

McCLOSKEY

BY OPIS, A DOW JONES COMPANY

# Steel and Green Steel Marker Price Methodology and Specifications

Effective April 2025

## Introduction

This statement of methodology for McCloskey by OPIS, a Dow Jones company, [“McCloskey”] price assessments reflect fundamental principles that form the foundation for McCloskey’s price reporting service. This statement of methodology also includes detailed information on the calculation of McCloskey’s price assessments and the specifications for the various products assessed.

As steel markets change, McCloskey’s methodology for assessing prices will continue to evolve.

The McCloskey price assessment services team is comprised of specialist reporters and analysts in the UK, Singapore, Australia, India, China, and the United States. The McCloskey team undertakes price discovery of the physical markets on a daily basis according to the specifications outlined in this statement of methodology.

For questions regarding price assessments, please contact Maria Tanatar at [MTanatar@opisnet.com](mailto:MTanatar@opisnet.com) or Marian Hookham at [MHookham@opisnet.com](mailto:MHookham@opisnet.com). OPIS also has compliance staff independent of the editorial group. For more information, please contact OPIS Risk Management and Compliance Director at [OPIS\\_Compliance\\_Team@opisnet.com](mailto:OPIS_Compliance_Team@opisnet.com).

## McCloskey Publications

McCloskey publishes weekly and monthly steel and green steel price assessments, market commentary, news, and analysis online through its business intelligence platform and in the following publication.

- **Steel and Green Steel Weekly Report**, (published on a Friday) and part of McCloskey’s **Steel Raw Materials** suite. Offerings include daily market intelligence and price updates focusing on the global metallurgical coal, coke, iron ore, steel/green steel, ferrous scrap and ferroalloys (and associated ore feedstock) markets.

## Methodology Overview

McCloskey produces physical price assessments, termed “markers,” for the major traded steel and green steel global hubs. These assessments are published weekly and monthly. Weekly assessments are published on Fridays in **Steel and Green Steel Weekly Report** on McCloskey’s business intelligence platform.

All McCloskey markers share the following features and standards:

## Basis of McCloskey Methodology

McCloskey assesses the steel markets using a methodology that has been designed to reflect the way markets trade. The principal purpose of the methodology is to produce price markers that are fair, consistent, and reliable indicators of standard market values in the markets being assessed. As a result, the assessment locations, standard traded units, and other particulars of a marker are determined by industry conventions.

McCloskey uses the trading period deemed by McCloskey, in consultation with the industry, to be the most appropriate to capture market liquidity. In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements as set forth in this Steel and Green Steel Marker Price Methodology and Specifications guide (the “Methodology”).

McCloskey markers are informed by data received from active market participants including physical brokers. Market reporters engage with the industry by proactively polling participants for market data. McCloskey will accept market data from all credible market sources, including electronic trading platforms. McCloskey will accept market data by telephone, instant messenger, email or other means.

McCloskey encourages parties that submit market data to submit all their market data that falls within the stated methodological criteria for the relevant marker. McCloskey encourages all sources of market data to submit transaction data from back-office functions. McCloskey will seek to ensure, so far as is able and is reasonable, that transaction data submitted are representative of all the submitter’s actual physical concluded fixed priced transactions.

Throughout all markets, McCloskey is constantly seeking to increase the number of companies willing to provide market data. Market reporters are mentored and encouraged to expand their pool of contacts. The number of entities providing market data can vary significantly from day to day based on market conditions.

