



Rules for the Low Carbon 100 Europe® Index

August 2008

Version 1.1
Effective from December 18 2008

Table of contents

1. Composition of the Low Carbon 100 Europe index.....	2
2. Calculation and publication of the Low Carbon 100 Europe index	3
3. Rules for the periodical adjustment of the Low Carbon 100 Europe index	7
4. Corporate events affecting the composition.....	9
5. Corporate events affecting weighting of constituents.....	11
6. Governance and final provisions	13

1. Composition of the Low Carbon 100 Europe index

- 1.1 *Low Carbon 100 Europe index* The Low Carbon 100 Europe index is an index weighted by free-float market capitalization that measures the performance of 100 European companies having the lowest carbon (CO₂) intensity in their respective sectors or homogeneous sub-sectors.
- 1.2 *Purpose of the index* The Low Carbon 100 Europe index provides investors with an instrument that is not only a suitable underlying for index-linked product such as ETFs, but also a relevant benchmark for portfolio management.
- 1.3 **Composition**
- 1.3.1 *Universe* The selection list of the Low Carbon 100 Europe index is composed of the 300 largest European companies in terms of free float market capitalization.
- 1.3.2 *Eligible securities* Components of the selection list are European companies listed on the stock exchanges of the western European countries.
- 1.3.3 *Selected line* The most active listing, which represents in general the company's ordinary shares, is used in the index sample.
- 1.4 **Weightings and number of shares**
- 1.4.1 *Maximum weighting* The weight of a company in the Low Carbon 100 Europe index is capped at 15% of the index's free float market capitalization. See Rule 3.5.3.
- 1.4.2 *Shares* A quarterly adjustment scheme is applied for amendments to the numbers of shares.
The number of shares to be used after the quarterly review for each constituent will be based on the number of shares listed on the market. The number of shares may be modified in between the quarterly updates as described in the rule 5.4.

2. Calculation and publication of the Low Carbon 100 Europe index

- 2.1 *Calculation of the price return index* The Low Carbon 100 Europe index is calculated using the following formula:

$$I_t = 100 \times \frac{\sum_{i=1}^N F_{i,t} f_{i,t} Q_{i,0} S_{i,t} P_{i,t}}{K_t \sum_{i=1}^N F_{i,0} f_{i,0} Q_{i,0} S_{i,0} P_{i,0}}$$

Where:

100 = the base day of calculation

t = day of calculation

N = number of constituents in index

$Q_{i,t}$ = number of shares of stock i on day t

$F_{i,t}$ = free float of constituent i

$f_{i,t}$ = capping factor of stock i

$P_{i,t}$ = price of stock i on day t

$S_{i,t}$ = foreign currency exchange rate to convert non-euro prices into euro prices.

$Q_{i,0}$ = number of shares of equity i on index base date

$P_{i,0}$ = price of stock i on index base day

K_t = adjustment factor for the base date market capitalization

- 2.2 *Share prices* If no price has been established for a constituent's share on the trading day concerned, either the last known price established during regular daytime trading in officially listed shares on the relevant stock exchanges for traded stocks or the last adjusted price resulting from the adjustment of the closing price due to a corporate action, will be used.

For constituents that have non-traded, halted or suspended status, the previous day reference prices or estimated prices (for IPOs, buyouts and swap offers) are used, instead.

- 2.3 *Cancellation of prices* If prices are cancelled, the index will not be recalculated unless the Compiler decides otherwise.

- 2.4 *Calculation of Total Return indexes* Two Total Return indexes - the Low Carbon 100 Europe Gross Total Return and the Low Carbon 100 Europe Net Total Return indexes, are calculated along with the Low Carbon 100 Europe index.

The Low Carbon 100 Europe Gross Total Return index reflects the performance of the Low Carbon 100 Europe index when the gross dividend paid by a given index constituent is reinvested as the stock goes ex-dividend.

The Low Carbon 100 Europe Net Total Return index reflects the performance of the Low Carbon 100 Europe index when the net dividend (defined as the gross dividend minus the relevant applicable withholding tax) is reinvested as the stock goes ex-dividend.

2.4.1 *Calculation
formula*

The calculation of the Total Return indexes is carried out according to the formula used for the price return index; except that the adjustment coefficient is recalculated as the stock goes ex-dividend to reflect the reinvestment of the relevant dividend amount (gross or net).

