S&P Dow Jones Indices

A Division of S&P Global

# Global Carbon Index Family
# *Benchmark Statement*

Feb 2023

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# General Disclosures

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| **Benchmark family name** | IHS Markit Global Carbon |
| **Benchmark administrator** | **IHS Markit Benchmark Administration Ltd**. (**IMBA UK**) |
| **Date of initial publication of this document** | 20 December 2019 |
| **Date of last update to this document** | 1 September 2022 |
| **ISIN (where available)** | There are presently no ISINs available or accessible for the benchmarks covered by this Benchmark Statement. |
| **Determination by contributions of input data** | The administrator does not receive contributions of “input data” (as defined by **BMR**) in relation to this family of benchmarks.<br>The IHS Markit Global Carbon indices utilizes IHS Markit OPIS Pricing and Intercontinental Exchange to determine the prices used for the index calculations. |
| **Qualification of the benchmark family** | IHS Markit Global Carbon indices are administered as significant benchmarks. |

# Market or Economic Reality of the Benchmark

**General description of the market or economic reality**

The IHS Markit Global Carbon Index is designed to measure the performance of the most liquid tradable futures contracts referencing carbon credits. These liquid markets currently include European Union Allowance (EUA), California Carbon Allowance (CCA) and Regional Greenhouse Gas Initiative (RGGI) carbon credits. The index is rebalanced annually on November 30 to include any new carbon credits that become eligible and to reset the component weights based on market volumes, subject to regional and contract constraints.

The IHS Markit Global Carbon Index operate under the assumption that the investor fully collateralizes their futures exposure, resulting in a collateral yield component of the index. Further, with the index being USD denominated, the inclusion of EUA contracts that trade in EUR creates an exposure to USD/EUR FX rates as currency is left unhedged.

**Geographical boundaries of the market or economic reality**

Geographical regions are defined by the underlying carbon credit futures contracts being tracked by the IHS Markit Global Carbon Index. The IHS Markit Global Carbon Index cover the EMEA, Americas and APAC.

**Other relevant information relating to the market or economic reality**

Exchange rates, exchange closing prices, traded volumes, **Free Float** data or **Corporate Actions** and number of issued shares used for the calculation and maintenance of the index are provided by third party data vendors.

# Potential Limitations of the Benchmark

**Circumstances in which we would lack sufficient input data to determine the benchmark according to the methodology**

In the unlikely situation of extreme market disruption or a severe decrease in liquidity in the underlying carbon credit futures contracts, the administrator would need to consult with the **Index Administration Committee (IAC)** on the best way forward for the index.

**Circumstances in which the degree of liquidity of the underlying market becomes insufficient to ensure the integrity and reliability of the benchmark determination according to the methodology**

See above.

# Exercise of Expert Judgment and Discretion

**Position of each function or body that may exercise discretion in the calculation of a benchmark and governance thereof**

The administrator's index is rules based and do not typically permit the use of discretion unless there are exceptional circumstances that are not addressed by either the index rules or an administrator policy. Such scenarios may include (but are not limited to):

- Failure of data providers;
- Significant changes to the underlying market;
- Complex corporate events;
- Action by governmental or regulatory bodies that causes market disruption; and
- Events beyond human control.

In the event that the administrator needs to take action or make a decision that has not been foreseen by the methodology or associated policy, senior members of the administration team will consult internally with the applicable IAC and externally, when appropriate, with the **Index Advisory Committee**; this is to arrive at a decision that is consistent with the objective of the index in question and that causes minimal disruption to index stakeholders.

Any changes to the index methodology or cessations will be decided upon as per IMBA's Benchmark Methodology Changes and Cessation policy (available here). Where a proposed methodology change is material IMBA will launch a wider consultation which is addressed to all relevant stakeholders. it will also notify the **Board** and the **Benchmark Oversight Committee** who will oversee the consultation process and can challenge the suggested approach. A methodology change is likely to be material if it has a substantial impact on the index calculation process or formula, the quality of the input data, the index selection rules, the underlying market or reality measured, the panel of contributors to the benchmark, or the benchmark level.