## Judgment Guidelines

As part of the price reporting process, market reporters are required to use their professional judgment, to ensure the reliability of the data and marker compilation process. McCloskey has set forth guidelines throughout this Methodology to ensure that the use of judgment is consistent and fair. These guidelines can be found in the following sections of this Methodology:

- Anomalous or suspicious transactions
- Additional checks and analysis
- Comparative markets
- Transactions and survey weightings

McCloskey has developed a programme of training and oversight of market reporters that helps ensure uniformity in the application of judgment. The key elements of this programme include:

1. An initial course of training that explains and defines the parameters for the exercise of judgment
2. Suitably sourced staffing to ensure proper backup for sick days, vacations, etc.
3. Oversight of reporting teams by experienced market editors that are involved in daily mentoring and assisting in the application of judgment
4. A requirement that market editors (approvers) sign-off on all markers

## Market Data Application and Thresholds

The specifications defined in the methodology and data used to compile each marker is deemed to be the most representative for that market. McCloskey will utilize various types of market data in compiling its markers, including:

- Transactions
- Bids and offers
- Other market information

Transaction information is the preferred source of data for the markers. However, depending on the liquidity of the markets being assessed, other information can be, and is used, such as bids and offers and other market information. This can be in combination with transactions, or can substitute transactions, depending on the market liquidity and specific market circumstances.

Consequently, in most markets there will be a relatively higher rank given to transactions over bids and offers and other market information in the compilation process.

McCloskey does not establish strict thresholds based on a count of completed transactions. McCloskey does, however, use transaction levels to determine the weighting between weighted average of price transactions and other market information (see “Transactions and Survey Weightings” below). A strict adherence to a transaction-based threshold could lead to unreliable and non-representative markers because of the varying logistics found in the steel markets, which determine the typical size of the transaction.

## Verification of Transaction Data

Market reporters carefully evaluate all data gathered before it is used in the price compilation process. These data inputs include transactions, bids, offers, volumes, counterparties, specifications and any other information that contributes materially to the determination of a marker. Specific to transactions and bids and offers, market reporters seek to verify and validate the price, volume, specifications, and location basis, and, with regard just to transactions, the counterparties. Market reporters examine all the reported transactions to avoid duplication.

In order to promote transparency in the steel markets, McCloskey seeks to inform the market of any deals it identifies and significant movements of bids and offers through Steel Raw Materials Daily.

## Scrutiny of Transactions

McCloskey has created guidelines that control the exercise of judgment by its market reporters. Market reporters are trained to identify anomalous or suspicious transactional data that merit further investigation to verify if they are bona fide data for inclusion in the index compilation process. If a transaction has been identified by a market reporter as anomalous or suspicious, it will be escalated to the markets editor. Further checks and analysis will be conducted by the markets editor when an anomalous or suspicious transaction is identified for further examination.

## Anomalous or Suspicious Market Data

The following types of market data have been identified by McCloskey as potentially anomalous or suspicious:

- Transactions not transacted at arm's length, including deals between related parties or affiliates.
- Transaction prices that fall outside of the generally observed bids and offers that operated throughout the trading period.
- In the absence of observed bids and offers, transaction prices that deviate significantly from transactions seen for that trading period.
- Assessments of fair value that fall outside the reasonable parameters set by transactional information.
- Transactions that are suspected to be a leg of another transaction or in some way contingent on an unknown transaction.
- Transactions, bids and offers that deviate from the typical transaction volumes seen in that market.
- Any other transaction details that appear to stray from the usual trading behaviour seen in that market, including, but not limited to:
  - repeated trading activity in periods or pools of potentially low liquidity, such as the margins of the defined trading window (such as very early or very late deals),
  - counterparties not typically seen, divergent specifications and unusual delivery locations.
  - or specific delivery location in a port range that may have time specific issues affecting price.
- This will include transactions that are identified by other market participants as being, for any reason, potentially anomalous.
- Discrepancy in transaction details reported by counterparties.

