Methodology (including Key Elements)

CO2 Removal Certificate (CORC) Index Family

Version 1.3: December 19, 2024

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Change Log

Date	Ver.	Section	Change
December 18, 2024	1.3	Section 3.1.2	Update handling of USD trades
		Section 3.1.5	Update to the minimum input data required.
		Section 3.1.6	Update of the date for input delivery
		Section 3.2.1.	Update in formula for "Index Value per Method" on in section 3.2.1. the sum the product was missing and has hereby been added
		Section 4.1	Updates to the dissemination dates and content
		Section 5.3	Update to whom to contact for feedback
		Appendix 1	List of Methods updated in accordance with Puro website
January 27, 2023	1.2	Definitions	Definitions of "CORC", "Input Data" and "Methods" updated. New definition "Puro Standard" inserted.
		Sections 1.5, 1.6, 2 and 3	Clarificatory changes to reflect the inclusion of all transactions that are reported into the CORC registry maintained by Puro.earth, irrespective of trading venue and to better reflect the alignment of the CORCX with the Puro Standard.
		Section 4 and 6	Formatting and typographical updates.
		Appendix 1	List of active Methods amended.
September 29, 2022	1.1	New section 5.2	Adding an Error procedure if Errors in Input Data
		Appendix 1	Adding new methods to be taken into consideration
			Clarification of how currency is handled when a transaction is not denominated in EUR and how volume is handled when there is difference between the volume when the transaction is settled compared to when the transaction was entered.
			Adding definition of a which trades can be considered as "spot", and therefore be included in the calculation
March 23, 2022	1.0	Initial Publication	

Contents

Definitions

Methodology   means the methodology for the provision and calculation of the CORCX.

CORC   means CO2 Removal Certificate issued through various crediting Methods for engineered carbon removal.

CORCX   means the CORC Index family.

Nasdaq Copenhagen   means Nasdaq Copenhagen A/S, the index provider of the CORCX.

Input Data   means price and volume from actual carbon removals contract trades in the different Methods reported into the CORC registry managed by Puro.earth, where prices and corresponding volumes have been traded during the Reporting Period. Eligible trade types are spot and pre-purchase agreement transactions.

Methods   means the active crediting methodologies governed by the Puro Standard and approved by its external Advisory Board through which CORCs are issued and in respect of which transactions are reported to Nasdaq Copenhagen by Puro.earth. The current list of active methodologies as reported to Nasdaq Copenhagen by Puro.earth and amended from time to time is set out in Appendix 1.

Index Value(s)   means the volume weighted average price per carbon removal Method and the volume weighted average price across all Methods.

Reporting Period   means the period in which transactions have been traded and which serves as the underlying period for the Input Data reported to Nasdaq Copenhagen by Puro.earth for calculation of the CORCX.

Puro.earth   Puro.earth is the world's first platform for carbon removal. Puro.earth helps companies globally in their science-based journey to net-zero carbon footprint and accelerates the carbon removal economy.

Puro Standard   means the standard defining the eligibility requirements for CO2 removal suppliers and quantification rules for the number of CORCs to be issued as published on Puro.earth and amended from time to time.

1. General

1.1 Introduction

This document sets out the Methodology that Nasdaq Copenhagen uses for the provision and calculation of the CORC Index (CORCX) family of indices. The CORCX is not a benchmark as defined in Regulation (EU) 2016/1011 (the "BMR"). CORCX does not fall under the scope of the BMR and is, therefore, not governed by BMR requirements.

1.2 Index Family Name

The CORC Index or CORCX.

1.3 Index ISIN

There are no ISINs for the indices in this family of indices.

1.4 Index Type

The indices in this family of indices have commodities as their underlying assets in accordance with the definition in Article 3(1)(23) of the BMR.

1.5 Family of Indices Description

The CORCX is created with the objective to create indices that reflect the market price for carbon removal contracts reported into the CORC registry managed by Puro.earth. The CORCX is determined based on Input Data comprised of average prices and volumes from actual traded transactions reported by Puro.earth to Nasdaq Copenhagen.

The CORCX index family is divided into indices determined by the different Methods mentioned in Appendix 1. These Methods are governed by the Puro Standard which is continually updated to align with the latest scientific discoveries and policy advancements. As such the Methods may be amended, incorporated, or phased out to adapt to the ever-evolving fields of engineered carbon removal. The CORCX is aligned to the Puro Standard and, as such, only reflects transactions that are based on active Methods thereunder.