**Ex-post evaluation process**

As above, the exercise of judgment or discretion in the calculation is guided by precise internal guidelines to ensure that no conflict of interest arises and that the IHS Markit Global Carbon Index continue to reflect the underlying economic reality. To the extent there is feedback or comment on the use of expert judgment or discretion, the administrator will review those comments at the earliest opportunity.

# Methodology Changes and Benchmark Cessations

**The methodology**

The rationale for the methodology underlying the IHS Markit Global Carbon Index is to produce an index which reflects the performance of the price of carbon across multiple global carbon emissions trading schemes. The IHS Markit Global Carbon Index methodology measures the performance of the most liquid segment of tradable carbon credit futures markets, which provides investors a liquid investable index to track carbon credits markets globally. The eligible carbon credit futures for the index are selected based on the most liquid segments of the relevant markets. The index is weighted according to constituent trade volumes subject to a capping methodology. Capping is applied on a regional basis with regions being defined as EMEA, Americas, and APAC, as well as on a contract-level basis within each region to ensure diversification.

The methodology is subject to at least annual review by the administrator. Such review is approved by the Board and reported to the Benchmark Oversight Committee.

1. Membership of the underlying carbon credit futures contracts is determined by clear, transparent and objective rules that are publicly available. Example criteria include accessibility of futures markets, liquidity and the maturity of the program. The constituents of the underlying carbon credit futures contracts are determined every twelve months.
2. The pricing used in the IHS Markit Global Carbon Index is sourced from IHS Markit OPIS Pricing and Intercontinental Exchange Pricing. IHS Markit OPIS Pricing is a standalone service that is independent of the index administrator and is based on contributed data, observed quotes in the market and parsed data. Once the set of contributions have been selected, they are passed through an iterative outlier cleaning process. Experienced analysts manage the process of determining the carbon contract futures prices based on a rules-based methodology. Intercontinental Exchange Pricing is based on traded levels as observed on their exchange. Intercontinental Exchange is also a standalone service that is independent of the index administrator.
3. The exercise of judgment or discretion is very rarely used and governed as described above in section 5.
4. In the unlikely situation of extreme market disruption or a severe decrease in liquidity in the underlying IHS Markit Global Carbon Index, the administrator would consult with the IAC and Index Advisory Committee on the best way forward for the index. A notification will be sent to users if there is a situation where the index cannot be calculated or when the calculation of a significant part of the index is based on assumptions due to the lack of available data. In exceptional situations where it is not possible to calculate an index at all, an index calculation day may be declared a non-trading day.
5. The IHS Markit Global Carbon Index is subject to an official restatement policy that describes how errors in the calculation, or the membership are handled. The key determinants to decide if an index needs to be restated following an error are the magnitude of the error on the index performance as well as the impact on the users of the index.
6. The identification of potential limitations of the IHS Markit Global Carbon Index, including its operation in illiquid or fragmented markets are addressed above in section 4.

Further details of the administrator's Restatement policy are available on the administrator's website here.

**Rationale for adopting the methodology**

The key elements of the methodology of the IHS Markit Global Carbon Index are the use of futures with specific expiries, annual rebalancing, minimum contract liquidity, maximum regional weight and minimum program weight.

Inclusion of futures with December expiries - This is because they are the most liquid expiries and therefore most suitable to underlie tradable products.

Annual rebalancing on November 30 - This is to align the rebalancing near to the expiry of the most liquid contracts so that the index rolls into the latest, most-liquid positions.Minimum contract liquidity of $10 million average of monthly trade volume over prior 6 months

This is to ensure that any contract that gets included in the index has sufficient liquidity to support tradable products that track the index.

Maximum regional weight of 65% - This is to ensure regional diversification in the index.

