

**IOSCO, EU BENCHMARKS REGULATION AND UK BENCHMARKS REGULATION  
SUPPLEMENTAL DISCLOSURE**

**GLOBAL INDEX RESEARCH GROUP**

**J.P. MORGAN SECURITIES LLC**

## 1. PURPOSE OF THIS DISCLOSURE

This supplemental disclosure (this **Disclosure**) is provided by J.P. Morgan Securities LLC (**J.P. Morgan**) and is designed to:

- (a) supplement the IOSCO Compliance Statement published by the Administrator in respect of certain GIRG Administered Indices; and
- (b) provide general information as required by EU BMR and UK BMR about the process by which GIRG Administered Indices are provided by the Administrator.

This Disclosure relates solely to **GIRG Administered Indices** that J.P. Morgan Securities LLC, in its role as **Administrator** for the Global Index Research Group (**GIRG**) benchmarks, has identified as:

- (i) **EU Benchmarks** within the meaning of EU Benchmarks Regulation (EU) 2016/1011 (**EU BMR**);
- (ii) **UK Benchmarks** within the meaning of UK Benchmarks Regulation (**UK BMR**); or
- (iii) **“benchmarks”** within the meaning of the International Organization of Securities Commissions (**IOSCO**) in its Principles for Financial Benchmarks (July 2013).

This Disclosure does not apply to any other activities by JPMorgan Chase & Co., together with its subsidiaries (the **J.P. Morgan Group**), including, as an example, the Strategic Index business. This Disclosure is current as of the date indicated at the top of the first page of this document.

If stakeholders, users or subscribers (each a **“User”** and collectively **“Users”**) have any questions in relation to this Disclosure, they may contact their usual representative within GIRG or email the team at [index.research@jpmorgan.com](mailto:index.research@jpmorgan.com).

## 2. MAIN FEATURES OF THE CONTROL FRAMEWORK

The Administrator has developed a control framework for the GIRG Administered Indices (the **Control Framework**). The Control Framework provides a governance framework for the Administrator. The Control Framework sits alongside additional internal standards, policies, procedures, and guidelines that are applicable to the Administrator.

### 2.1. Oversight

The day-to-day responsibility for the creation, operation and management for each GIRG Administered Index lies with the Index Administration Committee (**IAC**), with the Administrator having ultimate responsibility for the creation and operation of a GIRG Administered Index. In addition, the Administrator has established a permanent and effective oversight function, the Index Escalation Committee (**IEC**), to oversee all aspects of the provision of such GIRG Administered Indices.

The roles of the IAC and IEC are disclosed in more detail to an applicable User in Section 3 (Main Features of the Oversight Procedures) below.

From the end of the Brexit Transitional Period the Administrator has been recognized by the FCA as a UK BMR third country administrator under Article 32 of UK BMR. The Administrator's UK Benchmarks are listed on the FCA's register of third country benchmarks. The Administrator's Legal Representative is appointed by the Administrator under Article 32(3) of UK BMR in respect

of the Administrator's UK Benchmarks.

J.P. Morgan Securities plc, acting as the Administrator's legal representative under UK BMR, is referred to in this Disclosure as the **Legal Representative**.

The Legal Representative shall be represented in the IEC. Further information on the role of the Legal Representative in the IEC, and its role in overseeing all aspects of the provision of EU Benchmarks or UK Benchmarks, is disclosed in Section 3 below. The Legal Representative can be contacted by any person within the European Union (in respect of EU BMR) or the United Kingdom (in respect of UK BMR) by (A) post at the following address: Attention: Global Index Research Group – J.P. Morgan Securities plc Legal Representative, 25 Bank Street, London, E14 5JP, United Kingdom; or (B) email to [bmr\\_uk\\_legal\\_representative@jpmchase.com](mailto:bmr_uk_legal_representative@jpmchase.com).

The Administrator ensures that the Control Framework is followed to protect the integrity of the operation of each GIRG Administered Index.

To the extent that the operation of a proposed GIRG Administered Index will be outsourced to one or more service providers (for example, calculation agents and data providers but, for this purpose, excluding any regulated market or exchange), the Administrator has implemented processes so that it has the ability to exercise appropriate oversight on such service providers.

The Administrator will make available upon request to an applicable User and any relevant regulatory authority the identity and roles of such third parties and affiliated service providers that participate in a GIRG Administered Index determination process.

## 2.2. GIRG Administered Index Design, methodology and hierarchy of input data

The Administrator has implemented processes for the design, creation and oversight of GIRG Administered Indices.