## Additional Checks and Analysis

The markets editor and market reporter(s) will undertake the following transactional and source analysis when a potentially anomalous or suspicious transaction is identified for further examination. They will assess the following transaction-based factors:

- The nature of the linkage of the perceived anomalous or suspicious transaction to other possible transactions
- The differences between counterparties on transactional details
- The impact of other factors on price and/or volume, including scheduling and logistic issues, demurrage issues and credit issues

The markets editor will also assess the following source-based factors:

- Whether the explanation provided by the source for the outlying nature of the transaction is plausible
- The credibility of the source. Sources will be deemed more credible if they (i) adhere to the reporting standards outlined in this Methodology; (ii) quickly respond to queries from market reporters; and (iii) have staff designated to respond to such queries.
- Whether the timing of the provision of information impacts the verification and validation process

Should this process determine that a transaction be excluded from the price assessment process, the markets editor will approve the exclusion and document the rationale. For markers used to settle derivatives, McCloskey has established internal procedures that involve escalating review within McCloskey management and, if necessary, notification and escalation of inquiry within the source's company.

## Comparative Markets

There exist tight price correlations between certain markets and the premiums and discounts between these markets, which are constantly assessed and compared by market participants.

By polling and entering in dialogue with the market, market reporters are able to quantify these relative values. Accordingly, in certain assessments when no relevant or insufficient market data exists, market reporters will assess market value using some or all of the following comparative metrics.

- Comparison to another market hub for the same quality of commodity
- Comparison to a more actively traded but slightly different specification or quality in the same market hub
- Comparison to Ex-works markets derived from transport net forwards from delivered markets
- Other metrics, such as demand and supply data

## Corrections to Markers

If warranted by the circumstances, McCloskey may publish corrections to markers after the publication date. McCloskey will typically correct material errors that arise from the improper entry of information, the erroneous calculation of market data, misreported information, or the incorrect application of the stated methodology. However, McCloskey will not retroactively assess markets based solely on new information learned after the publication date of the relevant marker. Corrections to markers will be conducted in accordance with the Price Assessments Correction policy.

## Compliance and Ethics

McCloskey has implemented extensive compliance policies and procedures in accordance with the best practices of the price reporting industry. These include a comprehensive ethics policy that applies to all the McCloskey Price Reporting staff. The OPIS & McCloskey Compliance Manual acts as the Price Reporting Agency (PRA) editorial code of ethics and is an expression of OPIS' intent to set out ideals for the ethical conduct of PRA personnel in the performance of their price assessment activities.

## Review of Methodology

To ensure that they are representative of the market being assessed, McCloskey conducts reviews of its methodologies on both an internal and external basis. McCloskey conducts a formal review of its methodologies and attendant documents on at least an annual basis. Externally, McCloskey is in regular contact with market participants as such market participants are not only well situated to know the particulars of the market but have a vested interest in the implementation of accurate and relevant methodologies. When conducting its reviews, McCloskey will consider a myriad of factors, including, but not limited to, activity in the market, visibility of market data and current and anticipated industry usage of the marker.

If the review process recommends a material change to the methodology, or termination of an existing benchmark, the markets editor will submit a proposal to McCloskey Editorial management for review.

## Changes to Methodology

If either an internal or external review of a methodology results in a potential material change to the methodology or cessation of a benchmark, McCloskey will begin formal procedures for external consultation. Materiality is subject to professional judgment and considers the impact of the proposed change on the decision making of stakeholders.

## The Market

McCloskey markers assess spot prices for steel and green steel fixed price physical business for delivery or loading largely over a specified period ('the trade window'). To merit inclusion in the McCloskey assessment process, transactional data and survey responses must meet standard specification guidelines outlined below. All international traded prices are assessed in US dollars per metric tonne. However, some steel and green steel markers are assessed in Euros per metric tonne. Domestic prices in Northwest Europe reflect prices in Germany, the Netherlands, Belgium, Luxemburg, Sweden, Finland and Norway. The South European region includes Italy and Spain.

Green steel markers reflect only data collected for the material that is already available and sold in the spot market. Prices set in the agreements for the material that would be manufactured within significant time (usually one year) and from the equipment that has not been installed and put into operation.

## Transactional Data

### Weekly steel and green steel markers

While deals are prioritized in the assessment process, bids, offers and assessments of fair value could also be the basis of the assessment due to a lack of transactions in the market. Collected data may be normalized to meet McCloskey specification requirements, e.g., a delivered price can be normalized to ex-works and s355jr grade to s235jr grade. Each normalization would be done based on information collected in the market for a particular price or tonnage as outlined in the "Comparative Markets" section of this methodology.

