# INDEX RULE BOOK

## Low Carbon 100 Europe® PAB Index

Version 24-01

Effective from 4 April 2024

indices.euronext.com

For further information in relation to Euronext Indices please contact: index-team@euronext.com

# Index

# 1. GENERAL

This document is applicable to the Low Carbon 100 Europe® PAB Index ("Index Family"), which consists of all the Indices as mentioned in the Reference Table.

The Low Carbon 100 Europe PAB Index is designed to reflect the price level trends in the trading of shares listed in Europe.

Euronext Paris is the Administrator of this Index Family. The Expert Committee acts as Independent Supervisor of the Index Family.

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**PREVIOUS VERSION NOTES**

(Low Carbon family)

18-01 Change of definition of Free Float Factor
18-01 Addition of the exclusion rules for some energy companies
18-01 Addition of some rules to arrive to '100- NG' companies
19-01 Full methodology updated, see announcement No 2019-93
19-02 Review dates modified from December to March (annual review) and from June to September (semi-annual) + exclusion of the ICB Subsectors Oil Equipment & Services.
The perimeter of exclusions at semi-annual review includes the UNGC principles.
20-01 Update of the CDP Equivalence table: "Not requested to respond" set at 0 instead of 0.5.
20-02 Integration of ESG Disclosures and update for ICB classification definition changes
20-03 Addition of PAB compliance mechanisms
20-04 Low Carbon 100 Europe® Index renamed to Low Carbon 100 Europe® PAB Index
21-01 Annual review implementation date modified to the first Wednesday of April instead of the third Friday of March, new rule weighting rule for the Green pocket, addition of exclusions related to Nuclear, Conventional weapons and Controversial weapons.
21-02 Addition of Low Carbon 100 Eurozone PAB and Low Carbon 300 World PAB

**VERSION NOTES**

| Version | Effective date | New or changed parts | Reference/announcement |
|---|---|---|---|
| 21-01 | 15-12-2021 | restyled version in view of newly published Calculation and Corporate Actions rulebooks | |
| 22-01 | April 2022 | Addition of 'civilian firearms' to the 'conventional weapons' screening. Exclusion of 'tobacco production' made explicit. | |
| 22-02 | April 2022 | Update of the Carbon4 score methodology and | |

| | | | |
|---|---|---|---|
| | | bonus/malus system into CDP Equivalence table | |
| 22-03 | 08-09-2022 | Addition of Review Weighting Date | EIA 2022-318 |
| 23-01 | 14-11-2023 | Small textual update on UNGC exclusion | |
| 24-01 | 04-04-2024 | Update and clarification of 2.4.3.2 step 3 (computation of the WACI of the Index and Investible Universe) | |

# 2. INDEX REVIEWS

## 2.1 REVIEW FREQUENCY AND RELEVANT DATES

| | |
|---|---|
| **Review frequency:** | Annually, with semi annual screening for UNGC controversies. |
| **Review Effective Date:** | After the market close of the first Wednesday of April. For semi annual review: after the market close of the first Wednesday of October. |
| **Review Cut-Off Date:** | After the market close of the penultimate Friday of February. For semi-annual review: one week before the Review Effective Date. |
| **Review Announcement Date:** | At least six 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 REVIEW SELECTION

### 2.2.1 General methodology objectives

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

The Index targets a fixed number of constituents after a stringent exclusion process and with a Climate best-in-class approach. Among them a Green pocket with a weight of 5% is composed of stocks with high proportion of turnover linked to renewables or energy efficiency.

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

The weight of the highest Weighted Carbon Intense stock in the index is diminished up to 30% and rebalanced in its Super-sector, to less Carbon Intense companies. We reiterate this process with a second company if needed and so on, until the index is compliant with the PAB Carbon Intensity requirements.

### 2.2.2 Data Partner

Moody's ESG Solutions provides research datapoints related to EGS, Energy transition, Carbon exposure, Controversies and Activity involvement.

### 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 ACTIVITIE | 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 |

## Step 1: Index Universe

### Index Universe definition

The Index Universe consists of the companies included in the Euronext Europe 500 Index as well as any Green Company not included in the Euronext Europe 500. At reviews this means included after the Review Effective Date.

### List of Green Companies

The list of Green Companies is constructed out of the 1000 highest Companies with the highest Free Float market capitalization in Europe at the Review Cut-Off Date for the Annual Review.

- These Companies should have at least 50% of their turnover related to *low carbon* technologies (renewables or energy efficiency) and being part of the following ICB sectors:
  - Renewable Energy (601020)
  - Construction & Materials (501010)
  - Electricity (651010)
  - Electronic & Electrical Equipment (502020)
  - Industrial Engineering (502040)
  - Industrial Transportation (502060)
- Should this list count less than 10 companies, the '50% of turnover' condition may be alleviated by the Expert Committee
- The list of Green Companies with their respective turnover related to *low carbon* technologies will be made public after the Annual review on Euronext website: https://www.euronext.com/fr/products/indices/QS0011131735-XAMS/market-information

- Note on Non-Green: For the purposes of this index, any Company not deemed as Green is labelled non-Green. The label is for classification only and makes no statement about the degree of environmental involvement of the company.

### Continuous eligibility screening

Continuous eligibility screening is not applied for this index.