The processes require that each GIRG Administered Index is transparent with respect to its operation. The design of each GIRG Administered Index is intended to support an accurate and reliable representation of the objective that such GIRG Administered Index seeks to represent. The design process also seeks to mitigate factors that might result in a distortion of a price, rate, index or value of the GIRG Administered Index or one of its constituents. In light of the objective of a GIRG Administered Index, the GIRG Administered Index design should be intended to reflect the economic reality of the markets for the underlying constituents of such GIRG Administered Index. In particular, the factors that, as appropriate, should be considered in the design of a GIRG Administered Index, are as follows:

- transparent and clear composition and methodology for such GIRG Administered Index;
- adequacy of the sample used to represent the underlying constituents referenced by the GIRG Administered Index and, where relevant, the market that it is intended to measure or the strategy it is intended to reflect;
- market depth and liquidity;
- accessibility of the constituents that the GIRG Administered Index seeks to represent; and
- usability by an applicable User of the GIRG Administered Index.

The Administrator does not exercise discretion in evaluating input data, and relies solely on professional (commercial) valuation providers, in addition to WM/Reuters, for all input data needs.

As of the date of this Disclosure, the Administrator uses a single Contributor, PricingDirect, and WM/Reuters as providers of input data for the determination of the GIRG Administered

Indices.

Therefore, there is only one provider for each source of input data and, accordingly, there is no defined hierarchy for input data.

WM/Reuters provides spot, forward and non-deliverable foreign exchange benchmark rates.

PricingDirect, which is part of the J.P. Morgan Group, is a professional valuation vendor that provides valuation services for fixed income securities and derivatives for its clients. The Administrator has in place appropriate checks and balances to review the accuracy and data quality of the calculations provided by PricingDirect. Further information on how PricingDirect produces its valuation services is available here:

<https://www.pricing-direct.com/pricingdirect/>.

Further information on the Contributors Code of Conduct, together with how expert judgment is exercised by the Contributor, is given in Sections 2.6 and 4 below. For these reasons, the Administrator believes it is appropriate to have PricingDirect as the Contributor to the GIRG Administered Indices.

Certain circumstances may arise where such input data is unavailable. In such circumstances, the methodology for the applicable GIRG Administered Index may specify the steps that should be taken.

The Administrator's processes provide that each GIRG Administered Index has a written methodology that includes procedures and criteria for its operation.

Each new GIRG Administered Index is approved in accordance with internal approval processes, including historical back testing (where appropriate). Back-tested levels of a GIRG Administered Index are calculated for a historical period of time that may be determined based on the availability of historical input data or by regulatory requirements applicable to certain Users. While such back-tested levels of a GIRG Administered Index may provide illustrative historical performance of such GIRG Administered Index, caution is warranted, as past performance is not indicative of future results. Additionally, although calculated on a rule-based approach, back-tested data is illustrative only and does not consider historical market conditions or other circumstances that would have been taken into consideration had the GIRG Administered Index been live at the time, or it may apply assumptions that differ from those that would have been made had such GIRG Administered Index been live at the time.

The IAC will review, assess and approve proposals for the launch of a new GIRG Administered Index.

The methodology of a GIRG Administered Index will be published on J.P. Morgan Markets (**JPMM**) and is supplemented by this Disclosure. If the operation of a GIRG Administered Index contemplates the collection of data from an internal or external source, the Administrator's processes include appropriate internal controls over the applicable data collection and data transmission processes.

### 2.3. Periodic Reviews

GIRG Administered Indices are subject to a periodic review requirement and must be reviewed annually. In addition, the Administrator continuously monitors each GIRG Administered Index in the context of daily calculations and periodic rebalancing and reconstitution cycles.

The Administrator has implemented processes so that it periodically reviews each GIRG Administered Index to consider the functioning of the methodology and whether any changes to the methodology are appropriate.

In addition to the annual periodic review, the Administrator may undertake an *ad hoc* review of a GIRG Administered Index at any time and for any reason.

Following a review of a GIRG Administered Index, the Administrator may, among other actions, choose to amend the methodology or cease to calculate the GIRG Administered Index. The Administrator will make available on request to applicable Users details of any material revisions that have been made to a GIRG Administered Index as a result of a review. Further information is given in Section 2.7 below.

### 2.4. Calculation, Automated Rebalancing and Market Disruptions

The Administrator has implemented measures designed to promote the accuracy of published GIRG Administered Index levels.

The calculation process for GIRG Administered Indices is fully automated and performed on software systems with audit trails and managed by dedicated information technology (IT) teams. Material changes made to these software systems require a notice and approval from IT Change Management and Operational Risk teams. The IT teams have their own contingency and resiliency plans for disaster recovery. These measures help maintain the integrity and quality of the determination process of the GIRG Administered Indices.