### Monthly steel and green steel marker

The McCloskey price reporting team assesses the US Midwest rebar ex-works marker on a monthly basis. The prices for physical trades for the monthly steel marker are the trades assessed on the day the prices are published. Where available, bids and offers are tracked on the day prices are published and best bids and offers will take precedence.

In addition to tracking physical business, the McCloskey price reporting team also undertakes a monthly survey of the market. Market participants are asked where they see the market in terms of deals done and bid/offer levels on the day.

## Marker Timing

### Weekly and monthly markers

The cut off point for trades and survey numbers being accepted for inclusion in the calculation of the steel markers is 15:00 UK time on Friday. Trades done after this time will not be included in the weekly markers compilation.

On days before major holidays the marker trade and survey deadlines may be brought forward in line with market participants' working schedules. These days are usually over the Christmas/New Year period and other Bank holidays. Market participants will be informed of any such changes to assessment times.

For the monthly marker the cut off point for trades and survey numbers being accepted for inclusion in the calculation of the steel markers is 15:00 UK time on the last Friday of the calendar month.

## Semi-finished steel

Semi-finished steel products include slab, billet and bloom. Slab is used for either hot-rolled coil or heavy plate rolling, while billet is used for rebar and wire rod production. Billet used for wire rod manufacturing is usually sold at a premium. Semi-finished steel is traded both back to back between mills and via traders.

### Turkey CFR Billet (China)

The weekly Chinese steel Turkey Billet CFR (China) marker assesses the price of Chinese steel billet imported into the Marmara, Izmir and Iskenderun regions.

The marker assesses steel billet with the following parameters:

Quality: 3sp

Diameter: 150x150mm

Trade Window: 8-16 weeks

The trade size assessed: 50,000t

### Turkey CFR billet (Southeast Asia)

The weekly Turkey CFR billet (Southeast Asia) marker assesses the price of Indonesian/Malaysian-origin steel billet imported into Marmara, Izmir and Iskenderun regions.

The marker assesses steel billet with the following parameters:

Quality: 5sp

Diameter: 130x130mm

Trade Window: 8-16 weeks

The trade size assessed: 30,000t

### Italy CFR slab

The weekly Italy CFR slab marker assesses import spot prices for the material manufactured and delivered into Italy.

Specifications:

Size: width 1,000-2,500mm; lengths 6,000-12,000mm; thickness 200-300mm

Grade: S235JR, A 36, SAE1006

Extras: Standard extras for grade and dimensions excluded.

Tonnage: 10,000-50,000t

Trade Window: shipment 8-10 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

## Flat steel

Flat steel includes both coil products and heavy plate. While hot-rolled coil (HRC) is a standalone product it is also used as feedstock for cold-rolled (CRC) and hot-dipped galvanized (HDG) coil.

### Northwest Europe ex-works HRC

The weekly Northwest Europe HRC price marker assesses domestic spot prices for the material manufactured and traded in the region. Specifications:

Size: 1200-1500mm, thickness 3-8mm

Grade: S235JR

Location: Ex-works Northwest Europe (prices on delivered basis normalized to ex-works)

Extras: Standard extras for grade and dimensions excluded. Surcharges for carbon included.

Tonnage: minimum 50t

Trade Window: shipment 3-8 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

## Italy ex-works HRC

The weekly Italy ex-works HRC price assessment assesses domestic spot prices for the material manufactured and traded in the country.

Specifications:

Size: 1200-1500mm, thickness 3-8mm

Grade: S235JR, S275JR

Location: Ex-works Italy (prices on delivered basis normalized to ex-works)

Extras: Standard extras for grade and dimensions excluded. Surcharges for carbon included.

Tonnage: minimum 50t

Trade Window: shipment 3-8 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

## South Europe CIF HRC

The weekly South Europe CIF HRC price assessment assesses import prices into the region. The assessment includes prices with anti-dumping duties if applicable. Safeguard duties are excluded as they are determined only once per quarter.

