

INDEX RULE BOOK

Euronext ESG Eurozone Biodiversity Leaders PAB

Version 23-01

Effective from 20 July 2023

indices.euronext.com

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1. GENERAL

This document is applicable to the Euronext ESG Eurozone Biodiversity Leaders PAB ("Index Family"), which consists of all the Indices as mentioned in the Reference Table.

The Euronext ESG Eurozone Biodiversity Leaders PAB is designed to reflect the price level trends in the trading of shares listed in the Eurozone.

Euronext Paris is the Administrator of this Index Family. For this Index Family no Independent Supervisor is appointed.

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VERSION NOTES

Version	Effective date	New or changed parts	Reference/announcement
22-01	29-06-2022	Index launch	
22-02	08-08-2022	Addition of a new rule in case of no feasible solution for the weights' optimization	
22-03	08-09-2022	Addition of Review Weighting Date	EIA 2022-318
23-01	20-07-2023	Addition Decrement version	

2. INDEX REVIEWS

2.1 REVIEW FREQUENCY AND RELEVANT DATES

Review frequency: Annually

Review Effective Date: After the market close of the third Friday of September.

Review Cut-Off Date: After the market close of the penultimate Friday of August.

Review Announcement Date: At least five trading days before the Review Effective Date.

Review Weighting Date: Three trading days before the Review Effective Date

Review Weighting Announcement Date: Two trading days before the Review Effective Date

2.2 INDEX METHODOLOGY PRINCIPLES

2.2.1 General Methodology Objectives

The Index seeks compliance with Paris Aligned Benchmark (PAB) objectives.

Compliance with PAB is aimed via weight adjustments following core selection and preliminary weights.

The weights are constructed using an optimization process that aims to achieve the PAB decarbonization objectives while minimizing the sectorial weights' deviation relative to the Index Starting Universe. (Cf section 2.4 for further details)

2.2.2 Data Partners

- Moody's ESG provides research datapoints related to ESG, Carbon exposure, Controversies and Activity involvement.
- Iceberg Data Lab (IDL) provides the Corporate Biodiversity Footprint score (CBF score).

2.2.3 Climate Impact sections

Grouping of companies based on NACE section classification (Annex I to EC Regulation No 1893/006) into two sections:

- High Climate Impact section
 - NACE Sections A to H and Section L
- Low Climate Impact section
 - NACE Section that are not part of the High Climate Impact section

NACE Section	NACE Section Name	Climate Impact Section Group
A	AGRICULTURE, FORESTRY AND FISHING	High
B	MINING AND QUARRYING	High

C	MANUFACTURING	High
D	ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLIES	High
E	WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	High
F	CONSTRUCTION	High
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	High
H	TRANSPORTATION AND STORAGE	High
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES	Low
J	INFORMATION AND COMMUNICATION	Low
K	FINANCIAL AND INSURANCE ACTIVITIES	Low
L	REAL ESTATE ACTIVITIES	High
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	Low
N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	Low
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	Low
P	EDUCATION	Low
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	Low
R	ARTS, ENTERTAINMENT AND RECREATION	Low
S	OTHER SERVICE ACTIVITIES	Low
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE	Low
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES	Low

2.3 REVIEW SELECTION

Step 1: Index Universe

Index Universe definition

The Index Starting Universe consists of the Constituents included in the Euronext Eurozone 300 Index at reviews.

At reviews this means included in the Index Starting Universe after the Review Effective Date.

Step 2: Eligibility screening at reviews

The list of Constituents is reduced by a series of screens. The Companies with any of the following characteristics, are excluded:

- Companies having an ESG score among the 20% worst, as assessed by Moody's ESG
- Companies that do not have an ESG score, as assessed by Moody's ESG
- Companies facing UNGC critical controversies as assessed by Moody's ESG
- Companies with % of revenues derived from the Production of tobacco > 0%, as provided by Moody's ESG
- Companies with % of revenues derived from the Distribution of tobacco > 10%, as provided by Moody's ESG
- Companies involved in controversial weapons, as provided by Moody's ESG
- Companies with % of revenues derived from Civilian Fire Arms > 5%, as provided by Moody's ESG
- Companies with % of revenues derived from Military Production & Sales > 5%, as provided by Moody's ESG
- Companies with % of revenues derived from nuclear power > 5%, as provided by Moody's ESG
- Companies with % of revenues derived from Uranium Mining > 0%, as provided by Moody's ESG
- Companies with % of revenues derived from Coal Mining > 0%, as provided by Moody's ESG
- Companies with % of revenues derived from Coal Fuel Power Generation > 5%, as provided by Moody's ESG