GIRG Administered Indices typically periodically rebalance in an automated way in accordance with the applicable methodology. For example, a re-weighting or inclusion of underlying constituents, may rebalance in an automated way at the end of a month pursuant to the applicable methodology. In addition, the Administrator may also change the methodology of a GIRG Administered Index as set out in Section 2.7 below.

In addition, where required, employees of the Administrator (who are directly involved in the provision of a GIRG Administered Index) are registered with the local supervisory agency of their domicile (e.g., FINRA-registered in the case of US-based personnel).

In exceptional circumstances involving a *force majeure* event (including, but not limited to, acts of God, acts or regulations of government or other authorities, war, fire, strikes or other industrial disputes, power failure, failure of telecommunication lines, connection or equipment, or failure or defects in any hardware or software owned or supplied by third parties), whereby the Administrator is unable to obtain appropriate input data from the relevant source, the Administrator may be unable to calculate and publish levels for any GIRG Administered Index.

However, regardless of a *force majeure* event occurring, the Administrator hereby notifies all Users of such GIRG Administered Index the possibility that it may discontinue generating any level of such GIRG Administered Index at any time and disclaims responsibility for any such disruptions.

### 2.5. Error Handling

The Administrator has implemented processes so that errors in the calculation of the levels of GIRG Administered Indices are identified and, in the Administrator's sole and absolute

discretion, addressed. This may include, where applicable, raising such errors to the IAC for their consideration in relation to the appropriate course of action (which may include, but is not limited to, republishing the level of the applicable GIRG Administered Index and notifying applicable Users of such re-publication). The IAC may, in its sole and absolute discretion, escalate any such errors to the IEC if deemed necessary. Depending on the severity of the error and its impact on an applicable User of the particular GIRG Administered Index, a technical notification may be distributed to all applicable Users and published on JPMM under the Index Research section.

## 2.6. Use of Expert Judgement and Discretion

In the ordinary course the Administrator does not use expert judgment in respect of any GIRG Administered Index, and its operation of all GIRG Administered Indices is purely rule-based. However, under extraordinary circumstances such as market disruptions or other extraordinary events that may materially and/or adversely affect the operation of any GIRG Administered Index, the Administrator may exercise expert judgment to the extent necessary to ensure that such GIRG Administered Index continues to operate as intended. In exercising expert judgement under such circumstances, the Administrator's primary objectives are to minimize the impact of adverse market conditions on the indices and to maintain the stability, replicability and transparency of the benchmarks. The Administrator will determine the appropriate course of action to take to achieve these objectives in accordance with its ad-hoc and annual governance review processes, including consultation with Users and other market participants where necessary and appropriate. Such actions may include, by way of example, adjusting, disregarding, or substituting the input data provided by the pricing provider for factors that materially and adversely affect the data's fitness for use in any GIRG Administered Index under the circumstance or the data's ability to represent accurately and reliably the market or economic reality that the GIRG Administered Index is intended to measure. This could result in different data being used to that stated in the Index Methodology, including the use of a single price or value only, or using a price or value arrived at by the Administrator utilizing expert judgment.

The Administrator may exercise discretion in the ordinary course of the Provision of Indices for quality assurance purposes and to maintain the integrity of the index and its underlying components, including reference data and analytics. For this purpose, reference data means any characteristics of a bond, including but not limited to notional amount, ratings, sector/region classification, coupon rate, and issuance and maturity dates. Analytics is data derived from pricing input data and includes but is not limited to yield and spread.

Such discretion is exercised in accordance with the pre-determined rules-based Index Methodology and related procedures, which are designed to maintain the integrity and continuity of the index by overriding, adjusting or taking other actions as necessary to address incomplete, missing or erroneous data, or changes in market practices or conventions such as day count conventions, settlement periods, business day conventions, coupon frequency, or treatment of defaults.

PricingDirect, as a contributor of input data to the Administrator (the "**Contributor**"), may exercise expert judgment in the provision of input data to the Administrator. This is done in accordance with established guidelines and processes governing the use of such expert judgment which sets out the following: (i) the circumstances in which the Contributor may exercise discretion; (ii) the persons within the Contributor who are permitted to exercise discretion; (iii) the internal controls that govern the exercise of the Contributors' discretion in accordance with its established guidelines and processes; and (iv) any persons within the

Contributor who may evaluate ex-post the exercise of discretion. These guidelines and processes are set out in the Code of Conduct established by the Administrator and in relation to which the Contributor is required to attest to compliance. For the purposes of this Disclosure, a Contributor means a natural or legal person contributing input data for a GIRG Administered Index, which, as of the date of this Disclosure, is PricingDirect. Further information on how PricingDirect provides its valuation services is available here: <https://www.pricing-direct.com/pricingdirect/>.