### Step 2: Eligibility screening at reviews

**Step 2a:** Size selection:
The 300 Companies with the largest free float market capitalisation within the Index Universe at the Review Cut-Off Date are eligible.

**Step 2b:** Removal of companies / Social and Governance score
The companies from step 2a are assigned a Social and Governance score. This score is computed as the average between the Social and Governance scores as defined by Moody's ESG Solutions. Ten percent of companies with worst scores are removed. In case of equal average score, the company with the best Social score will be preferred.

Please refer to the "Euronext ESG Providers Methodologies" for more information about the scores.

**Step 2c:** Removal of companies / United Nations Global Compact
The companies that do not meet or are at risk with the fundamental responsibilities in the areas of human rights, labour, environment and anti-corruption as defined by the Ten Principles of the United Nations Global Compact (UNGC), as evaluated by Moody's ESG Solutions, are not eligible. This step excludes companies that significantly harm one or more of the environmental objectives in line with the PAB DNSH exclusionary criteria.

**Step 2d:** Removal of companies / ICB
The companies belonging to the ICB Subsectors Tobacco (45103010), Defense (50201010), Aerospace (50201020) and Oil Equipment & Services (60101030) are not eligible.

**Step 2e:** Removal of companies / Tobacco
The companies involved in the following activities will be excluded from the index by the Expert Committee at the reviews:
a. Companies involved in the production of tobacco (>0% as defined by Moody's ESG Solutions).

**Step 2f:** Removal of companies / Fossil Fuel
The companies involved in the following activities, based on Carbone4 Finance and Moody's ESG Solutions data, will be excluded from the index at the reviews:
a. Companies with fossil fuel reserves,
b. Companies searching, collecting, treating, refining or transporting coal, oil or gas,
c. Utilities that use fossil fuels to produce electricity.

**Step 2g:** Removal of companies / Nuclear
The companies involved in the following activities, based on Moody's ESG Solutions data, will be excluded from the index at the reviews:
a. Companies involved in Uranium mining; and/or
b. Companies that base their electricity generation on nuclear energy (>5% turnover); and/or
c. Operators of nuclear power plants and/or manufacturers of essential components for nuclear power plants (>5% turnover)

are not eligible.

**Step 2h:** Removal of companies / Controversial and Conventional Weapons
The companies involved in the following activities, based on Moody's ESG Solutions data, will be excluded from the index at the reviews:

a. Companies involved in key parts or full weapon systems for controversial weapons (anti-personnel landmines, cluster munitions, nuclear weapons, biological & chemical weapons, ammunition containing depleted uranium, Incendiary weapons, Non detectable fragments, White phosphorous, Blinding lasers).
b. Manufacturers of conventional weapons/armaments and/or their essential components as well as civilian firearms (if summed >5% turnover).

**Step 2i:** Removal of companies / Expert committee
In case of serious controversies that have arisen after the cut-off date and/or controversies that are deemed to be incompatible with the index spirit, the Expert committee can decide to exclude certain companies. The decision ground includes Environmental, Social or corporate Governance (ESG) controversies.

## Step 3: Selection Ranking

Euronext calculates a climate score for each non-Green Company by combining Carbon4 Finance number-based CIA score with CDP letter-based scores.
The background of the scores is described in the Euronext ESG Providers Methodologies rulebook.

For each company, the Carbon4 Finance score (1 being excellent and 15 being poor) will be tilted with a bonus/malus system, ranging from -1.5 to +1.5 using the CDP equivalence table. For example, a company with a Carbon4 Finance score of 2 and a CDP score of A- (equivalent to a bonus of –1.2) will get a climate score of 0.8.

## CDP Equivalence Table

| CDP Score Alphabet | Bonus (-)/Malus(+) |
|---|---|
| A | -1.5 |
| A- | -1.2 |
| B | -0.9 |
| B- | -0.6 |
| C | 0 |
| C- | 0.6 |
| D | 0.9 |
| D- | 1.2 |
| F** | 1.5 |
| Not requested to respond | 0 |

F**: Failure to provide sufficient information to be evaluated. Companies who are requested to disclose their data and fail to do so, or fail to provide sufficient information. This does not necessarily mean a failure of environmental stewardship

The climate score will serve as the basis for ranking of candidate companies. The lower the climate score, the higher the stock will rank in terms of its eligibility for the index. Companies with very high, i.e. poor, climate score will not be selected.

## Step 4: Selection of constituents at the reviews

### Target number of companies and treatment of the Green companies

The target number of companies is 100.

Any company that is part of the Green pocket and at the same time is also part of the selection of the highest Free Float Market Capitalisation companies selected in Step 2a is selected only for the Green pocket. This step is done in order to prevent conflicts in the calculations of sectorial constraints and targets for the non-Green companies.

### Green pocket

This section is composed entirely of Green Companies. The target number of Green Companies is set to 15% in terms of number of companies. The sum of the number of Green Companies ('$N_G$') and non-Green Companies will be the total number of index constituents.

Should the number of Green Companies available for inclusion into the index be below 15%, the number of non-Green companies will be increased so that the total number of index constituents reaches the Target number of companies.