- Companies with % of revenues derived from Tar Sands and Oil Shale > 0%, as provided by Moody's ESG
- Companies with % of revenues derived from Fossil fuel industries (upstream, midstream, power generation) > 10%, as provided by Moody's ESG
- Companies with % of revenues derived from Hydraulic Fracking > 0%, as provided by Moody's ESG

The remaining companies are eligible for inclusion.

The Euronext ESG Providers Methodologies document gives a detailed background on various scoring methodologies, controversial activities and controversies assessments.

Step 3: Selection ranking

The eligible Constituents are ranked by the biodiversity score (CBF score) as provided by Iceberg Data Lab.

In case two Constituents have the same biodiversity score (CBF score), the Constituent with the highest free float market cap is ranked higher.

Constituents not covered by Iceberg Datalab are assigned a default Biodiversity score of 3 (scale of 1 to 6).

Methodological guide of the CBF (Corporate Biodiversity Footprint) can be found here : https://www.icebergdatalab.com/documents/CBF_client_methodological_guide_April_22.pdf

Step 4: Selection of constituents at the review

Selection of the 30% top ranked company per ICB Supersector in term of biodiversity score (CBF score) as provided by Iceberg Data Lab.

The number of Constituents to be included per ICB Supersector are rounded up.

2.4 PERIODICAL WEIGHTING UPDATE

Weighting method

The index is Non-Market Capitalization weighted, based on an optimization approach.

The Weighting Factors are explained in the following paragraphs.

Number of shares

The new weightings are calculated such that each constituent will have the weight in accordance with the outcome of the weighting procedure detailed in 2.5.

The Number Of Shares are determined based on the closing prices of the Companies to be included in the Index on the Review Weighting Date

Free Float factor

The Free float Factor is not applied for this Index family

Capping Factor

The Capping Factor is technically set at 1, per-stock caps and other capping mechanisms are part of the weight optimization and therefore taken into account when calculating the final company weights and the derived number of shares; Cf section 2.5.2

2.5 WEIGHT CALCULATION

2.5.1 Decarbonization objectives

2.5.1.1 Carbon Intensity calculation

Euronext will calculate the Carbon Intensity (CI) for each of the Constituents in the Index as well as for each company in the Index Starting Universe.

The Carbon intensities are calculated as follows:

$$CI = \frac{\text{Sum of Emissions}}{\text{Enterprise Value including Cash}}$$

- Emissions are Scope 1+2+3 carbon emission, provided by Moody's ESG ¹
- Enterprise Value including Cash = Market capitalization + Debt

- For Index:

$$\text{Stock-level weighted CI} = CI * \text{Index weight}^2$$

- For Index Starting Universe:

$$\text{Stock-level weighted CI} = CI * \text{FFMC weight}^3$$

The Weighted Average Carbon Intensity (WACI) of the Index and the Index Starting Universe are established as follows:

- WACI of Portfolio = \sum Stock-level weighted CI

2.5.1.2 Decarbonization targets

The target metric for decarbonization objectives is the Weighted Average Carbon Intensity (WACI). The following two objectives need to be respected at the same time – they form the **PAB Double Cap**.

i) Carbon Intensity reduction of the Index vs the Investable Universe of at least 50%

- The WACI of the Index each year will be compared to the WACI of the Investable Universe

ii) Year-on-year self-decarbonization trajectory of the Index⁴

- During the review in base year Euronext will calculate the WACI of the Index and calculate a decreasing trajectory of carbon intensity target for future years, with 7% annual geometrical decrease as below:

$$WACI_{T+1} \leq (1 - 0.07) * WACI_T$$

- This self-decarbonization trajectory will be made public

Ex:	Index WACI Trajectory	Trajectory Formula
Base Year T	1000	$WACI_T$
Year T+1	930	$(1 - 0.07) * WACI_T$
Year T+2	864.9	$(1 - 0.07)^2 * WACI_T$