In addition, if PricingDirect is unable to provide input data to the Administrator because of exceptional market circumstances or extraordinary events, the Administrator reserves the right to consider the use of an alternate input data source or to provide such data itself. If a permanent switch for the input data source is necessary, clients will be notified in advance prior to any official switch. Any such decisions will not affect the rules-based methodology of any GIRG Administered Index.

## **2.7. Changes in Methodology**

### **Annual governance review**

The Administrator has established an annual governance review process to solicit comments and feedback from applicable Users of the GIRG Administered Indices on various topics that can include potential changes related to methodologies, conventions, and overall governance of the GIRG Administered Indices. Such review process will include disclosing the following information in relation to a GIRG Administered Index: (A) the key elements of the methodology that would, in the Administrator's view, be affected by the proposed material change; and (B) a rationale of any potential material changes to a methodology.

The IAC will consider whether the proposed changes are material (in consultation with the IEC where appropriate) or non-material and may consider the following in making such determination:

- any impact on historical or future performance of the GIRG Administered Index (to the extent that the Administrator has actual knowledge of such information);
- the extent to which the change is consistent with the objective of the GIRG Administered Index; and
- any other information provided by the Administrator.

During the review process, feedback will be gathered by the IAC through solicited and unsolicited applicable User, consultant, and other interested party conversations and written communications. The comments collected from these external parties will be considered by the IAC, which shall report a summary of the comments received during the consultation to the IEC for review and oversight prior to making any material changes to the Methodology.

Details of the annual governance review are disseminated simultaneously to internal and external applicable Users via JPMM.

The Administrator may, for any annual governance review, publish a summary of the results.

Where the IAC decides (in consultation with the IEC, where appropriate) that a material change is required to the methodology of a GIRG Administered Index, the updated relevant methodology documents will be published on JPMM and distributed to all applicable Users. The Administrator will aim to provide a reasonable lead time, taking into consideration the scale of the changes and the magnitude of implications for applicable Users of such GIRG Administered Index.

## Ad-hoc reviews

In addition to the annual governance review process set out above, the Administrator may also conduct off-cycle *ad-hoc* reviews for material changes whereby the Administrator typically follows the same procedures in respect of an annual governance review as outlined above.

The Administrator may, solely in relation to *ad-hoc* reviews for material changes, decide that:

- it may not be reasonably practicable or proportionate to make available the rationale or to consult applicable Users, when proposing to make changes to the GIRG Administered Indices' methodologies; and
- the Administrator will decide at the time of making a change to a methodology what constitutes a material change and the method and timing for consulting (if any) or notifying (if any) applicable Users (and others where appropriate and practicable, taking into account the breadth and depth of the applicable GIRG Administered Index's use) in relation to changes.

## 2.8. Cessation of a GIRG Administered Index

The Administrator has clear written policies and procedures to address the need for possible cessation of a GIRG Administered Index.

Any cessation of a GIRG Administered Index must be approved by the IAC, which may consult with the IEC. The IAC should consider how the relevant GIRG Administered Index is used and by whom, the potential impact on the economic and financial stability that might result from the cessation of the calculation and publication of the GIRG Administered Index and the expected timing of, and rationale for, the proposed cessation.

GIRG is under no obligation to continue the calculation, publication or dissemination of any GIRG Administered Index; however, the IAC will consider whether the Administrator should attempt a consultation with applicable Users of any proposed cessation of a GIRG Administered Index.

A summary of any comments provided during any such consultation will be provided to the IEC for review prior to any potential cessation of the relevant GIRG Administered Index.

If the IAC (in consultation with the IEC, as applicable) decides that a GIRG Administered Index should cease to be calculated and published, the IAC will be responsible for ensuring that:

- the relevant business and control functions are notified;
- any agreed-upon consultation or notification approach is implemented (if relevant); and
- the levels of the GIRG Administered Index are removed from all applicable publication sites, or a notice is included on such site informing visitors to the relevant page that no new levels of the GIRG Administered Index will be published and historical data is available for informational purposes only, if relevant.