- 2.5 **Real time calculation**
- 2.5.1 *Trading Calendar* The Low Carbon 100 Europe index will not be disseminated on the days the Euronext Cash market is closed. If one of the exchanges involved is closed, the last traded prices of the index constituents having the exchange under consideration as price source will be used for the calculation.
- 2.5.2 *Start of calculation* The calculation of the index start at 9:00 CET during days the Euronext Cash Market is open. The dissemination of the index begins when at least one index constituent has received its first traded price.
- 2.5.3 *Publication frequency* The level of the Low Carbon 100 Europe index is in principle published every 15 seconds.
- 2.5.4 *Publication of Total Return indexes* The Low Carbon 100 Net Total Return index and the Low Carbon 100 Gross Total Return indexes are disseminated at the same frequency as the Low Carbon 100 Europe index.
- 2.6 *Closing level* The calculation of the Low Carbon 100 Europe index will stop when all constituents have received their official closing prices from the relevant stock exchanges.
The closing index level is calculated using the WM fixing to convert local non-euro constituent prices into euro prices.
- 2.7 *Intervention in publication* The Compiler retains the right to delay the publication of the opening level of the Low Carbon 100 Europe index. Furthermore, the Compiler of the Low Carbon 100 Europe index retains the right to suspend the publication of the level of the Low Carbon 100 Europe index, if it believes that circumstances prevent the proper calculation of the index.
- 2.8 **Calculation accuracy**
- 2.8.1 *Input data* The adjustment coefficient used in the index formula is rounded to nine decimals.
All intermediate index levels used for the calculation of the Total Return indexes are rounded to 7 decimal places.
- 2.8.2 *Exchange rates* Exchange rates are rounded to 4 decimal places.
- 2.8.3 *Output data* Index values and free float figures are rounded to two decimal places for dissemination.
- 2.9 **Data correction policy**
- 2.9.1 *Intraday corrections* Corrections will be made for bad prices and incorrect or missing corporate actions as soon as possible after detection.
Since the indexes are calculated on a real-time basis, an incorrect index value tick will not be fixed retroactively. Incorrect daily high/low index values will be corrected as soon as practicable.

2.9.2 *Index related-
data and
adjustment
coefficient
corrections* Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of the index, if discovered within five days of its occurrence, will always be fixed on the day it is discovered to prevent an error from being carried forward.

3. Rules for the periodical adjustment of the Low Carbon 100 Europe index

- 3.1 *Responsibility for the composition* The selection of the composition of the Low Carbon 100 Europe index is the responsibility of the Independent Index Expert Committee of the Low Carbon 100 Europe index.
- 3.2 *Annual review* The composition of the Low Carbon 100 Europe index is reviewed once a year based on the Carbon performance figures available at the end of November.
- 3.3 *Publication of the new composition* The decisions of the Expert Commission along with the details of the outcomes of the review are published immediately after the annual review meeting. There is a minimum announcement period of at least two days before the effective date.
- 3.4 *Implementation and effective date* The changes resulting from the annual review are implemented on the third Friday of March, after the market close.
- The review is effective on the first trading day following the third Friday of March.
- In the event of a takeover or other exceptional circumstances, the Compiler of the index has the right to revise the selection from the time the results of the review are published up to the time it comes into effect.
- 3.5 **Annual review of the Low Carbon 100 Europe index**
- 3.5.1 *Procedure for the review*
1. The securities from the European countries eligible for the inclusion in the selection list are ranked in decreasing order of market capitalization. The securities from the eligible countries that have a full market capitalization lower than 2bn Euros are excluded prior to this ranking. The current eligible European countries are presented in the Appendix B.
 2. Select the first 300 largest companies in terms of free float market capitalization. They represent the selection list of the Low Carbon 100 Europe index.
 3. Assign the eligible companies to their respective sectors according to the Industry Classification Benchmark (ICB). There are some exceptions where the assignment of companies is made in the relevant sub-sectors (as described in the Appendix A).
 4. Rank the stocks in ascending order of their respective Total Carbon Performance. The Total Carbon Performance is measured as the ratio of CO2 emission in tonnes divided by revenues generated (in € millions), except for the Oil and Gas and the Automobiles sectors, which follow different calculation methods (See Appendix A).
 5. Determine the target investable index free float market capitalization equals to one third of the total free float market

capitalization of the 300 stocks included in the selection list.

6. Calculate the target weight of each stock relative to the index target investable free float market capitalization.
7. Calculate the effective weight of each stock relative to the total free float market capitalization of the universe composed of 300 stocks. The sum of weights of stocks belonging to the same sector represents the weight of this sector in the universe.
8. Select the companies in each sector according to the "best-in-class and sector representativeness" approach. This consists of adding up the target weights within the same sector until the sum of weight is higher than the effective sector weight in the universe.
9. The sample resulting from the steps 1 to 8 will be the composition of the Low Carbon 100 Europe index if it is composed of exactly 100 stocks.
10. If the sample is composed of less than 100 stocks, the non-selected stock with the largest free float market capitalizations will be added until the number of stocks reaches 100.
11. If the sample is composed of more than 100 stocks, the stocks with the lowest free float market capitalizations will be removed until the number of stocks reaches 100.