¹ Carbon intensity of stocks not covered by Scope 3 VE data is estimated with ICB Supersector medians

² The calculation of the Index Weights are described in the section 2.5.2

³ Free Float Market Cap Weights of the components in the index starting universe

⁴ Trajectory calculation only applicable since the publication of the index

2.5.2 Weight adjustments to achieve decarbonization objectives

The index weights are constructed using an optimization process that aims to achieve the decarbonization objectives while minimizing the sectorial weights' deviation relative to the Index Starting Universe.

The objective function to minimize is the following:

$$f(w_1, w_2, \dots, w_p) = \sum_{n=1}^p (w_n - w_n^{univ})^2$$

With:

- w_n = Weight of supersector n in the portfolio
- w_n^{univ} = Weight of supersector n in universe

The constraints imposed are the following:

- All weights are positive and sum to 1
- All weights are capped at 10%
- High Stake NACE Section weight in the index \geq High Stake NACE Section weight in the starting universe
- Minimum reduction in WACI relative to Parent index of 50% (Scope 1+2+3)⁵
- Minimum average reduction (per annum) in WACI relative to WACI at the base year of 7%
- The weight in the Index should satisfy the below inequality:
 - $\frac{Weight_{FFMC}}{factor} \leq Weight_{index} \leq Weight_{FFMC} \times factor$
 - The initial value of factor is 2

During the annual Index review, in the event that there is no optimal solution that satisfies all the optimization constraints, the following constraint will be relaxed, until an optimal solution is found:

- Relax the factor in steps of 1 up to a maximum factor of 20

In the event that no optimal solution is found after the constraint relaxation is exhausted, the basket of selected constituents will be modified until an optimal solution is found:

- Remove the constituent with the highest Carbon Intensity (One constituent at a time) up to a maximum aggregated weight of removed constituents of 10%.

In the event that no optimal solution is found after the basket of selected constituents is modified, the relevant Index will not be rebalanced for that Annual Index Review.

⁵ An additional constraint that maximizes the WACI reduction relative to Parent index at 40% was used in the backtested index

3. REFERENCES

3.1 REFERENCE TABLE

Index name	Isincode	Mnemo	Bloomberg Code	Reuters code	Base date	Base value	Publication since	Index Type
Euronext ESG Eurozone Biodiversity Leaders PAB	FRESG0000371	EBLPP	BIOLPABP	.EBLPP	01/01/2010	1000	29/06/2022	Price
Euronext ESG Eurozone Biodiversity Leaders PAB GR	FRESG0000389	EBLPG	BIOLPABG	.EBLPG	01/01/2010	1000	29/06/2022	Gross Return
Euronext ESG Eurozone Biodiversity Leaders PAB NR	FRESG0000397	EBLPN	BIOLPAB	.EBLPN	01/01/2010	1000	29/06/2022	Net Return
Euronext ESG Eurozone Biodiversity Leaders PAB Decrement 3.5%	FRESG0001403	EBLPD	BIOLPABD	.EBLPD	01/01/2010	1000	20/07/2023	Decrement 3.5% on Net Return

3.2 BASE CURRENCY

The Base Currency of this index family is Euro.

3.3 PUBLICATION

The opening index level is disseminated at the same time as the first index level.

The index is calculated based on the most recent prices of transactions concluded on the relevant markets. The level of the index is in principle published every 15 seconds. The index is calculated from 09:00 hours until Euronext Markets stop regular daytime trading on the days when the Euronext Markets are open for trading.

The closing level is the last level disseminated on the trading day.