## 2.9. Notification of and Consultation with Users

Notification of and consultation with, applicable Users may be undertaken by the Administrator as appropriate. In particular, the Administrator has implemented processes governing the potential notification to and potential consultation with, applicable Users in relation to proposed changes or cessation of a GIRG Administered Index. The method and timing of consultation or notification may vary, depending on the particular GIRG Administered Index and the particular applicable Users (including whether the Administrator is able to obtain information regarding the identity of the applicable Users).



## 2.10. Complaints

All complaints will be handled in a manner consistent with the Administrator's complaints handling policy. Further information is available at:

<https://www.jpmorgan.com/disclosures/girg>

A copy is also available from the Administrator upon request.

## 2.11. Prohibited Activities

The operation of a GIRG Administered Index is conducted in a manner that mitigates the risk that a person could manipulate or seek to manipulate or influence any input data used to calculate such GIRG Administered Index.

The Administrator has a number of internal policies that set out procedures and processes setting out reporting obligations for any employee who witnesses or is involved in any actual or potential wrongdoing, or suspects potential wrongdoing related to a GIRG Administered Index (including, but not limited to, the manipulation of a price assessment, insider trading, or front-running).

In addition, the IAC shall escalate the following to the IEC:

- any suspected misconduct by Contributors or the Administrator and any suspicious or anomalous data, where appropriate; and
- any conduct that has been identified through monitoring of input data that may involve manipulation or attempted manipulation of a GIRG Administered Index.

The IAC may also notify Research Compliance and the Legal Representative if appropriate and relevant. Research Compliance may in turn further report such matters to the relevant regulatory authorities. In addition to the Administrator's internal policies referred to above, the IAC, IEC and any employees of the Administrator may also use the Firm-wide internal escalation procedures to escalate any such matters, as appropriate.

## 2.12. Record-keeping

The J.P. Morgan Group's general record-keeping requirements apply to the Administrator. Records in relation to GIRG Administered Indices will be maintained to document satisfaction of the procedural steps contemplated in the Control Framework and any supporting procedures and processes in accordance with such record-keeping requirements.

PricingDirect, as Contributor for the GIRG Administered Indices, is required to maintain a record-keeping policy in compliance with the Code of Conduct.

## 2.13. Conflicts of Interest

GIRG is part of Global Research within the Commercial and Investment Bank division of the

J.P. Morgan Group. The J.P. Morgan Group has established and maintains several procedures, processes and controls for identifying and managing the conflicts of interest that arise in the course of its business, including the Administrator's business. These controls include a global Conflicts of Interest Policy that requires the Administrator and its employees to identify and manage actual, potential and perceived conflicts of interest, including by overseeing, maintaining and operating effective organizational, procedural and administrative arrangements and controls.

In addition, there is also an established information barriers policy that specifically applies to GIRG.

Conflicts of interest and potential conflicts of interest (including those arising from the ownership structure or the control of the Administrator) are disclosed or published to applicable Users here: <https://www.jpmorgan.com/disclosures/girg>

### 3. MAIN FEATURES OF THE OVERSIGHT PROCEDURES

The IAC is responsible for the creation, operation and regular oversight of the GIRG Administered Indices. This includes, but is not limited to, the following responsibilities:

- review, assess and approve proposals for the launch of a new GIRG Administered Index (or family);
- conduct the annual index governance review, together with any consequences following such review, as set out in more detail in Section 2.7 above;
- monitor that the Administrator adheres to the Control Framework on a day-to-day basis;
- oversee that individuals who are involved in the provision, supervision and administration of a GIRG Administered Index have the necessary skills, knowledge and experience to perform their duties;
- review the performance of existing third parties or affiliated service providers on an ongoing basis and report any material issues to the IEC;
- provide oversight for the day-to-day activities of the determination and dissemination of levels of GIRG Administered Indices;
- monitor and assess the adherence to the Code of Conduct by the Contributor and escalate any breaches of the Code of Conduct to the IEC where appropriate, together with any proposed measures to be taken in relation to any such breach; and
- report any suspected misconduct by Contributors, or the Administrator, and any anomalous or suspicious input data, to the IEC.

The IAC is composed of GIRG representatives involved in the GIRG Administered Indices. The IAC meets regularly and at least on a quarterly basis. While a formal quorum is not required, at least three voting members are expected to vote on proposals that have been put to a vote.

The IAC may escalate any matter in the provision of any GIRG Administered Index to the IEC. The IEC has oversight of all aspects of the provision of a GIRG Administered Index, together with the Control Framework and the management and operation of such GIRG Administered Indices. The IEC includes representation from senior management in the Commercial and Investment Bank Global Research Function, a senior regulatory and compliance officer, a senior business control manager and the Legal Representative. Certain members of the IEC are generally conflicted by virtue of their role within the business of the Administrator. However, GIRG has controls in place to manage such conflicts of interest.