If Nasdaq and Puro.earth deem it appropriate, a Puro.earth Method may be split into distinct sub-categories. This could be done for reasons including, but not limited to, observed differences in the transaction, valuation, or other market fundamentals across one or more sub-categories within a given Method. Sub-categories would be handled in the same way as a Method in respect of the Methodology. In addition to the individual Methods, Nasdaq Copenhagen calculates one index with the grand total across all Methods. Each index includes the volume weighted average price per Method, defined as the Index Value.

Puro.earth is the owner of the intellectual property rights and trademarks in the CORCX and may grant third parties the right to use the indices subject to an agreement.

1.6   Rationale for Creating the Indices

The carbon removal market is an emerging market, and there is only limited liquidity and transparency about pricing. The CORCX is created with the objective of providing more transparency with respect to the price for carbon removals in the market.

1.7   Currency

The CORCX Index Values are provided in Euro (EUR).

2.   Physical Commodity Subject to the Indices

The CORCX measures the Reporting Period's price for the indices, composed by the different Methods mentioned in Appendix 1. The indices represent the spot and pre-purchase agreement transactions reported into the CORC registry maintained by Puro.Earth.

3.   Index Determination

3.1   Input Data

3.1.1   Input Data Included in the Indices

The Index Value in this family of indices is determined using Input Data with transactions in certificates of carbon removals as the underlying instrument. Input Data for the index calculations is reported to Nasdaq Copenhagen by Puro.earth in accordance with Section 3.1.6 and will be included in the calculation of the Index Values. All transactions matched in the Reporting Period where the planned delivery date is less than 182 days from the transaction date will be included.

The Input Data is limited to transactions resulting from market negotiations at arm's-length, wherein buyer and seller endeavor to establish fair market value for the asset in question.

An Index Value will only be calculated in respect of those Methods with more than one project or issuer. Methods with only one project or issuer will nonetheless be included in the calculation of the Index Value across all Methods.

All transactions that are reported into the CORC registry managed by Puro.earth, irrespective of the trading venue, will be included.

3.1.2 Price (P) and Volume Format

Prices in Input Data are reported in Euro (EUR) and Dollars (USD). The USD prices will be converted to EUR using the currency date of the day the index is calculated. Prices and volumes in Input Data shall be reported for each of the Methods. Prices in Input Data shall be rounded off to 2 decimals in accordance with general rounding rules. Volumes in Input Data are reported in tons with a maximum of 2 decimals.

Input Data used to calculate the Index Values includes the price and volume agreed upon when the trade is entered into. Consequently, if a trade is denominated in a non-EUR currency, the currency rate at the time of the settlement is not applicable and therefore no change in the historical Index Values will be made. Similarly, if the volume of a trade is adjusted at delivery due to any delivery problems, no change in the historical Index Values will be made.

3.1.3 Index Weights

The Index Value across the different Methods will take into consideration the relative importance of the individual Methods when it comes to price creation. To do this, the following criteria will be used for the weighting of each Method:

1. An existing Method will need to have transactions in at least 3 months out of the 6 months the weighting is based on.
2. A new Method will need to have transactions in month 6 of the 6-month period which the weighting of the different Methods is based on.

The index weighting will be calculated based on the volume of the transactions in each Method during the 6-month period described below:

$$Wjt = \frac{\sum V_t}{\sum Vtotal_t}$$

Wjt   =   Weighting of each Method at time t.

Vjt   =   Volume of transactions in 6-month period.

Vtotalt =   Volume of all clarified transactions in 6-month period.

3.1.4 Re-balancing of the index weights

Nasdaq Copenhagen reserves the right to re-balance the index weightings set out in Section 3.1.3.

At a minimum, the index weightings will be updated bi-annually, in March and September. The weights in March will be based on the transaction volumes from September 1st to February 28th (or February 29th as the case may be) and in September, the transaction volumes from March 1st to August 31st will be used.

A re-balancing will also be triggered should:

1. A Method have no transactions during a period of 4 consecutive months. The weightings will be re-calculated, and the re-balancing will exclude the Method which has had no transactions in the last four consecutive months.
2. Puro.earth notify Nasdaq Copenhagen that the Method is no longer active under the Puro Standard. The Method will be removed from the list in Appendix 1 and the index weightings will be re-calculated to exclude the Method. No individual Index Value will be calculated in respect of the excluded Method.

3.1.5   Minimum Input Data

Should a Method have less than 4 transactions during the Reporting Period, the average price from the previous Reporting Period will be used.

New Methods should have at least 4 transactions in the Reporting Period before an Index Value will be calculated.