4. ESG DISCLOSURES

EXPLANATION OF HOW ESG FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
Item 1. Name of the benchmark administrator.	Euronext Paris
Item 2. Type of benchmark	Equity Benchmark
Item 3. Name of the benchmark or family of benchmarks.	Euronext ESG Eurozone Biodiversity Leaders PAB Index
Item 4. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	Yes
Item 5. If the response to Item 4 is positive, please find below the ESG factors that are taken into account in the benchmark methodology and how they are used for selection, weighting and exclusion	
a) List of environmental factors considered:	<ul style="list-style-type: none"> • ESG score • Revenue involvement in Production of tobacco • Revenue involvement in Distribution of tobacco • Revenue involvement in Coal Mining • Revenue involvement in Coal Fuel Power Generation • Revenue involvement in Tar Sands and Oil Shale • Revenue involvement in Fossil Fuels industries • Revenue involvement in Hydraulic Fracking • Revenue involvement in Uranium Mining • Revenue involvement in Nuclear Power • Revenue involvement in Civilian Firearms (Assault and Non-assault) Weapons • Revenue involvement in Military Production & sales • Evidence of activity in Controversial weapons • United Nation Global Compact compliance assessment • Biodiversity score (CBF score)
b) List of social factors considered:	<ul style="list-style-type: none"> • ESG score • United Nation Global Compact compliance assessment
c) List of governance factors considered:	<ul style="list-style-type: none"> • ESG score • United Nation Global Compact compliance assessment
Item 6. Data and standards used.	

a) Data input.

(i) Describe whether the data are reported, modelled or, sourced internally or externally.

(ii) Where the data are reported, modelled or sourced externally, please name the third party data provider.

Moody's ESG:

- ESG score
- Revenue involvement in Production of tobacco
- Revenue involvement in Distribution of tobacco
- Revenue involvement in Coal Mining
- Revenue involvement in Coal Fuel Power Generation
- Revenue involvement in Tar Sands and Oil Shale
- Revenue involvement in Fossil Fuels industries
- Revenue involvement in Hydraulic Fracking
- Revenue involvement in Uranium Mining
- Revenue involvement in Nuclear Power
- Revenue involvement in Civilian Firearms (Assault and Non-assault) Weapons
- Revenue involvement in Military Production & sales
- Evidence of activity in Controversial weapons
- United Nation Global Compact compliance assessment

Iceberg Datalab:

- Biodiversity score

The CBF score is derived from the Corporate Biodiversity Footprint financial ratio (km².MSA/€Mn). This indicator was developed and is calculated by Iceberg Data Lab. It results from the use of an internal model

b) Verification of data and guaranteeing the quality of those data.

Describe how data are verified and how the quality of those data is ensured.

Moody's ESG:

Vigeo-Eiris represents and warrants that to the best of its knowledge the Methodology is robust and reliable, rigorous, and capable of validating and verifying including, but not limited to, the following:

- Shall promptly correct any errors made in its computations of the Data and inform Euronext thereof, immediately.
- Periodically review the Methodology
- Has clear written rules identifying how and when discretion may be exercised when deviating from the methodology
- Will inform Euronext prior to making any material change to the Methodology and will provide Euronext with the rationale for such change.

	<p>Iceberg Datalab:</p> <p>Each analyst is trained on the methodology and cannot validate an analysis until his or her probation period is over.</p> <p>Each file is controlled by a second pair of eyes, either a Senior Analyst or the Managing Director</p> <p>Every error is monitored through an internal tracking tool (Youtrack) ensuring the traceability of errors, the fact that they are corrected and following up onto recurring mistakes or methodological bias</p>
<p>c) Reference standards</p> <p><i>Describe the international standards used in the benchmark methodology.</i></p>	<p>Moody's ESG:</p> <p>The methodology behind ESG performance indicators and the assessment of controversies severity is based on the following international standards:</p> <ul style="list-style-type: none"> • Global Reporting Initiative (GRI) • OECD Guidelines for Multinational Enterprises, and sectorial guidance • G20/OECD recommendations on Corporate governance • UN Conventions and recommendations, • UN Global Compact Principles • UN Sustainable Development Goals • ILO Conventions, including the core ones, and recommendations • TFCDD recommendations • Paris Agreement (UNFCCC) <p>Iceberg Datalab</p> <p>The CBF score was developed using state of the art academic studies about the quantitative assessment of Biodiversity impact. A comprehensive list of the bibliography can be provided on demand. Other sources or standards used are the Globio model, IEA and FAO scenarios and dataset.</p>
<p>Information updated on:</p>	<p>17/06/2022</p>