The Legal Representative, together with or independent of, the IEC may from time to time suggest action to the IAC to remediate any identified issues of non-compliance with EU BMR or UK BMR by the Administrator. If the Legal Representative, together with or independent of, the IEC, determines that any such non-compliance with EU BMR or UK BMR has not been remediated within a reasonable time frame, it may consider what further action to take, including, but not limited to: (i) notifying the Financial Conduct Authority that the Administrator no longer meets the conditions under which it was recognized as a third country benchmark administrator; or (ii) withdrawing from its role as the Legal Representative of the Administrator.

#### 4. MAIN FEATURES OF THE CONTRIBUTOR'S CODE OF CONDUCT

As indicated above, the Administrator relies on submissions from a Contributor for purposes of calculating each GIRG Administered Index. As of the date of this Disclosure, PricingDirect is the Contributor for all GIRG Administered Indices. The Administrator has developed a Code of Conduct which PricingDirect has adhered to in respect of Contributions it makes for the GIRG Administered Indices.

The IAC conducts a review of the available audit reports of Contributors as a means of monitoring the Contributors' continued compliance with the Code of Conduct and escalates any material issues to the IEC where appropriate. The IEC also carries out an annual review of the Code of Conduct to ensure it remains fit for purpose.

If new GIRG Administered Indices are developed in the future that include input data submitted by a new Contributor other than PricingDirect, then such Contributor must adhere to the Code of Conduct before such input data can be used in any GIRG Administered Indices.

A copy of the Code of Conduct will be made available upon request to the relevant regulatory authorities and to applicable Users of a relevant GIRG Administered Index.

#### 5. ESG DISCLOSURES FOR EU ESG BENCHMARKS OR UK ESG BENCHMARKS

As required under the EU BMR or UK BMR, specific ESG disclosure annexes apply to EU Benchmarks and UK Benchmarks as prescribed under the relevant legislation and these are set out in the appendices to this Disclosure.

For the purposes of this Disclosure:

- Appendix 1 - **ESG Benchmarks** are all EU Benchmarks or UK Benchmarks that are labelled as or refer to 'ESG' or any of the environmental, social or governance objectives described below under their respective methodologies; and
- Appendix 2 – **non-ESG Benchmarks** are all EU Benchmarks or UK Benchmarks that are **not** ESG Benchmarks as defined above.

## APPENDIX 1

### INDEX METHODOLOGY – ESG BENCHMARKS ONLY

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
<b>Item 1.</b> Name of the benchmark administrator.	J.P. Morgan Securities LLC
<b>Item 2.</b> Type of benchmark or family of benchmarks. <i>Choose the relevant underlying asset from the list provided in “Annex II” of the applicable legislation under EU BMR or UK BMR</i>	ESG Fixed Income Indices  For the purposes of Annex II, the relevant underlying assets are Fixed Income and Sovereign Debt
<b>Item 3.</b> Name of the benchmark or family of benchmarks.	ESG Fixed Income Indices Family JESG Indices (as listed in the JESG methodology document <a href="#">link</a> ).
<b>Item 4.</b> Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	Yes, each benchmark within the family of ESG benchmarks pursues ESG objectives.
<p><b>Item 5.</b> Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to the applicable legislation under EU BMR or UK BMR.</p> <p>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.</p> <p>The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks.</p>	
JESG Score	<p>This JESG score is used to weight and exclude issuers within the ESG family of benchmarks. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The weighted average JESG score of each ESG Benchmark within the ESG Benchmark family is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p> <p>Please note that the JESG Score is the only ESG factor taken into account in the methodology of the benchmarks. The other mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act are inapplicable and are not taken into account in the methodology for the benchmarks and information on those mandatory factors is provided for reference purposes only.</p> <p>Mandatory disclosures of ESG factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a>.</p>

United Nations Global Compact (UNGC) Principles	<p>Negative screening is also applied for corporate and quasi-sovereign issuers to exclude those that are in violation of the United Nations Global Compact (UNGC). The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be in violation of the UNGC principles is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Sanctions	<p>Negative screening is also applied such that if the central government debt of a country is subject to economic sanctions, all sovereign and quasi-sovereign issuers will be excluded. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to sovereigns and quasi-sovereigns of sanctioned countries is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
a) List of environmental factors considered <sup>1</sup>	Mandatory disclosures of environmental factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .
Thermal coal	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in thermal coal. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in thermal coal is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Oil sands	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in oil sands. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in oil sands is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>

<sup>1</sup> The mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act as set out in *Annex II* are not taken into account in the methodology for the benchmarks and information on these mandatory factors is provided for reference purposes only.