### Non-Green companies

This section is composed of companies from the Index Universe. Any stocks not deemed as Green are labelled non-Green. Total target number of non-Green companies is equal to the Target number of index constituents minus the number of Green Companies.

The selection of the non-Green companies aims to provide a best-in-class collection of companies based on climate score while respecting sectorial constraints with respect to the Index Universe. This procedure is described in the following sections.

**Step 4a**: Determination of the target number of non-Green companies within each ICB super-sector

The target number of non-Green companies within each super-sector of the index is proportional to the number of companies in the Super Sectors of the Index Universe. This number is then rounded-up.

| Ex: | Index Universe | Low Carbon 100 Europe® PAB Index |
|---|---|---|
| Number of companies | 211 | 100 - '$N_G$', ex: 91 |
| Number of companies in the ICB super-sector "Personal & Household Goods" | 15 | Round-up (15/211*91) = **7** |

**Step 4b**: Selection of non-Green companies

Within each ICB super-sector, the companies are ranked from the best (lowest) to the worst (highest) climate score. The 'n' best companies will be selected, 'n' being the target number of companies in the super-sector, as determined in the previous step.

Due to the rounding of target number of companies in each super-sector, the sum of these super-sector target numbers can be above the aggregate total target for non-Green companies. In this case, the surplus of companies above the non-Green target will be removed as follows. The companies with worst (highest) climate scores are removed sequentially, under the constraint that only one company is excluded per super-sector and that at least 2 companies are kept in the final selection per super-sector. In case of equal climate score, the company with lower Free Float Market Capitalisations will be removed first. If needed, iterations are performed until the number of companies is equal to the target number of non-Green companies.

**Replacement of constituents at the semi-annual review**

At the semi-annual review, the companies that do not meet or are at risk with the fundamental responsibilities in the areas of human rights, labour, environment and anti-corruption as defined by the Ten Principles of the United Nations Global Compact (UNGC) as evaluated by Moody's ESG Solutions, are excluded. Please refer to the "Data Providers" section for more information about the methodology.
Are also excluded companies with strong controversies related to ESG topics and weapons as determined by the Expert Committee.

If a company is removed, it will be replaced (same weight) by the next best ranked* company in that same super-sector. If 2 or more companies are excluded from the same sector, the highest weight will be assigned to the best ranked* company and so on.

If not enough stocks are available in that super-sector, the best ranked* companies excluded to arrive target number of non-Green companies during the annual review will be added (same weight). If 2 or more companies are needed, the highest weight will be assigned to the best ranked* company and so on.

**The ranking is the one from the annual review and is made on the climate score. In case of equal score, the second criteria for the ranking is the free float market capitalisation on the annual Review Cut-Off date.*

## 2.3 PERIODICAL WEIGHTING UPDATE

**Weighting method**

The index is Non-Market Capitalisation weighted, based on fundamental analysis fulfilling the PAB aims.

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 2.4.

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 applicable for this Index Family.

**Capping Factor**

The Capping factor is not applicable for this Index Family.

## 2.4 LOW CARBON PAB WEIGHTING PROCEDURE

### 2.4.1 Preliminary weights

#### 2.4.1.1 Green pocket

Aggregate target weight of this section is currently set to 5% and may be increased as a result of Step 2 below. The 5% allocation is revised annually by the Expert committee, considering different criteria such as

the number of Green companies, their Free Float Market Capitalisation and average daily traded value. In the long term, an increase in the target weight is envisaged.

The weights of the individual Green Companies are subject to liquidity constraints. These constraints aim at maintaining the replicability of the index in real-life market conditions.

▪ Step 1 - The Green companies are equally weighted (EW) for a total size of the Green pocket of 5%, under Liquidity Constraints as described below;
▪ Step 2 - The Green companies weight is the higher of:
- EW from Step 1
- The theoretical Free Float Market Capitalization (FFMC) weight[2], subject to the liquidity constraint;

▪ Step 3 - If step 2 is activated, the total weight of the green pocket goes beyond 5% and is capped at 10%.

**Liquidity Constraints**:
Considering a €2 billion portfolio size, the weights of the Green Companies should fulfil the following criteria:
- Each Green Company can be fully sold (i.e. after-sale portfolio weight of 0%) within 5 days
- The daily volume required for this sale cannot exceed 30% of the last 3 months daily average volume

The companies not capped by the liquidity constraint are equally weighted.
where :
$W_{green}$ = Min (Liquidity Constraint; $W_{gmax}$)
Liquidity Constraint = $\frac{(PX)_i * (VOL\_AV\_3M)_i * 30\% * 5}{€2bn}$
$\sum W_{green} = 5\%$
$W_{EW} = (\sum W_{green} - W_{gc})/N_{gnc}$
$N_{gnc}$ = number of Green companies not capped by the liquidity constraint
$W_{green}$ = Weight of a specific Green Company
$W_{EW}$ = weight of a Green Company not capped (Equal weight)
$W_{gc} = \sum W_{green}$ capped by the liquidity constraint
$N_{gnc}$ = Number of Green Companies non capped by the liquidity constraint
PX = Last price expressed in EUR
VOL_AV_3M = Average daily volume over the last 3 months as of the cut-off date

**[2]The theoretical FFMC weight**
The theoretical FFMC weight of a Green company is the weight the Green company would have in a LC100 where all the companies would be weighted accordingly to their FFMC at the review cut-off date.