3.5.2 *Free float* The free float factors used for the calculation of the Low Carbon 100 Europe index are reviewed on a quarterly basis. The changes come into effect on the first trading day following the third Friday of March, June, September, and December. The definition of free float as applied to the Low Carbon 100 Europe index is presented in the appendix c.

3.5.3 *Cap factor* If necessary a limit of 15% is applied to the constituents of the Low Carbon 100 Europe index. If the weight of a given stock exceeds this limit it is scaled down by the cap factor. When it is applied to an index constituent, the cap factor is reviewed annually on the 3rd Friday of March after the market close.

4. Corporate events affecting the composition

- 4.1 *Composition changes* The composition of the sample on which the Low Carbon 100 Europe index is based may change as a result of decisions or events, which affect one or more of the index constituents.
- 4.2 **Suspensions, Removals and Replacement**
- 4.2.1 *Price source if trading stops* If daytime trading in one of the companies included in the Low Carbon 100 Europe index stops or the company is no longer traded during daytime in officially listed shares, the Compiler of the Low Carbon index will in the first instance use the last known price of the company concerned, subject to the provisions of section 2, but will also have the possibility of using prices which were not established during daytime trading.
- 4.2.2 *Removal due to delisting* If an index constituent is delisted by its primary market due to failure to meet financial or regulatory requirements, it will be removed from the Low Carbon 100 Europe index.
- If an index component is delisted by its primary market due to failure to meet financial regulatory requirements, it will be removed from the Low Carbon 100 index.
 - If an index component enters bankruptcy proceedings, it will be removed from the index and will remain ineligible for re-inclusion until it has emerged from bankruptcy. However, the compiler of the Low Carbon 100 Europe index may, following a review of the bankrupt company and the issues involved in the filling, decide to keep the company in the index.
 - The compiler may, at its discretion, remove a company it has determined to be in extreme financial distress from the Low Carbon 100 Europe index, if the committee deems the removal necessary to protect the interests of investors in products linked to the index.
- 4.3 **Mergers, Acquisitions, Takeover and other cases**
- 4.3.1 *Mergers, acquisitions,* If an index component is acquired by another company (component or non-component of the index), the former will be removed from the index immediately upon completion of the merger. The composition of the index will temporarily consist of fewer than 100 stocks until the next annual review.

- 4.3.2 *Takeover* If an index component is taken over by another company, the former will be removed from the index immediately upon completion of the takeover. The composition of the index will temporarily consist of fewer than 100 stocks until the next annual review.
- 4.3.3 *Splits and Spinoffs* If an index constituents splits or spins off a portion of its business to form one or more new companies, all of the companies resulting from the spinoff will be immediately included in the Low Carbon 100 Europe index during the day the spinoff comes into effect. On that day the Low Carbon 100 Europe index will temporarily consist of more than 100 stocks.
- The Expert Committee of the index will decide which of the companies will continue to be included in the index. This decision will be effective on the trading day following the effective date of the spin-off.
- 4.3.4 *Share Offerings, Tender and Purchases* If a component is involved in a secondary share offering, rights offering or conversion of debt or preferred stock to common shares that results in an increase of more than 10% in float-adjusted share outstanding, the new shares outstanding and float will be adjusted as soon as practicable following completion of the transaction, subject to a two-day notification period. Float-adjusted shares outstanding decreases of 10% or more due to Dutch auctions, share repurchase programs, and block purchases by insiders, will also be adjusted, subject to two-day notification period.