Green bonds	<p>The green bond screen is used is used to weight issuers within the ESG family of benchmarks. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The percentage of green bonds in each ESG Benchmark within the ESG Benchmark family is included as additional disclosure within the Annex II disclosures, available <a href="#">here</a>.</p>
b) List of social factors considered <sup>2</sup>	Mandatory disclosures of social factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .
Tobacco	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in tobacco. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in tobacco is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Weapons	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in weapons. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in weapons is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
c) List of governance factors considered <sup>3</sup>	Mandatory disclosures of governance factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .
Hyperlink to the information on ESG factors for each benchmark:	Mandatory disclosures of ESG factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .
<p><b>Item 6.</b> Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to the applicable legislation under EU BMR or UK BMR, depending on the relevant underlying asset concerned.</p> <p>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.</p> <p>The ESG factors shall not be disclosed for each constituent of the benchmark, but shall be disclosed at an aggregated weighted average value of the benchmark.</p> <p>Alternatively, all of this information may be provided in the form of a hyperlink to a website of the benchmark administrator included in this explanation. The information on the website shall</p>	

<sup>2</sup> The mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act as set out in *Annex II* are not taken into account in the methodology for the benchmarks and information on these mandatory factors is provided for reference purposes only.

<sup>3</sup> The mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act as set out in *Annex II* are not taken into account in the methodology for the benchmarks and information on these mandatory factors is provided for reference purposes only.

be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years.	
JESG Score	<p>This JESG score is used to weight and exclude issuers within the ESG family of benchmarks. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The weighted average JESG score of each ESG Benchmark within the ESG Benchmark family is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p> <p>Please note that the JESG Score is the only ESG factor taken into account in the methodology of the benchmarks. The other mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act are inapplicable and are not taken into account in the methodology for the benchmarks and information on those mandatory factors is provided for reference purposes only.</p> <p>Mandatory disclosures of ESG factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a>.</p>
United Nations Global Compact (UNGC) Principles	<p>Negative screening is also applied for corporate and quasi-sovereign issuers to exclude those that are in violation of the United Nations Global Compact (UNGC). The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be in violation of the UNGC principles is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Sanctions	<p>Negative screening is also applied such that if the central government debt of a country is subject to economic sanctions, all sovereign and quasi-sovereign issuers will be excluded. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to sovereigns and quasi-sovereigns of sanctioned countries is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
a) List of environmental factors considered <sup>4</sup>	Mandatory disclosures of environmental factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .

<sup>4</sup> The mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act as set out in *Annex II* are not taken into account in the methodology for the benchmarks and information on these mandatory factors is provided for reference purposes only.



Thermal coal	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in thermal coal. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in thermal coal is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Oil sands	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in oil sands. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in oil sands is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Green bonds	<p>The green bond screen is used is used to weight issuers within the ESG family of benchmarks. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The percentage of green bonds in each ESG Benchmark within the ESG Benchmark family is included as additional disclosure within the Annex II disclosures, available <a href="#">here</a>.</p>
b) List of social factors considered <sup>5</sup> :	Mandatory disclosures of social factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .
Tobacco	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in tobacco. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in tobacco is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
Weapons	<p>Negative screening is applied to exclude corporate and quasi-sovereign issuers involved in weapons. The JESG scoring methodology can be found <a href="#">here</a>.</p> <p>The exposure of benchmark constituents to companies deemed to be involved in weapons is included as additional voluntary disclosure within Annex II disclosures, available <a href="#">here</a>.</p>
c) List of governance factors considered <sup>6</sup>	Mandatory disclosures of governance factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .

<sup>5</sup> The mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act as set out in *Annex II* are not taken into account in the methodology for the benchmarks and information on these mandatory factors is provided for reference purposes only.

<sup>6</sup> The mandatory factors listed in the UK BMR and EU BMR Benchmark Statement Delegated Act as set out in *Annex II* are not taken into account in the methodology for the benchmarks and information on these mandatory factors is provided for reference purposes only.