#### 2.4.1.2 Non-Green companies

Aggregate target weight of this section is a direct consequence of the target weight of Green pocket. It shall thus be (100% - $\sum W_{green}$) where $\sum W_{green}$ is the target weight of the Green pocket. Given that the aggregate target weight of the Green Pocket is currently set to 5%, the aggregate target weight of the non-Green companies is 100% - 5% = 95%.

The weights of the individual non-Green Companies are subject to sectorial constraints and set proportional to the Free Float Market Capitalization using the following two principles:

**i) Super-sector weights**

- The weight of each super-sector comprised of non-Green stocks in the index will be made proportional to the weight of the super-sector in the Index Universe, taking into account the aggregate target weight of all non-Green companies.
- Weight of super-sector$_i$ in Low Carbon Index = Weight of super-sector$_i$ in Index Universe * (100% - $\sum W_{green}$)

| Ex: | Index Universe | Low Carbon 100 Europe® PAB Index (ex-Green companies) |
|---|---|---|
| Weight of the super-sector "Personal & Household Goods" | 9.45% | 9.45% * 95% = **8.98%** |

N.B.: The final weight of each super-sector, once the Green companies are added to the index, will deviate from the target weight as determined by the Index Universe.

**ii) Individual company weights**

- After the previous proportional adjustments of super-sector weights, the weight of each individual non-Green company within each super-sector will be made proportional its Free Float Market Capitalisation relative to the Free Float Market Capitalisation of the super-sector.

| Ex: | Weight | Free Float Market Capitalisation |
|---|---|---|
| Super-sector "Personal & Household Goods" in the Index (ex-Green companies) | 8.98% | 6 companies for €220 0000 000 000 |
| Considering company A = 80 000 000 000€, then the weight of A = 80/220 * 8.98% = **3.27%** | | |

A maximum weighting of 10% is applied to each non-Green index constituent at the annual review. The surplus weight (weight above the capping for a specific company) is rebalanced to all the other index components, proportional to their size and up to the capping constraint

| Ex: | Company A | Company B |
|---|---|---|
| Weight before capping | 12% | 6% |
| Surplus | 12% - 10% = 2% | N/A |
| Weight after capping | 10% | 6% + 6% / (1-12%) * 2% = **6.14%** |

#### 2.4.1.3 Preliminary Index Weights

The union of Green and non-Green weights resulting from the procedures described in the preceding sections, together representing 100% of index weight, will be referred to as Preliminary Index Weights. These preliminary weights will be adjusted according to procedures aiming at PAB compliance described in the following sections.

The weights of Green companies are locked from this point onwards and will not change due to any modifications described in the following sections.

### 2.4.2 Climate Impact Allocation Constraint

PAB indices must comply with exposure constraints to sectors linked to climate impact. This will be achieved via proportional adjustments of the Preliminary Index Weights that were computed in sections above.

Each stock in the Index selection is assigned to a NACE Letter Section. Companies belonging to NACE Sections A to H and L (subject to change in line with regulation) will be collectively referred to as High Climate Impact Section (HCIS). The rest of stocks in the Index selection will be referred to as Low Climate Impact Section (LCIS).

The Preliminary Index Weights will be aggregated and grouped by the two Climate Impact Sections. The same will be done with weights of the Investible Universe. Depending on the comparison of these weights, the index preliminary weight may or may not be adjusted, as described in the following two sections. Options 1 and 2 outlined below are mutually exclusive and only one of them will be true at any given Index Review.

**Option 1)**

If the sum of Preliminary Index Weights in the HCIS is *lower* than the sum of weights in the HCIS of the Investible Universe, adjustments will be performed. The objective is to increase the exposure of the index to the HCIS and make it at least equivalent to the exposure of the Investible Universe.

| Ex: | Index Preliminary Weights | Investible Universe | Adjustments Needed to Index Preliminary Weights? |
|---|---|---|---|
| High Climate Impact Section | 60% | 70% | Yes, +10% |

| | | | |
|---|---|---|---|
| Low Climate Impact Section | 40% | 30% | Yes, -10% |

- N.B.: The Climate Impact sections can contain both Green and non-Green stocks. Only the preliminary weights of non-Green stocks will be adjusted.
- Preliminary weights of non-Green companies will be multiplied by an Adjustment Ratio (AR)
- For each stock in the Index, the adjusted weights can be expressed as

$$\text{Adjusted Index Weight} = \begin{cases} \text{Preliminary Index Weights} & \text{if company is Green} \\ \text{Preliminary Index Weights} * AR_i & \text{if company is non-Green} \end{cases}$$

where $AR_i$ is the Adjustment Ratio depending on the Climate Section (i) of the corresponding stock whose weight is being adjusted, according to the following definition

| Value of i | Climate Section Name | $AR_i$ |
|---|---|---|
| HCIS | High Climate Impact | $AR_{HCIS} = \frac{MIU_{HCIS} - PREL\_GREEN_{HCIS}}{PREL_{HCIS} - PREL\_GREEN_{HCIS}}$<br>where<br>$MIU_{HCIS}$ = Weight of HCIS in the Investible Universe<br>$PREL_{HCIS}$ = Preliminary Index Weight of HCIS (Green & non-Green)<br>$PREL\_GREEN_{HCIS}$ = Preliminary Index Weight of HCIS (Green only) |
| LCIS | Low Climate Impact | $AR_{LCIS} = \frac{MIU_{LCIS} - PREL\_GREEN_{LCIS}}{PREL_{LCIS} - PREL\_GREEN_{LCIS}}$<br>where<br>$MIU_{LCIS}$ = Weight of LCIS in the Investible Universe<br>$PREL_{LCIS}$ = Preliminary Index Weight of LCIS (Green & non-Green)<br>$PREL\_GREEN_{LCIS}$ = Preliminary Index Weight of LCIS (Green only) |