Specifications:

Size: 1200-1500mm, thickness 3-4mm

Grade: S235JR

Location: CIF South European ports, including anti-dumping duties, anti-subsidy duties if applicable and excluding safeguard duties.

Extras: Standard extras for grade and dimensions excluded.

Tonnage: Minimum 500t

Trade Window: shipment 4-12 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within trade window)

## US Midwest ex-works HRC

The weekly US Midwest HRC marker assesses the ex-works price of HRC steel in the mid-west region of the US. Prices are assessed in USD per short ton.

The marker assesses HRC with the following parameters:

Quality: ASTM A 1011-06a Commercial Type B

Width: 48-72"

Thickness: 0.083-0.37"

Trade Window: delivery 3-10 weeks

Tonnage: Minimum 100 short tons

## Vietnam CFR HRC

The Vietnam CFR HRC marker is a weekly marker assessing the delivered price of HRC steel into Vietnam. This marker reflects the widely accepted SAE1006 quality parameter which sets the quality of cold rolling grade steel used for making automobile, equipment, and white good panels.

Specifications are as follows:

Width: up to 20mm

Thickness: 2-3mm

Minimum cargo size: 5,000t

Trade Window: shipment 4-8 weeks

## Northwest Europe ex-works CRC

The weekly Northwest European cold-rolled coil (CRC) price assessment assesses domestic spot prices for material manufactured and traded in the region. The prices are assessed in EUR on an ex-works basis.

Specifications:

Size: 1000-1300mm, thickness 0.7-3mm

Grade: DC01

Location: Ex-works Northwest Europe (prices on delivered basis normalized to ex-works)

Extras: Standard extras for grade and dimensions excluded. Surcharges for carbon included.

Tonnage: minimum 50t

Trade Window: shipment 3-8 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

### Northwest Europe ex-works HDG

The weekly Northwest European hot-dipped galvanized coil (HDG) price assessment assesses domestic spot prices for material manufactured and traded in the region.

Size: 1000-1300mm, thickness 0.7-3mm

Grade: DX51D

Location: Ex-works Northwest Europe (prices on delivered basis normalized to ex-works)

Extras: Standard extras for grade and dimensions excluded. Surcharges for carbon included.

Tonnage: minimum 50t

Trade Window: shipment 3-8 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

### Northwest Europe ex-works heavy plate

The weekly Northwest Europe heavy plate price marker assesses domestic spot prices for the material manufactured and traded in the region.

Specifications:

Size: up to 2,500mm, length 12,000mm, thickness 8-40mm

Grade: S235JR

Location: Ex-works Northwest Europe (prices on delivered basis normalized to ex-works)

Extras: Standard extras for grade and dimensions excluded.

Tonnage: minimum 100t

Trade Window: shipment 3-12 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

### Germany delivered heavy plate (Northwest Europe)

The weekly Northwest Europe heavy plate price marker assesses the domestic EU spot prices for the material manufactured in the EU and sold to Germany.

Specifications:

Size: up to 2,500mm, length 12,000mm, thickness 8-40mm

Grade: S355JR

Location: delivered Germany

Extras: Standard extras for grade and dimensions excluded.

Tonnage: minimum 100t

Trade Window: shipment 3-12 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

### Italy ex-works heavy plate

The weekly Italy heavy plate price marker assesses domestic spot prices for the material manufactured and traded in the country.

Specifications:

Size: up to 2,500mm, length 12,000mm, thickness 8-40mm

Grade: S235JR

Location: Ex-works Italy (prices on delivered basis normalized to ex-works)

Extras: Standard extras for grade and dimensions excluded.

