ICE Global Carbon Futures Index

General Description

The ICE Global Carbon Futures Index (the "Index") measures the performance of a long-only basket of ICE EUA Futures Contracts ("EUA Contracts"), ICE California Carbon Allowance Futures Contracts ("CCA Contracts"), and ICE Regional Greenhouse Gas Initiative Futures Contracts ("RGGI Contracts") (collectively, the "Contracts").

Each EUA Contract is euro-denominated and represents a lot of 1,000 Carbon Emission Allowances ("EUA") that are deliverable to or from the Union Registry under the European Union Emissions Trading System (ETS). Each EUA is an entitlement to emit one metric ton of carbon dioxide equivalent gas.

Each CCA Contract is dollar-denominated and represents a lot of 1,000 California Carbon Allowances ("CCA") that are physically delivered greenhouse gas emissions allowances issued by the California Air Resources Board or a linked program under California Assembly Bill 32 "California Global Warming Solutions Act of 2006" and its associated regulations, rules and amendments, all together known as the "California Cap and Trade Program". Each CCA is an entitlement to emit one metric ton of carbon dioxide equivalent gas.

Each RGGI Contract is dollar-denominated and represents a lot of 1,000 RGGI Allowances ("RGGI") that are physically delivered greenhouse gas emissions allowances issued by each state in the RGGI program. The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont to cap and reduce power sector carbon dioxide emissions. Each RGGI is an entitlement to emit one short ton of carbon dioxide gas.

EUA Contracts trade on ICE Futures Europe and clear on ICE Clear Europe. CCA and RGGI Contracts trade on the ICE Futures U.S. Energy Division and clear on ICE Clear Europe.

The Index generally utilizes the same calculation methodology that applies to the ICE® BofA® Commodity Index eXtra (MLCX) family of indices, but with certain modifications. Specifically, the modifications include:

- a multi-month annual rebalancing;
- a different method for calculating rebalancing Contract weights;
- a multi-month annual roll methodology;
- a different holiday calendar; and
- a different method for calculating Contract Production Weights.

These modifications are explained in detail below. The ICE BofA Commodity Index eXtra Handbook (the "Handbook") for the MLCX family of indices is available on the ICE Index Platform (https://indices.theice.com) under the Rules & Methodologies tab of the Publications section.

Index Specifications

The Index is published in three different versions:

ICECRBN	Excess Return
ICECRBNT	Total Return
ICECRBNS	Spot Return

The Index is calculated and published every 15 seconds between the hours of 1:30 AM and 7:15 PM New York time to the ICE Consolidated Feed on the ICE Data Indices Commodity Indices channel. The real-time calculation of the Index incorporates trades for the Contracts while the closing calculation of the Index incorporates the daily settlement for the EUA Contracts normally available after 5:00 PM London time and CCA and RGGI Contracts normally available after 5:00 PM New York time each day. The Index base currency is in USD. EUA Contract prices in the Index are converted from EUR to USD for real-time Index calculations utilizing spot FX rates from ICE Data Derivatives and for the closing Index calculation utilizing the London 4 PM WM/Reuters spot FX fixing. The Index incorporates that closing FX fixing into the real-time Index calculation once it is available shortly after 4 PM London time each day. The Index is calculated on all weekdays except for the Index holidays of New Year’s Day, Good Friday, Easter Monday, and Christmas Day. Although the underlying CCA Contracts and RGGI Contracts are available for trading on Easter Monday, the Index is not calculated as the underlying EUA Contracts are closed. When Christmas Day or New Year’s Day falls on a Sunday, the Index is not calculated on the following Monday. When Christmas Day falls on a Saturday, the Index is not calculated on the preceding Friday. When New Year’s Day falls on a Saturday, there is no holiday observed. Index history is available from 12/31/2013.

Definitions

The **Contracts** are the futures contracts included in the Index. They include ICE EUA Futures Contracts (“EUA Contracts”), ICE California Carbon Allowance Futures Contracts (“CCA Contracts”), and ICE Regional Greenhouse Gas Initiative Futures Contracts (“RGGI Contracts”).

The **Contract Production Weights (CPWs)** are the weights of the relevant Contracts for purposes of calculating the Index. The CPWs for Roll-In and Roll-Out Contracts are recalculated during the Roll Period according to the methodology described below.

The **Roll Period** is the first 15 Business Days of the months of September, October and November each year. It also represents the period in which the Index undergoes its annual rebalancing.

The **Roll-In Contract** is the next year vintage / next year December expiration contract month during the Roll Period for CCA and RGGI Contracts. It is the next year December expiration contract month for the EUA Contracts.

The **Roll-Out Contract** is the current year vintage / current year December expiration contract month during the Roll Period for CCA and RGGI Contracts. It is the current year December expiration contract month for the EUA Contracts.