- A maximum weight of 10% is still maintained for each non-Green index constituent The surplus weight resulting from the Climate Impact Section adjustments (weight above the capping for a specific company) is rebalanced to the other index components in the same Climate Impact Section, proportional to their size and up to the capping constraint

| Ex: | Company A | Company B |
|---|---|---|
| Weight before capping | 12% | 6% |
| Surplus | 12% - 10% = 2% | N/A |
| Weight after capping | 10% | 6% + 6% / (1-12%) * 2% = **6.14%** |

**Option 2)**

If the sum of Preliminary Index Weights in the HCIS is *higher or equal* than the sum of weights in the HCIS of the Investible Universe, no adjustments will be performed.

| Ex: | Index Preliminary Weights | Investible Universe | Adjustments Needed to Index Preliminary Weights? |
|---|---|---|---|
| High Climate Impact Section | 80% | 70% | No |
| Low Climate Impact Section | 20% | 30% | No |

#### 2.4.2.1 Climate Impact Section-Adjusted Preliminary Weights

Following the process above, the weights of the index will be referred to as Climate impact Section-Adjusted Preliminary Weights. This is for differentiation purposes and consistency, even if no adjustments were made due to Option 2. Once the total weights of the two sections are established, they are locked and will not change on aggregate, even if individual stock weights within each of these sections can be adjusted further to comply with decarbonization objectives, as described in the next section.

### 2.4.3 Decarbonization Objectives

#### 2.4.3.1 Carbon Intensity calculation and targets

Euronext will calculate the Carbon Intensity (CI) (see Step 2 below) for each of the companies in the Index as well as for each company in the Investible Universe.

The target metric for decarbonization objectives is the Weighted Average Carbon Intensity (WACI) (see Step 3 below). 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 Investible Universe of at least 50%**

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

**ii) Year-on-year self-decarbonization trajectory of the Index**

- 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
- 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 | $(1 - 0.07)^2 * WACI_T$ |

#### 2.4.3.2 Weight adjustments to achieve decarbonization objectives

Climate Impact Section-Adjusted Preliminary Weights (see section above) will be further adjusted iteratively, one company at a time, until the WACI of the Index complies with the targets. This process is described in the following steps.

**Step 1:** Initialize the Temporary Index weights

- The initial stock weights used for the Index in this iterative process are set to be the Climate Impact Section-Adjusted Preliminary Weights (section 2.4.2.1)

**Step 2**: Establish the CI and weighted CI of all companies individually

- For each stock in Index and in the Investible Universe calculate:

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

- Emissions are Scope 1+2+3 carbon emission, provided by Carbon4
- Enterprise Value incl. Cash = Market capitalization + Debt

- For Index:

  Stock-level weighted CI = CI * Temporary Index weight
- For Investible Universe:

  Stock-level weighted CI = CI * FFMC weight

**Step 3**: Establish the WACI of the Index and the Investible Universe

- Both follow a generic calculation for a portfolio of stocks
- WACI of Portfolio = ∑Stock-level weighted CI / 3 * 72%

Carbon4 Finance emissions are divided by 3 and an additional ratio of 72% will be applied when consolidating the portfolio to limit double counting. This additional ratio of 72% is taken into account as the portfolio includes public corporates.

**Step 4**: Establish the targets for decarbonization objectives

- Target 1 = 50% * WACI of Investible Universe in the year of the review
- Target 2 = WACI value of the self-decarbonization trajectory in the year of the review
  - N.B.: Target 2 in Base Year (2020) is not applicable, applies only from Base Year + 1
- The minimum of Target 1 and Target 2 is the PAB Double Cap

**Step 5**: Compare the WACI of the Index from Step 3 with the PAB Double Cap from Step 4

- Condition: WACI of the Index needs to be lower or equal to the PAB Double Cap
  - If this condition is satisfied, stop with the process, no more adjustments to the Temporary Index weights are done and they become the final index weights, proceed to Step 11
  - If this condition is *not* satisfied, continue with the process

Next steps comprise the iterative process itself and are only executed if the condition in Step 5 is not satisfied.