5. Corporate events affecting weighting of constituents

- 5.1 *General aim in operational adjustments* The treatment of corporate events initiated by the Low Carbon Europe index constituents necessitates that the Compiler carries out some adjustments so that they can be reflected in the sample, while the continuity of the index is still maintained.
- 5.2 **Dividends**
- 5.2.1 *Ordinary dividend* In the event of ordinary dividends the Low Carbon 100 Europe index will not be adjusted. The Total Return versions of the Low Carbon 100 Europe index will, however, be adjusted to reflect the reinvestment of dividends as specified in the rule 2.2.
- 5.2.3 *Special dividend* The price index will be adjusted in the event of special dividends.
.
The following distributions are considered as special dividends for the purpose of the index adjustment:
- Cash dividends where the distribution is outside the scope of the regular dividend policy or where the company declares such distribution to be extraordinary or special.
 - Distribution that are deemed to be special as they come from non-operating income.
- 5.2.4 *Stock dividends* The Total Return versions of the Low Carbon 100 index will be adjusted as it is the case for ordinary dividends.
In the event of stock dividends, the index adjustment coefficient will remain unchanged since the increase in the new number of shares received as dividends will be offset by the adjustment of the share price.
- 5.3 **Rights issues and other rights**
- 5.3.1 *Rights issue* In the event of a rights issue the number of shares of the relevant company that is included in the Low Carbon 100 Europe index will be adjusted. The share price will be adjusted on the basis of the theoretical value of the rights issue as calculated by the Compiler. The adjustment coefficient will be recalculated accordingly.
- 5.3.2 *Other rights* The procedure set out in article 5.3.1 will also be followed if a value can be attributed to a subscription right for convertible bonds, bonds with warrants or warrants with preferential rights for shareholders.
- 5.3.4 *Bonus issue* The number of shares is increased by the number of bonus shares created, and the share price is reduced by the theoretical value of the right. Since the combination of these changes leaves the total index capitalization unchanged, there is no recalculation of the index adjustment coefficient.
- 5.4 *Shares updates* Shares outstanding totals for component stocks are updated during the quarterly review of the number of shares. However, if the number of float-adjusted shares outstanding for an index component changes by more than 10% due to a corporate action, the share's total will be

adjusted immediately after the close of trading on the date of the event. If a change in the free float-adjusted shares reflects a combination of a share increase (or decrease) and block ownership decrease (or increase), such as secondary offering (or block purchase), the new shares outstanding total will be used to calculate the new share blocks. If a block ownership change is part of free float change involving a total shares outstanding change of less than 10%, the block must increase (or decrease) by at least five percentage points to trigger the adjustment. If the cumulative impact of corporate actions during the period between quarterly shares updates changes a company's float-adjusted shares outstanding by 10% or more, the company's shares and free float factor will be updated as soon as prudently possible.

Whenever possible, the change will be announced at least two business day prior to its implementation. Changes in shares outstanding due to stock dividends, splits and corporate actions also are adjusted immediately after the close of trading on the day they become effective.

5.5

Share split

A split or reverse split does not affect the stock's current market capitalization. Since the total market capitalization remains unchanged, there is no need to calculate an adjustment coefficient.

6. Governance and final provisions

- 6.1 *Governance* The Expert Committee of the Low Carbon 100 Europe index acts as supervisor of the Low Carbon 100 Europe index. The Expert Committee consists of representatives of the following activities:
- Non-governmental organizations
 - Academics and Researchers
 - Banks' analysts
 - Independent experts
- 6.2 *Compiler* The Compiler is responsible for the day-to-day management of the Low Carbon 100 Europe index, and is also responsible for decisions regarding the interpretation of these rules.
- 6.3 *Rule book changes* These rules may be supplemented, amended in whole or in part, revised or withdrawn at any time. Supplements, amendments, revisions and withdrawals may also lead to changes in the way the Low Carbon 100 Europe index is compiled or affect the Low Carbon 100 Europe index in another way.
- All decisions regarding rules changes will be published immediately. Barring exception, a period of at least one month should pass between the date a proposed change is published and the date this comes into effect.
- 6.4 *Liability* The Compiler will do everything within its power to ensure the accuracy of the composition, calculation, publication and adjustment of the Low Carbon 100 Europe index in accordance with relevant rules. However, neither NYSE Euronext nor its subsidiaries including Euronext NV. are liable for any losses resulting from supplementing, amending, revising or withdrawing the rules for the Low Carbon 100 Europe index.
- 6.5 *Ownership* Euronext NV. owns all intellectual and other property rights to the Low Carbon 100 Europe index, including the name, the composition and the calculation of Low Carbon 100 Europe index.