The **Percentage Target Weights (PTWs)** are the target weights of the relevant Roll-In and Roll-Out Contracts that are utilized to determine the Contract Production Weights during the Roll Period.

The **Weight Calculation Day** is the Business Day prior to the start of each month of the Roll Period.

Percentage Target Weights & Annual Rebalancing Weights

The Percentage Target Weights (PTWs) for the Roll-In and Roll-Out Contracts change on the Weight Calculation Day.

The annual rebalancing between EUA Contracts, CCA Contracts, and RGGI Contracts occurs simultaneously with the rolling of Contracts during each Roll Period. The rebalancing Contract weights are calculated based on the total dollar volume of the Contracts utilizing closing settlement prices, contract sizes (all 1000), and daily volumes.

The total dollar volume is measured based on the current year December expiration EUA Contracts, current year vintage / current year December expiration CCA Contracts, and current year vintage / current year December expiration RGGI Contracts. The measurement period is the six-month period ending five Business Days prior to the first Business Day in September each year. The rebalancing EUA Contract weight is subject to a maximum weighting of 60% while the rebalancing RGGI Contract weight is subject to a minimum weighting of 10%. There are no constraints for the CCA Contract weight.

Contract Production Weight

According to Section 3.3 of the Handbook, the Total Dollar Weights (TDW) are calculated on the Weight Calculation Day of month j. Based on this TDW, the Contract Production Weight (CPW) for commodity *i* in month *j* is calculated according to the formula:

$$CPW_{ij} = \frac{TDW \times PTW_{ij}}{P_{ij}}$$

where P_{ij} denotes the price of the Contract on the Weight Calculation Day for month *j*.

Rolling & Rebalancing Mechanism

The rolling mechanism is similar to that described in Chapter 3 of the Handbook; however, the Index undergoes its roll and rebalancing simultaneously over the three-month Roll Period falling in September, October, and November.

The Index Roll Period runs from the first to the fifteenth Business Day of the months of September, October, and November. The EUA Contract rolls in 33.33% increments per month over the three-month Roll Period. The EUA Contract rolls from the current year December expiration contract month to the next year December expiration contract month. For example, starting in September 2020, the EUA Contract will start rolling from the December 2020 to December 2021 expiration contract month.

The CCA and RGGI Contracts roll in 33.33% increments per month over the three-month Roll Period. The CCA and RGGI Contracts roll from the current year vintage / current year December expiration contract month to the next year vintage / next year December expiration contract month. For example, starting in September 2020, the CCA and RGGI Contracts will start rolling from the Vintage 2020 December 2020 to Vintage 2021 December 2021 vintage / expiration contract month.

Roll Period Month	Roll-In Contract	Roll-Out Contract
September	33.33%	66.67%
October	66.67%	33.33%
November	100.00%	0.00%

With the final rebalancing Contract weights set by the end of August, the September portion of the Roll Period maintains the relative Roll-In Contract and Roll-Out Contract Percentage Target Weights as described above but adjusts them to rebalance one-third of the difference between the rebalancing Contract Weights and the sum of the Roll-In Contract and Roll-Out Contract weights as of the Weight Calculation Day. As an example, the below formula demonstrates how the adjusted PTW for the Contract is calculated:

$$RC_{ptw} = RC_{rw} \times \left((RIC_{w,t} + ROC_{w,t}) + \left(\frac{REB_{tw} - (RIC_{w,t} + ROC_{w,t})}{RF_m} \right) \right)$$

RC_{ptw} is the final PTW of the Roll-In or Roll-Out Contract
RC_{rw} is the target roll weight of the Roll-In or Roll-Out Contract (as per the table above)
REB_{tw} is the rebalancing Contract Weight for the EUA, CCA, or RGGI Contract
$RC_{w,t}$ is the current weight of the Roll-In or Roll-Out Contract as of the Weight Calculation Day
$RIC_{w,t}$ is the current weight of the Roll-In Contract as of the Weight Calculation Day
$ROC_{w,t}$ is the current weight of the Roll-Out Contract as of the Weight Calculation Day
RF_m is the monthly rebalancing factor, which is 3 for September, 2 for October, and 1 for November

In October, the same process is followed but with the modification that one-half of the remaining difference is rebalanced. Finally, in November, 100% of the remaining difference is rebalanced and at the end of that month's Roll Period, the entire Index allocation to Contracts is in the Roll-In Contracts.

Rebalancing Month	**Contract Rebalancing Weight Changes (EUA, CCA, RGGI)**
September	One-third of the difference between the sum of the current weights for the Roll in and Roll Out Contracts and the rebalancing Contract Weights
October	One-half of the remaining difference
November	100.00% of the remaining difference