**Step 6 [Outer Loop]:** Determine the candidate stock for reduction of Temporary Index weight

- 1st iteration only
  - Choose the company with the highest weighted CI
- 2nd - 5th iteration
  - Choose the company with the highest weighted CI subject to the ICB super-sector of the stocks in 1st-5th iteration being different
- Principle - perform loops in batches of 5 iterations where stocks will be selected based on highest weighted CI but always from different ICB super-sector (6th-10th iter., 11th-15th iter. and so on) until the targets are met
  - N.B.: As a consequence of these rules and as an example of permissible action, if stock has had its weight reduced in the first batch (1st-5th iteration), its weights can be further reduced in the next batches if it happens to still have the highest weighted CI at any point

**Step 7 [Inner Loop]:** Decrease the Temporary weight of the candidate stock from Step 6

- First decrease of -10%
- If PAB targets not met (Step 10), further 2 decreases, each of -10%, for an aggregated maximum reduction of -30%

| Ex: | Weight of Stock ABC |
|---|---|
| Temporary weight when entering Step 7 | 4% |

| | |
|---|---|
| Temporary weight after -10% | 3.6% = 4% x (1 - 0.1) |
| Temporary weight after -20% | 3.2% = 4% x (1 - 0.2) |
| Temporary weight after -30% | 2.8% = 4% x (1 - 0.3) |

**Step 8:** Determine stocks eligible for rebalancing the weight decreased in Step 7

Companies with the following attributes are eligible for weight increase rebalancing:

- Same ICB super-sector and the same Climate Impact Section as stock from Step 6
- non-Green Company
- Lower CI (*not* necessarily weighted CI) compared to stock from Step 6
- No weight reduction so far
    - N.B.: this in no way contradicts the further 10% decrements in Step 7 as the stocks being eligible for weight rebalancing are by definition different from the stock in step 7

**Step 9:** Rebalance the weight taken in Step 7 to eligible companies from Step 8

- The weight redistribution is proportional to 1/(Carbon Intensity), taking into account only the CI of the eligible companies, subject to the following constraints:
    - Maximum stock weight in the index is 10%
    - Stocks will be also subject to transactional liquidity cap:
        - Considering a €1 billion portfolio size, the turnover required to trade the weight changes between the old Index weights at the cut-off date and the new Index weights cannot exceed 30% of the last 3 months daily average volume of the stock
        - The size of the portfolio (€1 billion) to calculate the cap will be revised each year by the Expert Committee, notably by taking into account the size of the fund(s) tracking the Low Carbon index family along with the market conditions and index specificities
    - If a stock reaches one of the weight limits before the reallocation of the weight corresponding to its proportion according to the 1/(Carbon Intensity) principle, the weight is capped at maximum and the excess weight that was no allocated is distributed among the rest of the eligible stocks using the 1/(Carbon Intensity) principle again, excluding the Carbon Intensity of the capped stock
    - If the weight to be rebalanced from Step 7 is higher than the total weight that can be allocated to the eligible companies due to the maximum weight limit of 10% and/or liquidity cap mechanism, the weight decrease from Step 7 will be adjusted to be as large as possible while respecting these limits

| Ex: | Temporary weight (Step 1) | Carbon Intensity (Step 2) | Weighted Carbon Intensity (Step 2) | Stock weight to be decreased? (Step 6) | Eligible to rebalance into? (Step 8) | 1/(Carbon Intensity) [absolute; relative] | Weight changes (Step 9) |
|---|---|---|---|---|---|---|---|
| Stock 1 | 4% | 100 | 4 | Yes, -10% | - | - | -0.4% = -10%*4% |
| Stock 2 | 2% | 150 | 3 | No | No | - | - |
| Stock 3 | 5% | 70 | 3.5 | No | Yes | 0.014; 36% | +0.15% = 36%*0.4% |
| Stock 4 | 7% | 40 | 2.8 | No | Yes | 0.025; 64% | +0.25% = 64%*0.4% |

**Step 10:** Compare the new WACI of the re-weighted Index against the PAB Double Cap

- Condition: WACI of the Index needs to be lower or equal to PAB Double Cap
- If this condition is satisfied, stop with the iterations and proceed to Step 11
- If this condition is *not* satisfied, continue with the iterations
    - If the weight in stock in Step 7 has been decreased *less than 3 times* within this instance of the inner loop
        - Stay within the inner loop, go back to Step 7 and decrease the weight by further 10%
    - If the weight in stock in Step 7 has been decreased *3 times* within this batch of iterations

- Keep the rebalanced weights, exit the inner loop and go back to Step 6 to select a different stock

**Step 11:** Final weights, publish index and the final WACI

# 3. REFERENCES

## 3.1 REFERENCE TABLE

| Index name | Isincode | Mnemo | Bloom-berg Code | Reuters code | Base date | Base value | Publi-cation since | Index Type |
|---|---|---|---|---|---|---|---|---|
| Low Carbon 100 Europe® PAB Index | QS0011131735 | LC100 | LC100 | .LC100 | 29-12-06 | 100 | 13-10-08 | Price |
| Low Carbon 100 Europe® PAB Index NR | QS0011131743 | LC1NR | LC1NR | .LC1NR | 29-12-06 | 100 | 13-10-08 | Net Return |
| Low Carbon 100 Europe® PAB Index GR | QS0011131750 | LC1GR | LC1GR | .LC1GR | 29-12-06 | 100 | 13-10-08 | Gross Return |

## 3.2 BASE CURRENCY

The Base Currency of this index family is Euro.

## 3.3 PUBLICATION

The level of the Indices are in principle published every 15 seconds starting from 09:00. Index levels published before the official opening level is published are considered pre-opening index levels.