Tonnage: minimum 100t

Trade Window: shipment 3-12 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within 12 weeks)

## Long steel

### Turkey FOB rebar

The weekly Turkey FOB steel rebar assessment assesses the price of steel rebar loaded at the Turkish ports in Marmara, Izmir and Iskenderun. The marker assesses rebar with the following quality and delivery parameters:

Quality: B500C

Diameter: 12-20mm

Delivery: 2-10 weeks

Minimum cargo size: 3,000t

Trade Window: delivery 4-12 weeks

### Turkey ex-works rebar (incl VAT)

The weekly steel rebar ex-works Turkey including VAT marker assesses the price of steel rebar sold on an ex-works basis to traders in Marmara, Izmir and Iskenderun. Prices are in Turkish lira per metric ton and assessed on an ex-works basis. The marker assesses rebar with the following quality parameters:

Quality: B500C

Diameter: 10-14mm

Delivery: 1-6 weeks

Minimum shipment size: 100t

Trade Window: delivery 4 weeks

### US Midwest ex-works rebar

The monthly US domestic Midwest steel rebar marker assesses the price of steel rebar sold by steelmakers in the mid-west region of the US. The trade size is minimum 100st. Prices are assessed on an ex-works basis. The market will be assessed in USD per short ton.

The marker will be assessed with the following parameters:

Quality: ASTM A615/A615M

Length: 20ft,

Diameter: 0.625"

Trade Window: delivery 3-10 weeks

## Green Steel

Under the European Green Deal, EU member states have set ambitious targets to reduce CO<sub>2</sub> emissions by 55% by 2030 (compared to 1990 levels) and to achieve carbon neutrality by 2050. In response to these goals, European steelmakers have announced plant upgrades aimed at reducing emissions, with some already offering greener steel - products with a reduced CO<sub>2</sub> footprint—in the market.

However, the EU has not yet established standards or regulations defining green steel, and the initiatives introduced by certain European countries have not gained widespread recognition yet. Considering this lack of standardization, McCloskey has launched several assessments for green steel premiums to reflect the major approaches currently used in European steel trade. Green steel has been offered and traded with both scopes 1,2 and scopes 1,2,3 embodied emissions, depending on the individual mill.

- **Scope 1 covers direct emissions from sources owned or controlled by the business, such as industrial emissions from blast furnaces and emissions from company vehicles.**
- **Scope 2 covers indirect emissions associated with the purchase of electricity, steam, heating, and cooling used by the business.**
- **Scope 3 covers emissions from the supply chain, including upstream emissions from the extraction or production, preparation, and transport of ores and ferroalloys.**

European mills either adjust technologies to reduce CO<sub>2</sub> emissions or use mass balancing – the application of reduced CO<sub>2</sub> emissions across the production on a smaller batch of products to achieve targeted carbon footprint.

Steelmakers may also use a mix of both methods to achieve targeted CO<sub>2</sub> content.

Currently European steelmakers offer green steel premiums based on emission content in a specific product. McCloskey publishes both premiums and all-in prices – sum of a premium and an assessment for domestic HRC in Northwest Europe.

### Green Northwest Europe HRC premium (scopes 1-3 CO<sub>2</sub> <0.8t)

The weekly European premium for green HRC assesses the difference in price (the premium) between the domestic spot prices for material manufactured and traded in the region and with CO<sub>2</sub> emissions established under scopes 1,2,3 compared with the HRC price for standard European manufactured steel as represented by Northwest Europe ex-works HRC marker.

Specifications:

Steel product: hot-rolled coil produced in the EU

Scope of emissions: 1,2,3

CO<sub>2</sub> content: 0.8t and lower per 1t of hot-rolled coil

Minimum tonnage: 50t

Trade window: shipment 3-8 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within the trade window)

### Green Northwest Europe ex-works HRC (scopes 1-3)

The weekly Northwest European green hot-rolled coil (HRC) price assessment is calculated as the sum of domestic Northwest European HRC marker and the green HRC Northwest Europe premium (scopes 1,2,3, ex-works).

### Green HRC premium (scopes 1-2 CO<sub>2</sub> <0.5t)

The weekly European assessment for green hot-rolled coil (HRC) premium assesses domestic spot prices for material manufactured and traded in the region and with CO<sub>2</sub> emissions established under scopes 1,2.

