
- **Gender Pay Gap (%)**: Weighted average gender pay gap.
- **Female to Male Board Members**: Weighted average ratio of female to male board members
- **Work Related Accidents (%)**: Weighted average percentage of benchmark constituents with significant health & safety related controversies.
- **Corruption/Bribery (%)**: Weighted average percentage of benchmark constituents with significant corruption/bribery related controversies.
- **Independent Board Members (%)**: Weighted average percentage of board members who are independent.
- **Female Board Members (%)**: Weighted average percentage of female board members.

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ECPI ESG COMPANY RATING

ECPI research process follows an objective, rigorous and disciplined proprietary methodology that translates qualitative data into quantitative indicators, assigning to each issuer an Environmental, Social and Governance (**ESG**) score and a rating.

ECPI uses a rule-based non-discretionary approach considering approximately 100 key performance indicators to evaluate an issuer's environmental, social and governance sustainability.

ECPI evaluates companies in the following areas

INDICATORS	CATEGORIES	PILLARS
7	Environmental strategy and policy	**ENVIRONMENTAL** Max score 40 Rating F>EEE (9 notches)
13	Environmental management	
3/4	Products (sector specific)	
6/11	Production process (sector specific)	
9	Employees and human capital	**SOCIAL** Max score 40 Rating F>EEE (9 notches)
12	Community relations	
11	Markets	**GOVERNANCE** Max score 40 Rating F>EEE (9 notches)
19	Corporate governance and shareholders	

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ESG RATING Max score 120 Rating F>EEE (9 notches)

The traditional pillars of ESG scrutiny are the following:

"E"
Environmental strategy, policy and management system. Industry-specific environmental impact of production processes and products.

"S"
Social strategy and policy: assessing the quality of the company's relationships with its employees and local communities (labour and human rights, health & safety)
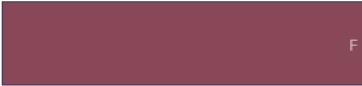
"G"
Relation with other stakeholders (customers, competitors, management, public agencies and regulators, shareholders, creditors, local government and international institutions), market positioning and competitor analysis. Governance structure: assessing both market and internal management issues, identifying the structure of the company's governing bodies, its main operating characteristics, as well as the political and regulatory/legal specifics of the firm's country of affiliation.

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The analysis produces a score and a rating. A company's overall rating is the sum of the scores from each indicator; the higher the final score, the higher the final rating.

ECPI also monitors the involvement of companies in different controversial activities.
Exclusions are driven by the percentage contribution of the controversial activity to the total revenues of the issuer.

ECPI's proprietary rating scale ranges from "NE" to "EEE", along 10 notches.

RATING	LEVEL	DEFINITION	ECPI COMPANY RATING		
EEE EEE-	Very good	The company shows an **innovative** long-term strategic attitude, **strong** operational management practices and **proactive** actions to tackle social and environmental needs.	**VERY GOOD**		EEE EEE-
EE+ EE EE-	Good	The company shows a **clear** long-term strategic attitude, **sound** operational managment practices and **positive** actions to tackle social and environmental needs.	**GOOD**		EE+ EE EE-
E+ E E-	Fair	The company shows a **basic** long-term strategic attitude, **standard** operational managment practices and/or **average** actions to tackle social and environmental needs.	**FAIR**		E+ E E-
F	Poor	The company shows a **poor** long-term strategic attitude, **weak** operational managment practices and/or **ineffective-negative** actions to tackle social and environmental needs.	**POOR**		F
NE*	Controversial	The company is involved in **controversial sectors or activities.**			

* Only when applicable / on clients request

Please refer to **_ECPI Website_** for details about the ECPI ESG research methodology for Companies.

ECPI ESG COUNTRY RATING

ECPI Sustainability methodology applied to government issuers is aimed to guarantee investors that the investment portfolio is built exclusively with financial instruments issued by Governments which are compliant with international Environmental, Social and Governance (ESG) standards and without any significant liabilities in any of the aforementioned areas.

Since 1948, when the Universal Declaration of Human Rights was created, nations have begun to recognize the importance of respecting human dignity, the freedom of expression and movement, equal opportunities in the work and political spheres, non-exploitative labour practices, respect for the environment, and a non-belligerent approach to conflicts.

Therefore, ECPI developed the Methodology to assess the government's adherence to principles and to practices in aspects such as respect for human and labour rights, respect for the environment and anti-corruption.

REGULATION

The Methodology assesses the level of compliance of a government with a number of international treaties, conventions and best practices, which represent the international standard.

IMPLEMENTATION

The Methodology verifies the effectiveness of a Government in implementing national legislation compliant with international standards and in enforcing it efficiently.

CATEGORIES	WEIGHT	PILLARS	WEIGHT	
Environmental regulation e.g. Basel Convention	50%	ENVIRONMENTAL	33%	
Environmental implementation e.g. Environmental Performance Index – EPI	50%			
Social regulation e.g. Human Right Conventions – UN	50%	SOCIAL	33%	ESG RATING Max score 120 Rating F>EEE (9 notches)
Social implementation e.g. Death Penalty – Amnesty International	50%			
Governance regulation e.g. Doing Business Report – World Bank	50%	GOVERNANCE	33%	
Governance implementation e.g. Corruption Perception Index – Transparency int.	50%			

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RATING	LEVEL	DEFINITION
EEE	Very good	Countries display **full** compliance with international ESG standards, **effective** implementation, and **efficient** enforcement.
EE	Good	Countries display **adequate** compliance with international ESG standards, **good** implementation, and **sound** enforcement.
E	Fair	Countries display **partial** compliance with international ESG standards, **acceptable** implementation, and **basic** enforcement.
F	Poor	Countries display **poor** overall ESG performance or **very poor** performance in one single area (Environment, Social, or Governance).
NE*	Controversial	Countries retain **death penalty** and/or are classified **not free/partly free** in terms of **civil liberties** and **political rights**.

*only when applicable/on clients request

Please refer to **_ECPI Website_** for details about the ECPI ESG research methodology for Countries.

THE TEN PRINCIPLES OF THE UN GLOBAL COMPACT

The Ten Principles of the United Nations Global Compact are derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption.

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
Principle 4: the elimination of all forms of forced and compulsory labour;
Principle 5: the effective abolition of child labour; and
Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;
Principle 8: undertake initiatives to promote greater environmental responsibility; and
Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

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