The official opening level is the first level published.

# 4. DATA PROVIDER SPECIFICATION

## 4.1 UNITED NATIONS GLOBAL COMPACT

| FEBELFIN Standards | | | Moody's ESG Solutions research | |
|---|---|---|---|---|
| **Category** | **Topic** | **Thresholds required by 2025** | **Moody's ESG Solutions Research line** | **Exclusion threshold** |
| UN Global Compact violations | Unacceptable GHG emissions | Investor Decision | **Carbon Footprint Grade** *(A, B, C , D)*<br><br>Carbon Footprint Grade :<br>This is a scale attached to the absolute carbon footprint, scope 1 & 2, including the following greenhouse gases: Carbon Dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, Sulfur Hexafluoride, Nitrogen Trifluoride<br><br>A – Moderate : <100 000 teq CO2<br>B – Significant : 100 000 – 1 000 000 teq CO2<br>C – High : 1 000 000 – 10 000 000 teq CO2<br>D- Intense : >= 10 000 000 teq CO2<br><br>**Energy Transition Score** *(0-100)*<br><br>Energy transition Score reflects the strategic approach to reduce companies emissions and adapt their business model to address the risks and opportunities tied to the transition to a low carbon economy. | Exclusion if carbon grade = D and Energy transition Score < 50 |
| | Serious or systematic human right violations | | UN Global Compact Research<br>**Level of Integration of GC principles**<br><br>5-scale opinion regarding overall integration of UNGC principles.<br>The UNGC analysis covers Human Rights, Labour, Environment, Corruption topics. It also takes in account controversies affecting the topics mentioned above, revenues from controversial weapons and tobacco<br><br>Advanced<br>High<br>Average<br>Limited<br>Non communicative and/or controversial | Non communicative and/or controversial |
| | Serious violations in situation of war or conflict | | | |
| | Gross corruption | | | |
| | Severe environmental damage | | | |
| | Violation of fundamental ethical norms | | | |

## 4.2 OTHER SCREENINGS BASED ON MOODY'S ESG SOLUTIONS DATA

| Step | Screening | Moody's field | Moody's ESG Solutions field description | Exclusion rule |
|---|---|---|---|---|
| Step 2e | Tobacco production | TOB1.2 | Percentage of revenue derived from production of tobacco | exclusion if >0% |
| Step 2f | Fossil Fuel | FOSF2.1 | Percentage of revenue derived from coal mining (estimate range). | exclusion if >0% |
| | | FOSF2.2 | Percentage of revenue derived from thermal coal mining and power generation (estimate range). | |
| | | FOSF2.4 | Percentage of revenue derived from coal power generation (estimate range). | |
| | | FOSF3.1 | Percentage of revenue derived from tar sands or oil shale extraction projects or services (estimate range). | |
| | | FOSF3.2 | Percentage of revenue derived from tar sands or oil shale extraction (estimate range). | |
| | | FOSF3.4 | Type(s) of other unconventional oil and gas sources and technologies the company is involved in. (includes hydraulic fracking) | |
| Step 2g | Nuclear | NUCL1.1 | Percentage of revenue derived from electricity from nuclear power stations, or from supplying products or services for them (estimate range) | Exclusion if:<br><br>1/ NUCL1.5 is true<br><br>2/ NUCL1.1 ≥5% with either<br><br>- NUCL1.4 filled with "Nuclear parts and services" or "Conventional parts and services"<br><br>- or NUCL1.2 is 'Generation' or 'Sales' |
| | | NUCL1.2 | Whether the company owns / operates nuclear power stations, or only sell nuclear-generated electricity. | |
| | | NUCL1.4 | Type(s) of products and services the company provides to the nuclear industry. | |
| | | NUCL1.5 | Whether the company is involved in uranium mining | |
| Step 2h | Controversial weapons | MIL1.2 | Whether the company is involved in controversial weapons or their key components. | Binary field. If involved ("1"), then exclusion. |
| | Conventional weapons | MIL1.4 | Percentage of revenue derived from the production of conventional weapons systems (estimate range). | The sum of the individual involvements should be <5%. For the calculation, the upper bound is considered.<br><br>Are added for the calculation the fields MIL1.4, MIL.5 and CFA1.2.<br>This latest is used under the condition that CFA1.3 is 'Firearms and |
| | | MIL1.5 | Percentage of revenue derived from the production of key parts or services for conventional weapons systems (estimate range). | |

| | | | | |
|---|---|---|---|---|
| | Civilian firearms | CFA1.2 | Percentage of revenue derived from the production of civilian firearms or related products (estimate range). | ammunitions' and/or 'Key parts or services' and/or 'Semi-automatic rifles' |
| | | CFA1.3 | Type(s) of civilian firearms or firearms-related products produced or sold by the company. | |