Hyperlink to the information on ESG factors for each benchmark:	Mandatory disclosures of ESG factors as listed in Annex II, for each Benchmark in the ESG Benchmark family, is available <a href="#">here</a> .
<b>Item 7. Data and standards used</b>	
<p>a) Data input.</p> <p><i>Describe whether the data are reported, modelled or sourced internally or externally.</i></p> <p><i>Where the data are reported, modelled or sourced externally, please name the third party data provider.</i></p>	<p>The ESG methodology of the Benchmark Administrator's ESG Benchmarks (available <a href="#">here</a>) relies on an ESG Index Score (the JESG Score) to weight and exclude issuers.</p> <p>Negative screening is applied for corporate and quasi-sovereign issuers to exclude those issuers that are involved in thermal coal, oil sands, weapons, tobacco or in violation of the United Nations Global Principles. Negative screening is applied to exclude sovereign and quasi-sovereign issuers from countries where central government debt is subject to economic sanctions.</p> <p>The JESG score, as well as negative exclusionary data is sourced by the Benchmark Administrator from leading third party ESG providers. Third-party data provider methodologies are available via hyperlinks within the JESG methodology (<a href="#">here</a>).</p> <p>Annex II disclosures have been calculated by the Benchmark Administrator using third party ESG data from the International Energy Agency, Morningstar Sustainalytics and Moody's ESG. Please refer to the Definitions Table of Annex II (<a href="#">here</a>) for more information.</p>
<p>b) Verification and quality of data.</p> <p><i>Describe how data are verified and how the quality of those data is ensured.</i></p>	<p>The Administrator maintains appropriate oversight of all data sourced from ESG providers involved in the ESG Benchmark determination process. As part of this oversight function, the Administrator has implemented (i) automated controls that allow the Administrator to regularly assess changes in ESG data provided by third party vendors, and (ii) manual reviews in the form of regular meetings (at the beginning and at the end of each month) where the ESG data is appropriately assessed and approved by the Administrator's personnel for purposes of re-weighting and calculating the ESG Benchmarks. Additionally, the Administrator undertakes the verification and validation of ESG data on an ad-hoc basis by comparing it with historic ESG data that the Administrator's personnel receive through automated reports.</p>
<p>c) Reference standards</p> <p><i>Describe the international standards used in the benchmark methodology.</i></p>	<p>The ESG methodology of the Benchmark Administrator's ESG Benchmarks integrates the United Nations Global Compact Principles (UNGC).</p>

<b>Date on which information has been last updated and reason for the update:</b>	August 2024 (annual review).
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## APPENDIX 2

### INDEX METHODOLOGY – NON- ESG BENCHMARKS

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
<b>Item 1.</b> Name of the benchmark administrator.	J.P. Morgan Securities LLC
<b>Item 2.</b> Type of benchmark or family of benchmarks. <i>Choose the relevant underlying asset from the list provided in “Annex II” of the applicable delegated legislation under EU BMR or UK BMR.</i>	Fixed Income Indices  For the purposes of Annex II, the relevant underlying asset are Fixed Income and Sovereign Debt
<b>Item 3.</b> Name of the benchmark or family of benchmarks.	Fixed Income Indices
<b>Item 4.</b> Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	No
<p><b>Item 5.</b> Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to the applicable delegated legislation under EU BMR or UK BMR.</p> <p>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.            The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks.</p>	
a) List of environmental factors considered:	Benchmark Family does not pursue ESG objectives.
b) List of social factors considered:	Benchmark Family does not pursue ESG objectives.
c) List of governance factors considered:	Benchmark Family does not pursue ESG objectives.
<p><b>Item 6.</b> Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to the applicable delegated legislation under EU BMR or UK BMR, depending on the relevant underlying asset concerned.</p> <p>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.            The ESG factors shall not be disclosed for each constituent of the benchmark, but shall be disclosed at an aggregated weighted average value of the benchmark.</p> <p>Alternatively, all of this information may be provided in the form of a hyperlink to a website of the benchmark administrator included in this explanation. The information on</p>	

the website shall be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years.	
a) List of environmental factors considered:	Benchmark Family does not pursue ESG objectives.
b) List of social factors considered:	Benchmark Family does not pursue ESG objectives.
c) List of governance factors considered:	Benchmark Family does not pursue ESG objectives.
Hyperlink to the information on ESG factors for each benchmark:	Not Applicable.
<b>Item 7. Data and standards used</b>	
a) Data input.  <i>(i) Describe whether the data are reported, modelled or sourced internally or externally.</i> <i>(ii) Where the data are reported, modelled or sourced externally, please name the third party data provider.</i>	Benchmark Family does not pursue ESG objectives.
b) Verification and quality of data. <i>Describe how data are verified and how the quality of those data is ensured.</i>	Benchmark Family does not pursue ESG objectives.
c) Reference standards <i>Describe the international standards used in the benchmark methodology.</i>	EU BMR or UK BMR.
<b>Date on which information has been last updated and reason for the update:</b>	August 2024 (annual review).