Minimum program weight of 10% - This is to ensure that any program that enters the index has meaningful representation, given the few components in the market.

**Possible impact of changes to, or the cessation of the benchmarks upon the financial contracts, financial instruments that reference the benchmark or the measurement of the performance of investment funds**

The IHS Markit Global Carbon Index is used for benchmarking, risk and performance reporting, total return swaps, credit linked notes and exchange traded products. In the event of a cessation of the IHS Markit Global Carbon Index, users would need to switch to other comparable indices or agree appropriate terms for settlement of contracts linked to the IHS Markit Global Carbon Index.

Further details of the administrator’s Change and Cessation policy are available on the administrator’s website here.

# Key Terms

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| **Benchmark Oversight Committee** | means the Benchmark Oversight Committee, the independent function overseeing the IMBA UK Board with regard to the administration of the IHS Markit Global Carbon indices. |
| **BMR** | means the Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016. |
| **Board** | means the Board of Directors of IMBA UK. |
| **ESG** | means Environmental, Social, Governance, recognised as the 3 central pillars measuring sustainability and societal impact of institutions, sovereigns, or other entities. |
| **IHS Markit Benchmark Administration Ltd. (IMBA UK)** | means the administrator, which is the UK entity authorised by the FCA responsible for the daily provision of the IHS Markit Global Carbon indices. |
| **Index Administration Committee (IAC)** | means the committee with responsibility for overseeing day to day administration of the IHS Markit Global Carbon Indices. |
| **Index Advisory Committee** | means an advisory committee composed of industry experts, representing both buy and sell-side stakeholders. |

# Additional Information

**Updates to this Benchmark Statement**

This Benchmark Statement will be updated whenever the information it provides is no longer correct or sufficiently precise and at least where:

(a) there is a change in the type of the benchmark;

(b) there is a material change in the methodology for determining the benchmark or, where the Benchmark Statement refers to a family of benchmarks, in the methodology for determining any benchmark within the family of benchmarks.

This Benchmark Statement will be updated at least every two years.

**Contact us**

For more information, including methodology documents, please visit https://ihsmarkit.com/products/indices.html or contact us at indices@ihsmarkit.com.

# Appendix I - Consideration of ESG Factors

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| **Type of benchmark family** | Commodity benchmarks |
| **Name of the benchmarks** | IHS Markit Global Carbon Indices |
| **Does the benchmark pursue ESG objectives?** | No |
| **Where the answer to the above question is negative, is any EU Climate Transition Benchmark or EU Paris-Aligned Benchmark available in the portfolio of IMBA UK or does IMBA UK have benchmarks that pursue ESG objectives or benchmarks that take into account ESG factors?** | Yes |

# Appendix II - Disclosure of the Alignment with the Objectives of the Paris Agreement

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| **Does the benchmark align with the target of reducing carbon emissions or the attainment of the objectives of the Paris Agreement?** | No |
| **The temperature scenario, in accordance with international standards, used for the alignment with the target of reducing GHG emissions or attaining of the objectives of the Paris Agreement.** | Not applicable. The benchmarks do not pursue the objective of seeking to reduce carbon emissions or attaining the objectives of the Paris Agreement and therefore a temperature scenario is not relevant to the benchmarks. |
| **The name of the provider of the temperature scenario used for the alignment with the target of reducing GHG emissions or the attainment of the objectives of the Paris Agreement.** | Not applicable |
| **The methodology used for the measurement of the alignment with the temperature scenario.** | Not applicable |
| **The hyperlink to the website of the temperature scenario used.** | Not applicable |
| **Date on which information has last been updated and reason for the update.** | Not applicable |

# Disclaimer

**Performance Disclosure/Back-Tested Data**

Where applicable, S&P Dow Jones Indices and its index-related affiliates ("S&P DJI") defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index's launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).

**Intellectual Property Notices/Disclaimer**



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