# 5. 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. | **Low Carbon 100 Europe 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: | Selection:<br>•Up to 15% ('NG') best "green companies" that have the highest of their turnover related to "low carbon" technologies (renewables or energy efficiency) and being part of the ICB sectors 601020, 501010, 651010, 502020, 502040, 502060.<br>• ('100%- NG') best climate score (combined Carbon4 Finance & CDP score)<br>Exclusion:<br>• Companies included in the ICB sectors: Tobacco, Defense, Aerospace and Oil Equipment & Services<br>• Companies with ESG controversies<br>• Companies involved in the production of Tobacco<br>• Companies involved in Fossil Fuel activities<br>• Companies involved in Nuclear activities<br>• Companies involved in Controversial and Conventional Weapons<br>• Companies facing controversies with regards to the UNGC<br>Weighting:<br>• The total weight of the "green companies" is set at 5 % by the committee.<br>• The total weight of the "non-green companies" is 95%. The weights of each ICB supersector is proportional to the related universe. Within each super-sector, the weight of each company is made proportional to the universe.<br>• Modified weighting based on Climate score, sectorial & Green allocation, and Free Float Market Capitalisation. Weighting adjustments to meet Paris Aligned Benchmark objectives.<br>• If the weights stemming from the core methodology and alignment of High Carbon Impact sections do not satisfy the decarbonization targets, we proceed to an iterative reweighting of the constituents. The weight of the highest Weighted Carbon Intense stock in the |

| | |
|---|---|
| | index is diminished up to 30% and rebalanced in in its Super-sector, to less Carbon Intense companies. We reiterate this process with a second company if needed and so on, until the index is compliant with the PAB Carbon Intensity requirements. |
| b) List of social factors considered: | Exclusion:<br><br>The 30 companies with the lowest-ranking average Social & Governance score are excluded. In case of equal average score, the company with the best Social score will be preferred. |
| c) List of governance factors considered: | Exclusion:<br><br>The 30 companies with the lowest-ranking average Social & Governance score are excluded. In case of equal average score, the company with the best Social score will be preferred. |
| **Item 6**. Data and standards used. | |
| a) Data input.<br><br>*(i) Describe whether the data are reported, modelled or, sourced internally or externally.*<br><br>*(ii) Where the data are reported, modelled or sourced externally, please name the third-party data provider.* | **Moody's ESG Solutions:**<br><br>• Social score<br><br>The Social pillar gathers all of the Equitics© sustainability criteria that pertain to the company's social impacts providing a comprehensive overview of its managerial approach. The content of this pillar integrates the analysis of Human Resources, Human Rights, Community Involvement and Business Behavior issues.<br><br>• Corporate Governance score<br><br>Within the Corporate Governance domain, there are **four underlying criteria** that structure the assessment framework and build the Responsible Corporate Governance Score:<br><br>• CGV 1.1: Responsible Board Practice and Organization.<br>• CGV 2.1: Audit and Internal Controls.<br>• CGV 3.1: Shareholder's Rights.<br>• CGV 4.1: Responsible Executive Remuneration.<br><br>In addition to the traditional themes of Corporate Governance that are addressed throughout national codes, Moody's ESG Solutions analyses themes specific to CSR<br><br>**CDP:**<br><br>A being excellent and D- poor. The F score (Failure to disclose) is given to a company part of the sample but not responding to disclose CDP methodology is available on: www.cdp.net.<br><br>**Carbon4 Finance:** |

| | |
|---|---|
| | 1 being excellent and 15 being poor. The full Carbon4 Finance methodology is available on: www.carbone4.com. |
| b) Verification of data and guaranteeing the quality of those data.<br>*Describe how data are verified and how the quality of those data is ensured.* | Moody's ESG Solutions, Carbon4 Finance and CDP 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:<br>• shall promptly correct any errors made in its computations of the Data and inform Euronext thereof, immediately.<br>• periodically review the Methodology<br>• has clear written rules identifying how and when discretion may be exercised when deviating from the methodology<br>• will inform Euronext prior to making any material change to the Methodology and will provide Euronext with the rationale for such change. |
| c) Reference standards<br>*Describe the international standards used in the benchmark methodology.* | **Moody's ESG Solutions:**<br>The methodology behind ESG performance indicators and the assessment of controversies severity is based on the following international standards:<br>• Global Reporting Initiative (GRI)<br>• OECD Guidelines for Multinational Enterprises, and sectorial guidance<br>• G20/OECD recommendations on Corporate governance<br>• UN Conventions and recommendations,<br>• UN Global Compact Principles<br>• UN Sustainable Development Goals<br>• ILO Conventions, including the core ones, and recommendations<br>• TFCD recommandations<br>• Paris Agreement (UNFCCC)<br><br>**Carbon4 Finance :**<br>Carbon 4 Finance score is based on GHG emissions. These emissions are calculated based on the GHG Protocol standard.<br><br>**CDP:**<br>CDP do not produce the methodology using an international standard, however do include elements of international standards in what we incentivize, ie all of the verification is based on international standards, the targets and specifically the push for SBT is a de facto standard.<br>CDP incentivize through their survey to companies the disclosure of climate-related information according to the following standards: GHG protocol, TCFD recommendations, Science-Based Targets, UN Global Compact the CEO Water Mandate guidelines. Further |

| | |
|---|---|
| | details can be found on CDP website at www.cdp.net, find below some of the relevant links :<br>•https://www.cdp.net/en/scores/cdp-scores-explained<br>•https://www.cdp.net/en/guidance/environmental-disclosure-standards-and-frameworks |
| **Information updated on:** | January 2022 |