Appendix A

- 1 Carbon footprint sources
- The Carbon footprint of each stock belonging to the universe of the Low Carbon 100 Europe index is calculated on the basis of data provided by Trucost, a UK-based environmental research company, which owns the world’s largest database of greenhouse gas disclosures and has an extensive coverage of companies worldwide.
- Trucost provides Euronext the direct and indirect CO2 emissions, the revenue generated by each company, and a system of rating (“disclosure flag”) aiming to reflect the degree of availability and disclosure of environmental data.
- In order to better capture the CO2 emissions that are specific to some sectors, the Expert Committee of the Low Carbon 100 Europe Index has decided to estimate the carbon emissions due to use of products (defined as scope 3) for the *Oil and Gas* and *Automobile* sub-sectors. The relevant data for the *Oil and Gas* sector are sourced from the French company Credit Agricole Cheuvreux.S.A.
- 2 Carbon footprint measure
- Trucost calculates the total direct and indirect emissions for each company in tonnes of CO2, and for consistency sake, normalizes this number by the turnover. These normalized data make the comparison in terms of carbon footprint more relevant within the same sectors.
- The calculation of the Total Carbon Performance as applied to the selection of the Low Carbon 100 Europe index is in general based on the approach defined thereof. The Total Carbon Performance estimated for companies belonging to the *Oil and Gas* and *Automobiles* sectors takes into account the emissions due to use of products (scope 3).
- 3 *ICB sectors breakdown*
- The 300 eligible companies are assigned at their respective sector levels of the Industry Classification Benchmark (ICB), except in the following cases where the Expert Committee deemed it appropriate to consider the sub-sectors of the ICB classification, instead:
- Companies belonging to the sector *Oil and Gas Producers* have been classified in their respective sub-sectors: *Oil and Gas* and *Integrated Oil and Gas*. That is, the selection will be made at these sub-sector levels.
 - Companies belonging to the *Automobiles and Parts* sector have been classified in their respective sub-sectors: *Automobiles and Tires*. That is, the selection will be made at these sub-sector levels.
 - In the same way, the *Travel and Leisure* sector has been split into the *Airlines* and *Hotels and Restaurants* sub-sectors.
- 4 *Ranking in terms of Total Carbon Performance*
- The 300 eligible stocks are ranked in ascending number of their Total Carbon Performance in their respective sectors or sub-sectors. The calculation is carried out according to the following steps:
- a. The total carbon emissions is calculated by adding the direct and indirect emissions to the emissions due to use of products (scope 3 emissions) when necessary. In order to improve the

relevance of the carbon estimates of some companies belonging to the Electricity, Gas, Water Multi-utilities and Chemicals, the carbon emissions resulting from the production of oil and gas is taken into account for this calculation.

- b. The total carbon emission is then divided by the revenue to get the total carbon intensity (which corresponds to the quantity of carbon emitted when 1 million euros of revenue is yielded).
- c. Due to the specificities of the emissions related to the *Oil and Gas* and *Automobile* sectors, the Expert committee has decided to apply the following procedure to estimate the total carbon emission:
 - o The total carbon intensity of the *Oil and Gas* sector is defined as the ratio of the total carbon emission (in absolute quantity) to the total content of energy produced. In this case the total carbon intensity is measured in terms of CO₂ per TJ.
 - o The total carbon intensity of the *Automobiles* sector is defined as the sum of the direct and indirect emissions, multiplied by a factor representative of scope 3 emissions (expressed as gCO₂/km divided by 100).
- d. The disclosure factor, which is defined on the basis of the disclosure flag estimated by Trucost is applied to the estimates obtained in the steps (b) and (c) to reflect the degree of availability and disclosure of environmental data for each company. This disclosure factor can take on the values 0.9, 1, or 1.1.

Appendix B

Eligible Countries and withholding tax rates %

Austria	25	Italy	27
Belgium	25	Netherland	15
Denmark	28	Norway	25
Finland	28	Portugal	20
France	25	Spain	18
Germany	26.375	Sweden	30
Greece	10	Switzerland	35
Ireland	20	United Kingdom	0

Appendix C

- | | | |
|---|---------------------|---|
| 1 | Float Calculation | <p>The following four types of block ownership are considered for the free float calculation:</p> <ul style="list-style-type: none">• Cross ownership - shares that are by other companies (including banks and life insurance companies)• Government ownership - shares that are owned by governments (central or municipal) or their agencies• Private ownership - Shares that are owned by individuals, families or charitable trusts and foundations• Restricted shares - shares that are not allowed to be traded during a certain time period <p>However, a company's outstanding shares are not adjusted by institutional investors' holding, which include, but are not limited to, the following categories:</p> <ul style="list-style-type: none">○ Custodian nominees○ Trustee companies○ Mutual funds (open-end and closed-end funds)○ Investment companies |
| 2 | Threshold | <ul style="list-style-type: none">○ A company's outstanding shares are adjusted if, and only if, an entity in any of the four qualified categories listed above owns 5% or more of the company. Its shares will not be adjusted if the block ownership is less than 5% |
| 3 | Foreign restriction | <p>The float adjustment rules also apply to foreign companies that have cross ownership of 5% or more. If a government has a foreign ownership restriction of 5% or more, the lesser of free-float shares or the portion that is available for foreign investment will be used for calculation.</p> |