3.1.6   Submission of Input Data

Input Data for the applicable Reporting Period is reported to Nasdaq Copenhagen by Puro.earth on the first mondayof each Reporting Period. The Input Data will be provided to Nasdaq Copenhagen in the agreed format.

3.2   Calculation of the Index Value

3.2.1   Formula for Calculation of the Index Value

Index Value per Method

$$Pj,t = \frac{\sum Pi,j,t * Vi,j,t}{Vj,t}$$

Pj,t = Index Value per Method j at time t.

Pi,j,t = Price per transaction i in EUR, per Method j at time t.

Vi,j,t = Volume per transaction i, per Method j at time t.

Vj,t = Total volume per Method at time t.

Index Value across all Methods

$$It = \sum_{j=1}^{n}(P_{j,t} * W_{j,t})$$

It = Total Index Value at time t.

Pj,t = Index Value per Method in EUR j at time t.

Vj,t = Volume per Method j at time t.

n = Number of Methods

Wj,t = Weighting of Methods. The weighting is calculated bi-annually and based on the number of transactions during the Reporting Period as specified in sections 3.1.3 and 3.1.4.

3.2.2 Rounding off

The Index Value is rounded off to two decimals in accordance with general rounding rules.

3.2.3 Calculation Procedures

Nasdaq Copenhagen is responsible for calculation of the Index Values for each Reporting Period.

4.   Index Dissemination

4.1 Dissemination Procedures

Nasdaq Copenhagen publishes the following Index Value per Method and CORCX in this family of indices:

1. The Index Values based on transactions with 182 days or less to planned delivery.
2. The Index Values per Method based on transactions with more than 182 days to planned delivery.

On a monthly basis, Nasdaq Copenhagen publishes the change in Index Values described under bullet 1 above compared to the previous Reporting Period, and for the total price across all indices (also last 6 months and YTD), expressed in EUR and % deviation. Index Values are also published as a 4-month graphical representation. The Index Values are published on first Wednesday of the month for the Reporting Period.

Nasdaq Copenhagen will bi-annually updated weights will be published.

4.2 Error Procedures if Errors in Input Data

If Nasdaq Copenhagen discovers any errors in the Input Data after disseminating the Index Values, and the effect of such error on one or more Index Values is above 10%, Nasdaq Copenhagen will re-calculate and disseminate all the Index Values as long as the correction is done before Day 20 in the next following Reporting Period.

5.   Review, Approval and Changes of the Methodology

5.1   Periodic Review of the Methodology

At least annually, the Methodology will be reviewed by Nasdaq Copenhagen and Puro.earth together.

5.2   Changes of the Methodology

Nasdaq Copenhagen retains the right to amend the Methodology. However, such measure will only be taken after having consulted Puro.earth. All changes are made public on the Nasdaq's website.

5.3   Stakeholder Feedback

Feedback from users regarding the CORCX can be submitted to dataeurope@nasdaq.com

6.   Disclaimer

6.1 Use of the CORCX

CORCX shall not be used to settle or clear or be used as a reference in financial or physical contracts without Nasdaq Copenhagen's prior written consent. CORCX, any other trade name, trademark, service mark, copyright, or patent of Puro.earth registered or unregistered, or any other intellectual property of Nasdaq Copenhagen (or its affiliates) shall not be used without Nasdaq Copenhagen's prior written consent.

6.2 Limitations of Liability

Nasdaq Copenhagen assumes no liability for loss or damages related to or arising out of the use of the CORCX. Nasdaq Copenhagen expressly disclaims all warranties of accuracy, completeness, merchantability, or fitness for a particular purpose with respect to the CORCX. Neither Nasdaq Copenhagen nor any third party make any express or implied warranties or representations regarding the results which may be obtained as a consequence of the use of CORCX or regarding the value of the CORX at any given time. Nasdaq Copenhagen shall in no case be liable for errors or defects in the CORCX nor obliged to provide notice of, or publish, errors in the CORCX.

Appendix 1 – Carbon Removal Method

The following Methods will be taken into consideration when evaluating the Input Data:

Puro.earth method	Sub-category of method	Included in composite index (CORCX)	Individual index on method	Code
Biochar	n/a	Y	Y	CORCCHAR
Carbonated Materials	n/a	N	N	CORCROCK
Terrestrial Storage of Biomass	n/a	N	N	CORCBURY
Geologically Stored Carbon	Y	-	-	
Direct Air Capture		N	N	CORCAIR
Bio-Energy Capture		N	N	CORCBECCS
Enhanced Rock Weathering	n/a	N	N	CORCERW

For more details about each Method please visit Puro.earth website: https://puro.earth/