Specifications:

Steel product: hot-rolled coil produced in the EU

Scopes of emissions: 1,2

CO<sub>2</sub> content: 0.5t and lower per 1t of hot-rolled coil

Minimum tonnage: 50t

Timing: shipment 3-8 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within 8 weeks)

### Green Northwest Europe HRC (scopes 1-2)

The weekly Northwest European green HRC price assessment calculated as a sum of the domestic Northwest European HRC price assessment and green HRC premium assessment, scopes 1,2, ex-works Northwest Europe. The minimum volumes of HRC reflected in the assessment is 50t.

### Green HRC reduced carbon price (scopes 1-3)

Due to the lack of a unified approach among the steelmakers and to capture all transactions for green steel, including material with CO<sub>2</sub> content reduction achieved via mass balancing McCloskey also assesses prices of reduced carbon under 1,2,3.

Current green steel premiums accepted in the market do not fully correlate with the costs of carbon emissions, so McCloskey's price of reduced carbon marker is based on deals, assessment fair value, offers and bids for premiums. The European market lacks standards for green steel and the range of products recognized and traded as green is wide.

The goal of the price of the green reduced carbon marker is to capture all the trades and to reflect data in a single assessment that can be used in the market.

Currently the majority of the European HRC is produced via the carbon-intensive blast furnace (BF) – basic oxygen furnace (BOF) route. Average emissions from the BF-BOF route is 2.33 tonnes per 1 tonne of steel, according to World Steel Association (worldsteel).

To be considered low-CO<sub>2</sub>, steel needs to have emissions below average BF-BOF produced material.

The price of reduced carbon is calculated based on traded premiums collected in the market which is divided by tons of achieved carbon emission reductions, compared to average BF-BOF performance.

$$x = \frac{y}{2.33 - z}$$

X – price of reduced carbon, Eur/t

Y – green steel premium, Eur/t

Z – CO<sub>2</sub> content in the steel product

2.33t – average BF-BOF CO<sub>2</sub> emission in 1t of steel

(2.33-Y) – reduced carbon emissions

### Green heavy plate premium (scopes 1-3 CO<sub>2</sub> <1t)

The weekly European assessment for green premium assesses the domestic EU spot prices for material manufactured and traded in region and with CO<sub>2</sub> emissions established under scopes 1,2,3.

Specifications:

Steel product: heavy plate produced in the EU

Scope of emissions: 1,2,3

CO<sub>2</sub> content: 1t and lower per 1t of heavy plate

Minimum tonnage: 100t

Timing: shipment 3-12 weeks (longer lead times will be considered under unusual conditions when no material is available for delivery within 12 weeks)

## Appendix

Identification number	Marker
167	Turkey Billet CFR (China)
168	Turkey CFR billet (Southeast Asia)
182	Italy CFR slab
169	Northwest Europe ex-works HRC
172	Italy ex-works HRC
173	South Europe CIF HRC
165	US Midwest ex-works HRC
166	US Domestic Midwest Steel Rebar
122	Vietnam CFR HRC
170	Northwest Europe ex-works CRC
171	Northwest Europe ex-works HDG
179	Northwest Europe ex-works heavy plate
180	Germany delivered heavy plate (Northwest Europe)
181	Italy ex-works heavy plate
119	Turkey FOB rebar
120	Turkey ex-works rebar (TRY inc VAT)
126	Turkey ex-works rebar (USD exc VAT)
175	Green Northwest Europe HRC premium (scopes 1-3 CO2 <0.8t)
174	Green Northwest Europe ex-works HRC (scopes 1-3)
176	Green HRC premium (scopes 1-2 CO2 <0.5t)
177	Green Northwest Europe HRC (scopes 1-2)
178	Green HRC reduced carbon price (scopes 1-3)
183	Green heavy plate premium (scopes 1-3 CO2 <1t)

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